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Socio-economic characteristics of tribal farmers practicing indigenous technical knowledge in agriculture

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Abstract
The present study was carried out during 2017-18 in the tribal block of Chhindwara district of Madhya Pradesh. Total 120 tribal farmers were selected from three villages of Tamia block of Chhindwara district. The aim of this study is to know the socio-economic characteristics of tribal farmers those are using ITKs. The data collection was done through interview schedule. Data were analyzed with help of suitable statistical tools. It was found that maximum tribal farmers belonged to middle age group, had no education, low social-participation, possessed 1-5 acre land holding, medium farm power, belonged to joint family, had kachha house, had the occupation as labour + cultivation, had low material possession, belonged to low annual income and had high level of knowledge about ITK.

Keywords: tribal farmer, ITK, socio-economic characteristics

Introduction
India is the land of diversity. Many cultures, many societies with different ways of living, live in a variety of agro-climatic and geographical situations. It has the long tradition of various settlements *viz.*, Harappan and Mohenjodaro. Several experiments by the tribal farmers, on trial and error basis have been taking place in the field of agriculture and allied fields over thousands of years. They made a wise use of available natural resources and devised many technologies to increase the quality and quantity of the output of various enterprises, they had undertaken. The knowledge thus generated over the years is time tested and has the attribute of eco-friendliness. Such knowledge is called the 'Indigenous Technical Knowledge (ITK)' or 'local knowledge' or 'traditional knowledge'. This knowledge is based on experience, often tested over centuries of use, adapted to local culture and environment and is dynamic and changing.

India, being a country with most ancient civilization in its history, occupies a unique position in the world for possessing a treasure house of Indigenous Technical Knowledge (ITK) and the tribal population. The tribal population gives us many simple techniques which lead to the local resource management and recycling the natural resources by a number of techniques. These are also relevant to the modern practices, when we analyzed these techniques for to know their scientific base. The vast tribal areas, spreading in the forest and hilly territories of the country, have virgin farming lands that are unexploited by modern agricultural technologies of chemical fertilizers and pesticides. Hence, it provides us with the most nutritious and chemical-free agricultural products to which the modern world is renaming as 'Organic products'.

The knowledge related to indigenous traditional is depleting day by day because of lack of awareness about its value and impact, as well as proper documentation. There is an urgent need of effort to identify such valuable information for the welfare and betterment of society.

Therefore, there is need to study, identify, document and share, some of the specific experiences of the tribal farmers collected during the field work at grass root level of programme areas.

Material and Methods
The present study was carried out during 2017-18 in the Chhindwara district of Madhya Pradesh. Out of total 13 blocks Tamia block was purposively selected because of having higher tribal population. From the Tamia block 3 villages were selected randomly and those 3 villages are; Sajkuhi, Dhurwa dhana and Khamra jethu. 40 tribal farmers were selected from each village, thus total 120 tribal farmers were selected randomly. Tribal farmers were interviewed through personal interview.

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Prior to interview, tribal farmers were taken in to confidence by revealing the actual purpose of the study and full care was taken in to consideration to develop good rapport with them. For the data collection well designed and pre-tested interview scheduled were used. Collected data were analyzed by the help of various statistical tools i.e. frequency, percentage, mean and chi-square etc.

Results and Discussion

Table 1: Personal and socio-economic characteristics of tribal farmers

S. No	Categories	Frequency	Percentage
	Age		
1	Young age	16	13.33
2	Middle age	63	52.50
3	Old age	41	34.20
	Total	120	100.00
	Education		
1	Illiterate	50	41.60
2	Primary level	39	32.50
3	Middle level	15	12.50
4	High school	8	6.70
5	College level	8	6.70
	Total	120	100.00
	Occupation		
1	Cultivation	40	33.34
2	Service	1	0.83
3	Service + Cultivation	3	2.50
4	Independent profession + Cultivation	7	5.83
5	Labour + Cultivation	69	57.50
	Total	120	100.00
	Social participation		
1	Low	102	85.00
2	Medium	18	15.00
3	High	00	0.00
	Total	120	100.00
	Land holding		
1	1-5 acre	58	48.33
2	5-10 acre	30	25.00
3	10-15 acre	17	14.14
4	15-20 acre	14	11.70
5	>20 acre	1	0.83
	Total	120	100.00
	Farm power		
1	Low (Up to 4 score)	46	38.34
2	Medium (5-8 score)	55	45.83
3	High (Above 8 score)	19	15.83
	Total	120	100.00
	Family type		
1	Nuclear family	56	46.70
2	Joint family	64	53.30
	Total	120	100.00
	House type		
1	Kachha	87	72.50
2	Mixed	17	14.20
3	Pucca	16	13.30
	Total	120	100.00
	Material possession		
1	Low (Up to 3 score)	48	40.00
2	Medium (4-6 score)	44	36.70
3	High (Above 6 score)	28	23.30
	Total	120	100.00
	Annual income		
1	Low (Rs. 12,000-65,000)	82	68.34
2	Medium (Rs. 65,001-1,17,000)	22	18.33
3	High (Rs. 1,17,001-1,70,000)	16	13.33
	Total	120	100.00
	Knowledge of Indigenous technical practices		
1	Low (Up to 66 score)	19	15.80
2	Medium (67-113 score)	48	40.00
3	High (Above 113 score)	53	44.20
	Total	120	100.00

	Use of ITK		
1	Low (Up to 73 score)	23	19.17
2	Medium (74-123 score)	39	32.50
3	High (Above 123 score)	58	48.33
	Total	120	100.00

Table: 1 reveals that out of the total 120 tribal farmers, 13.33 per cent were of young age group, 52.50 per cent belonged to middle and 34.20 per cent were found in old age group. Thus, it may be inferred from the data that higher percentage of the tribal farmers (52.50%) belonged to middle age group, Similar finding by Maravi (2009) [4] and Patidar (2013) [6]. 41.60 per cent were illiterate, 32.50 per cent had received education up to primary and 12.50 per cent up to middle level, whereas equal percentage i.e. 6.70 per cent tribal farmers were having education up to high school and college level education. Thus, it can be clearly inferred from the data that the majority of tribal farmers (41.60%) had illiterate, similar finding by Nilkanth (2016) [5]. 33.34 per cent had cultivation group, 0.83 per cent had service group, 2.50 per cent had service + cultivation group, 5.83 per cent had independent profession + cultivation group and 57.50 per cent had labour + cultivation group. Thus it can be concluded that majority of the tribal farmers (57.50%) were having labour + cultivation occupation, similar finding by Rakesh (2014) [7]. 85.00 per cent had low social participation, 15.00 per cent had medium social participation and no tribal farmers had high social participation. Thus, it can be concluded that majority of the tribal farmers (85.00%) belonged to low category of social participation, similar finding by Rakesh (2014) [7] and Nilkanth (2016) [5]. 48.33 per cent had 1-5 acre land holding, 25.00 per cent had 5-10 acre land holding, 14.14 per cent had 10-15 acre land holding, 11.70 per cent had 15-20 acre land holding and 0.83 per cent had more than 20 acre land holding. Thus, it can be concluded that higher percentage (48.33%) of tribal farmers had 1-5 acre land holding. 38.34 per cent had low farm power, 45.83 percent had medium farm power and 15.83 per cent had high farm power. Thus, it can be concluded that majority (45.83%) tribal farmers were possess medium farm power, similar finding by Maravi (2009) [4]. 46.70 per cent had nuclear family where as 53.30 per cent had live in joint family. Thus, it can be concluded that majority of the tribal farmers (53.30%) were having joint family, similar finding by Nilkanth (2016) [5]. 72.50 per cent had kaccha, 14.20 per cent had mixed and 13.30 percent had pucca house type. Thus, it can be concluded that maximum (72.50%) tribal farmers were having kachha house type. 40.00 per cent had low material possession, 36.70 per cent had medium material possession and 23.30 per cent had high material possession. Thus, it may be inferred from the data that higher percentage of the tribal farmers (40.00%) belonged to low material possession, similar finding by Khatri (2014) [2]. Out of the total tribal farmers, 68.34 per cent were having low income, 18.33 percent were having medium and only 13.33 per cent were having high income. Thus, it can be concluded that majority of tribal farmers (68.34%) had low annual income, similar finding by Barodia (2005) [1] and Nilkanth (2016) [5]. 15.80 per cent had low, 40.00 per cent had medium and 44.20 per cent had high knowledge regarding indigenous technology. Thus, it can be concluded that the highest per cent (44.20%) of tribal farmers were having high knowledge about the indigenous technology, similar finding by Mamum (2004) [3]. 19.17 per cent had low, 32.50 per cent had medium and 48.33 per cent had high use regarding indigenous technical knowledge. Thus, it can be concluded that the highest per cent (48.33%) of tribal farmers were having high use of the indigenous technical knowledge.

Conclusion
It is clear from the study that the highest proportion of the tribal farmers i.e. 52.50 per cent were of middle age group, highest proportion of the tribal farmers 41.60 per cent had illiterate, highest proportion of the tribal farmers 57.50 per cent were performing "labour + cultivation" as main occupation, highest proportion of the tribal farmers 85.00 per cent found to low social participation group, highest proportion of the tribal farmers 48.33 per cent had 1-5 acre of land holding, highest proportion of the tribal farmers 45.83 per cent found to medium farm power group, proportion of the tribal farmers 53.30 per cent found to joint family group, highest proportion of the tribal farmers 72.50 per cent found to kachha house group, highest proportion of the tribal farmers 40.00 per cent found to low material possession group, highest proportion of the tribal farmers 68.34 per cent belonged to low income group, highest proportion of the tribal farmers 44.20 per cent found to high knowledge group and highest proportion of the tribal farmers 48.33 per cent found to high use of ITK group.

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