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Personal, socio-economic profile of the shadenet owners in Vidarbha region

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Abstract
The Controlled Environment Agriculture (CEA) i.e. Protected Cultivation Technologies (PCTs) such as greenhouse, shadenet house, polyhouse and glasshouse. Although it is centuries old, it is new to India. Since there is no literature available about the characteristics of shadenet owners in Vidarbha region, the present study was designed with specific objective to evaluate the socio-personal and socio-economic characteristics of shadenet owners in Vidarbha region. For the propose study total 200 shadenet owners who having the area under shadenet more than 10 R (0.25 acre) were selected by random sampling method from Akola and Buldana districts of the Vidarbha region of Maharashtra. Data were collected through personal interview method. The findings indicated that the majority 60.00 per cent of shadenet owners were between 36 to 50 years of age group, regarding family education status, more than half (51.50%) of the shadenet owners family were educated up to medium level. Majority (55.00%) of the shadenet owners having area under shadenet cultivation in between 0.11 to 0.25 ha and having farming experience between 5-6 years. Well/ tube well/ farm pond as a source of irrigation was possessed by 91.50 per cent of the shadenet owners. The average annual income of the shadenet owners found Rs.332975. Most of the shadenet owners availed different subsidy occurred in agriculture and also overall development of shadenet owners. Shadenet owners have high level extension contact (40.50%) and high economic motivation (49.50%).

Keywords: Socio-economic, profile, Shadenet owners

Introduction
The present agricultural scenario in the country is a mix of outstanding achievements and missed opportunities. If India has to emerge as an economic power in the world, our agricultural productivity should be on par with those of other countries, which are currently rated as economic powers of the world. Growing plants is both an art and a science. About 95% of plants, either food crops or cash crops are grown in open field. Since time immemorial, man has learnt how to grow plants under natural environmental conditions. In some of the temperate regions where the climatic conditions are extremely adverse and no crops can be grown, man has developed methods of growing some high value crop continuously by providing protection from the excessive cold, heat, heat waves etc which is called as Greenhouse technology. Controlled Environment Agriculture (CEA) is a combination of horticultural and engineering techniques that optimize crop production, crop quality, and production efficiency. Concept of CEA is not new rather it incorporates new edge of technological advancements.

So, Greenhouse technology is the technique of providing favourable environmental condition to the plants. It is rather used to protect the plants from the adverse climatic conditions such as wind, cold, precipitation, excessive radiation, extreme temperature, insects and diseases. It is also of vital importance to create an ideal micro climate around the plants. This is possible by erecting a greenhouse / glass house, where the environmental conditions are so modified that one can grow any plant in any place at any time by providing suitable environmental conditions with minimum labour.

The increasing pressure to produce high yields by way of high input intensive agriculture has led to widespread land degradation and non susceptibility of eco-system. It had been globally accepted that the socio-economic characteristics of an individual play pivotal role in influencing behaviour. Since there is no literature available about the characteristics of shadenet owners in Vidarbha region, the present study was designed with specific objective to evaluate the socio-personal and socio-economic characteristics of shadenet owners in Vidarbha region.

Methodology

Western Vidarbha region comprises of three districts namely Akola, Buldana and Washim. The study was focused in Akola and Buldana districts due to considering the maximum number of shadenet owners in selected two districts. It was decided to select total four talukas from Akola district and six taluka from Buldana districts. For the proposed study total 200 shadenet owners were selected by simple random sampling method who were continuously using shadenet from last 3 years and having the area under shadenet was more than 10 R (0.25 acre). The Ex-post-facto research design was used for the present study**.** Data were collected through personal interview method with the help of pretested interview schedule in an informal atmosphere either at home or at field. The data were then tabulated and analyzed with mean, standard deviation, were worked out for interpretation of results.

Result and Discussion

The findings on distribution of respondents according to their selected personal and socio-economic characteristics is presented table 1. It could be observed from Table 1 that Majority (60.00 %) of the shadenet owners were found in the middle age group followed by young age group (24.00 %) and only 16.00 per cent were followed in old age group. The probable reason might be that middle groups were actively engaged in agricultural work and being responsible for performing a variety of tasks. The findings of the study are supported Sadaphal (2000) [9].

Table 1 pertained that the family education status 51.50 per cent of the shadenet owners family having medium level education pertaining 8th to 11th standard education followed by 25.50 per cent of the respondents family have high level of education (above 12th standard) and remaining 23.00 per cent of the respondents family having low level of education. They study only up to 7th standard. The mean of family education status found to be 9th standard. Education was playing a critical role for adoption of new technology like shadenet. The findings of the present study are similar to the findings of Radha Redij (2009) [7].

The data depicted in Table 1 revealed that 36.00 per cent of shadenet owners were concentrated in large size family with 7 and above family members followed by 34.00 per cent respondents possessed medium family size between 5 to 6 members in their family. Whereas, remaining 30.00 per cent of shadenet owners were from small family group having up to 4 family members in their family. The above results were in agreement with the findings of Hossain and Mishra (2002) [4].

The data presented in Table 1 hypothesized that Majority of shadenet owners 42.00 per cent were engaged in farming as their main occupation and they did not have a any backup system, mostly they were small shadenet owners (01.00 to 02.00 ha) land holding. While 21.50 per cent shadenet owners were doing either caste related or other non-professional business with farming. Whereas, 21.00 per cent of the shadenet owners were possessed dairy and poultry as an allied occupation in addition to farming. 15.50 per cent of shadenet owners have farming supported by monthly income from salary and majority of them were medium shadenet owners having 04.00 to 10.00 ha of land. No any shadenet house owner was labour. The findings also corroborate with the findings reported by Thakare (2013) [13].

The distribution of the shadenet owners according to land holding is presented in Table 1 hypothesized that nearly one half (48.00%) of the shadenet owners were small shadenet owners having land holding between 01.01 to 02.00 hectares, followed by semi-medium shadenet owners slightly more than two-fifth 40.00 per cent possessing land in between 02.01 to 04.00 hectares. One tenth 10.00 per cent of shadenet owners had medium land holding (04.01 to 10.00 ha) and Meager percent (02.00%) of the respondent had marginal size land holding (up to 01.00 ha). No any shadenet owners possessing land above 10.00 ha. The average size of land holding amongst shadenet owners was 02.40 ha. The above results were in agreement with the findings of Venkat Reddy (2017) [14].

The data regarding area under shadenet cultivation presented in table 1 show that more than one half (55.00 %) of the shadenet owners adopted technology in medium size of land holding between 0.11 to 0.25 ha, followed by 35.00 per cent with small size of shadenet possessing area about up to 0.1 ha and remaining 10.00 per cent of them had large sized shadenet having size 0.26 ha and above ha. From the above discussion, it is revealed that a great majority of shadenet owners had medium sized shadenet. The above results were in agreement with the findings of Raut (2016) [8].

It is revealed from Table 1 that more than one half (51.50 %) of the shadenet owners having experience of vegetable cultivation under shadenet house between 04 to 06 years. Nearly one fourth (24.50 %) of respondents have high (7 and above) experience of vegetable cultivation under shadenet house cultivation. Remaining 24.00 per cent of the respondents had low (up to 4 years) experience of vegetable cultivation under shadenet house. The findings of the present study are similar to the findings of Anita Bare (2017) [2].

Table 1: Distribution of Shadenet owners according to their characteristics

S. No.	Category	Number	Percentage
I.	**Age**		
1.	Young (Up to 35)	48	24.00
2.	Middle (36 to 50)	120	60.00
3.	Old (Above 50)	32	16.00
II.	**Family education status**		
1.	Low (Up to7th std.)	46	23.00
2.	Medium (8th to 11th std.)	103	51.50
3.	High (12th std. and above)	51	25.50
III.	**Family size**		
1.	Small (Up to 4)	60	30.00
2.	Medium (5 to 6)	68	34.00
3.	Large (7 and above)	72	36.00
IV.	**Occupation**		

1.	Agriculture + Labour	00	00.00
2.	Agriculture	84	42.00
3.	Agriculture + Allied Occupation	42	21.00
4.	Agriculture + Business	43	21.50
5.	Agriculture + Service	31	15.50
V.	**Land Holding**		
1.	Marginal (Up to 01.00)	04	02.00
2.	Small (01.01 to 02.00)	96	48.00
3.	Semi-medium (02.01 to 04.00)	80	40.00
4.	Medium (04.01 to 10.00)	20	10.00
5.	Large (10.01 and above)	00	00.00
VI.	**Area under shadenet cultivation**		
1.	Small (Up to 00.10)	70	35.00
2.	Medium (00.11 to 00.25)	110	55.00
3.	Large (00.26 and above)	20	10.00
VII.	**Farming experience in shadenet cultivation**		
1.	Low (Up to 4)	48	24.00
2.	Medium (5 to 6)	103	51.50
3.	High (7 and Above)	49	24.50
VIII.	**Sources of irrigation**		
1.	River	00	00.00
2.	Well/ Tube well/ Farm pond	183	91.50
3.	Canal	17	08.50
4.	Canal+ River/ Well/ Farm pond	00	00.00
IX.	**Annual income**		
1	Low (Below 2,75,000)	08	04.00
2	Medium (2,75,001 to 3,50,000)	143	71.50
3	High (Above 3,50,000)	49	24.50
X.	**Subsidy availed**		
1.	National Mission for Sustainable Agriculture (NMSA)	69	38.50
2.	Sub- Mission on Agricultural Mechanization (SMAM)	60	30.00
3.	Mission for Integrated Development of Horticulture (MIDH)	101	50.50
4.	National Food Security Mission (NFSM)	66	33.00
5.	Rashtriya Krishi Vikas Yojana (RKVY)	82	41.00
XI.	**Extension contact**		
1.	Low (Below 10)	45	22.50
2.	Medium (11 to 15)	74	37.00
3.	High (Above 15)	81	40.50
XII.	**Economic motivation**		
1.	Low (Up to 20)	24	12.00
2.	Medium (21 to 24)	77	38.50
3.	High (25 and Above)	99	49.50
XIII.	**Risk orientation**		
1.	Low (Up to 10)	44	22.00
2.	Medium (11 to 16)	96	48.00
3.	High (Above 16)	60	30.00
XIV.	**Innovativeness**		
1.	Low (below 53)	32	16.00
2.	Medium (54 to 70)	104	52.00
3.	High (above70)	64	32.00
XV.	**Knowledge index**		
1.	Low (Up to 33.33)	00	00.00
2.	Medium (33.34 to 66.66)	79	39.50
3.	High (66.67 and Above)	121	60.50
XVI.	**Adoption index**		
1.	Low (Up to 33.33)	00	00.00
2.	Medium (33.34 to 66.66)	129	64.50
3.	High (66.67 and Above)	71	35.50

It is revealed from Table 1 that more than one half (51.50 %) of the shadenet owners having experience of vegetable cultivation under shadenet house between 04 to 06 years. Nearly one fourth (24.50 %) of respondents have high (7 and above) experience of vegetable cultivation under shadenet house cultivation. Remaining 24.00 per cent of the respondents had low (up to 4 years) experience of vegetable cultivation under shadenet house. The findings of the present study are similar to the findings of Anita Bare (2017) [2].

The sources of irrigation available to the shadenet owners presented in Table 1 described that 91.50 per cent of the shadenet owners possessed the Wells or Tube wells or Farm ponds as their major sources of irrigation. Meager percent i.e. 08.50 per cent of the respondents had canal as their sources of irrigation. The findings of the present investigation are supported by the findings of Seema Chate (2018) [10].

It is noticed from Table 1 that maximum number 71.50 per cent of the shadenet owners were having medium annual

income (Rs. 2,75,001 to Rs.3,50,000), while 24.50 per cent of the shadenet owners having high annual income (above 3,50,000 Rs.) and meager percent that is 04.00 per cent of the respondents had low annual income. The average annual income of the respondents was Rs. 3,32,975. The average income of the shadenet owners indicated their satisfactory economic status. The findings of the study are in conformity with the findings of Magar (2001) [5].

It is observed from the data presented in Table 1 that nearly one half 50.50 per cent of the shadenet owners have availed the subsidy under the Mission for Integrated Development of Horticulture (MIDH) which help the respondents for promoting to take vegetable crops in their field, followed by 41.00 per cent of the shadenet owners has subsidy about Rashtriya Krishi Vikas Yojana (RKVY) where this scheme provide some basis agriculture input to the respondents for reducing their input cost and maximizes their return from agriculture. The subsidy under National Mission for Sustainable Agriculture (NMSA) was availed by 38.50 per cent of the respondents. Under the project the shadenet owners were provided with the some water lifting device, tube well and bore well facilities for irrigation purpose on their farms which help the shadenet owners. Exactly one third (33.00 %) of the shadenet owners have availed the subsidy of National Food Security Mission (NFSM) in which they got funding for the development of farm ponds of their own farm for better management of water and irrigation which help the shadenet owners to maximize their income. One third of shadenet owners that is 30.00 per cent shadenet owners availed subsidy of Sub-Mission on Agricultural Mechanization (SMAM) in which shadenet owners acquired funds for Tractor, Power Tiller, Cultivator, Disc plough, Rotavator, Seed drill, Drip irrigation system etc which help the respondents for easy way to cultivation of crops.

The distribution of shadenet owners according to their extension contact showed in Table 1 indicated that 40.50 per cent of shadenet owners had high contact with various extension agencies for seeking information on cultivation practices of crops grown under shadenet followed by more than one third shadenet owners i.e. 37.00 per cent who had medium extension contact. Remaining 22.50 per cent of the shadenet owners had low extension contact with various extension agencies which are formal and informal. The findings of the study are in conformity with the findings of Boruah *et al.* (2015) [3].

It is enlightened from the data presented in Table 1 that nearly one half (49.50 %) of the shadenet owners have adopted shadenet house technology for high level of economic motivation followed by 38.50 per cent shadenet owners with medium level and remaining 12.00 per cent shadenet owners had low level of economic motivation. The findings of the present investigation are supported with the findings of Solanki (2009) [11].

It can be understood from the data presented in Table 1 that about half 48.00 per cent of the shadenet owners who adopted shadenet house technology had medium level of risk orientation, followed by 30.00 per cent shadenet owners with high level risk orientation. Whereas, remaining 22.00 per cent of the shadenet owners had low level of risk orientation. The findings are in tune with the findings of Tekale (2015) [12].

It is evident from Table 1 that about more than one half (52.00 %) of the shadenet owners who adopted shadenet house technology had medium level of innovativeness, followed by 32.00 per cent of shadenet owners with high level of innovativeness. Whereas, remaining 16.00 per cent of the shadenet owners had low level of innovativeness. The findings are in tune with the findings of Monica Pimpalkar (2015) [6].

Conclusion

It was revealed that the shadenet owners have good socio economic condition. The present study has been conducted under limited characteristics, so that, it will be better if more characteristics of shadenet owners are taken for further research in this area. As socio-economic status of the shadenet owners is a complex phenomenon and includes so many things as stated earlier, it may be possible that some important components might have skipped out which may be considered by other research workers in future.

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