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ASSESSMENT STUDIES WITH REFERENCE TO FARM PROFILE AND FARM PRACTICES OF SCHEDULED TRIBE FARMERS

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Abstract

The present study was conducted to determine Farm Profile and Farm Practices with reference to Scheduled Tribe Farmers in Karamadai, Periyanaicken Palayam and Anaimalai Blocks of Coimbatore district, Tamil Nadu (India) during the period from May 2014 to March 2015 by using pre-tested questionnaire. The major occupation of these tribal people is field work as farmers. They live a nomadic life and only a meager share of the tribal population live in one place and for them agriculture is the major occupation. A majority of land holdings of tribes (34 per cent) were medium farmers (5-10 acres), 33.60 per cent were small farmers (2.50-5.00 acres), 17.40 per cent were marginal farmers (less than 2.50 acres) and 15 per cent were large farmers (above 10 acres). A majority of the sample respondents have a farm experience of 15-20 years. The cropping intensity is found to be higher among the small, medium and large farmers while it is negligibly lower in the case of marginal farmers. Most of the cultivable area (around 90 per cent) was cropped during *kharif* season. Since, the cultivation is carried out in the hilly areas of Western Ghats, only limited crops like, maize, ragi, oilseeds and horse gram are cultivated in these rainfed areas.

Key words : Farm Profile, farm practices and land holding.

Introduction

Agriculture is one of the most significant sectors of the Indian Economy. The area under cultivation in India is almost 43 per cent of her geographical area contributing to 16.1 per cent of India's GDP. This higher share in India's GDP has been declining continuously in recent years. It is disheartening to note that with more than 45 per cent of the labour force of the country depending on agriculture either directly or indirectly in agriculture, this higher percentage of population share just 16 per cent of the GDP that too which is declining over the years. This implies that the smallest share in the national income is being shared by the largest group of population. This means, on the average, the per capita income of the agriculturist is very meagre, which is also on the decline. Among the various groups of farmers, which are engaged in agriculture, a higher share of the Scheduled tribes depends on agriculture sector for their lively hood. The major occupation of these tribal people is field work as farmers. They live a nomadic life and only a meager share of the tribal population live in one place and for them agriculture is the major occupation.

According to 2011 Census, the Indian tribes with a population of 10.43 crores constitute roughly 10 per cent of the nation's total population. However, the Scheduled tribes are the socially excluded population in India. Tamil Nadu is situated in southern part of the India. The area of the State is 130,058 km^2, which forms 3.96 per cent of country's geographical area. The population density is 555 person per km^2. The recorded forest area of the state is 23,625 km^2, which constitutes 18.2 per cent of its geographical area. There are 1,96,373 tribal households in the State. Total tribal population in the State is 7,94,697 of which males and females are 4,01,068 and 3,93,629 respectively. The growth rate of the tribal population during 2001-2011 is 22 per cent, which is higher than state's growth rate of 15.6 per cent. The tribal population of Tamil Nadu forms about 1.1 per cent of state's total population and 0.8 per cent of India's tribal population.

Materials and Methods

The study relied exclusively on the primary data collected from the tribal farmers of the district of Coimbatore. According to Census of India 2011, there are 28342 total tribal population in the district of Coimbatore. The Coimbatore, percentage share of State

tribal population is 3.57 per cent. A reconnaissance survey of the study area was undertaken to develop comprehension of the process and activities involved in maize and horse gram cultivation under actual farming conditions. Primary data is collected from the tribal farmers of the district by adopting the direct interview method. This requires the identification of the tribal farmers in the district. To carry out this exercise, the number of blocks in the district was identified. From the Census Report of the district of Coimbatore, it was identified that there are totally twelve blocks in the district of Coimbatore. From the twelve blocks, to have fair representation, one fourth, that is 25 per cent of the blocks were selected randomly.

The second step in the sample selection is the identification of the villages in the selected blocks. Again, from the Census Report of 2011, the number of villages located in these blocks are identified and the number of villages in each of the selected blocks, again, one fourth of the villages have been selected randomly. As the last step, having identified villages in each of the selected blocks, the next step is to identify the Hamlets in each of the villages. To have fair representation in the selection of hamlets, 50 per cent of the hamlets in each of the villages were selected at randomly by adopting lottery method. Thus, the multi-stage random sampling technique has been adopted in the present study in the selection of the sample farmers.

Based on the primary data collected, the total sample farmers were stratified into four categories namely Marginal (below 2.5 acres), Small (2.5-5 acres), Medium (5-10 acres) and Large farmer (above 10 acres) groups for each crop. Out of 500 samples, from the collected data it was found that 390 raised maize in the last three year, while the remaining 110 raised horse gram.

Results and Discussion

As discussed, the farm profile namely, the system of ownership of land, that is, the tenure system is a major determinant of the farm productivity, income and standard of living. Also, the farm profile has a significant influence on the cropping pattern, farm expansion etc. Hence, in the present paragraph, it is attempted to examine the profile of the farms. The farm profile, namely the tenure system includes the area own, the ownership of land including the own land and land taken for jointly or lease.

While the single ownership encourages for farm development on the basis of the individual decision, the multiple ownership affects the immediate decision taking power, which ultimately affects the farm practices. Based on this view, in the present paragraph it is attempted to examine the nature of ownership of land.

Table 1 : Nature of ownership of land.

Nature of Land Ownership	Marginal farmers	Small farmers	Medium farmers	Large farmers	Total
Individual	80 (16.00)	163 (32.60)	170 (34.00)	75 (15.00)	488 (97.60)
Jointly	7 (1.60)	5 (1.00)	0 (0.00)	0 (0.00)	12 (2.40)
Total	**87 (17.40)**	**168 (33.60)**	**170 (34.00)**	**75 (15.00)**	**500 (100.00)**

Source: Computed from Primary Data.
Figures in parenthesis indicate percentage to ownership of land.

As it could be seen in table 1, among the sample respondents of 500, 97.60 per cent are single or individual owners of their cultivating land. The remaining 2.40 per cent cultivate their lands jointly.

As it could be seen in table 2, among the sample respondents, 34 per cent respondents are medium farmers who hold an average size 8.55 acres of land. Another 33.6 per cent of the sample farmer respondents are small farmers, who have an average holding size of 4.12 acres. While 17.40 per cent of the respondents are marginal farmers who own an average size of holdings of 1.57 acres of land, the remaining 15 per cent of the farmers hold an average size of holdings of 10.52 acres who are large farmers. Their average holdings are slightly higher than the medium holdings.

The size of holdings indicate that a majority of the sample respondents hold between 5-10 acres, who are medium farmers. This is being followed small, marginal and large farmers. It is found that while a majority of the holdings at the state and at the district level are marginal farmers whose average size of holdings is less than 1.70 acres, it is heartening to note that the average size of holdings of the sample farmers is 6.14 acres. The probable explanation for this higher level of average holdings is that a majority of the sample respondents have utilised the government's free land scheme.

Thus from the analysis, it can concluded that a majority of the sample respondents are medium farmers.

As it shown in table 3, among the sample respondents, 38.60 per cent have a farm experience of 15-20 years. Another 29.60 per cent have an experience of 20-25 years. There are 15.60 per cent respondents who have a farm experience of 10-15 years. While 10.20 per cent have a farm experience of 5-10 years, 2.40 per cent have

Table 2 : Size of ownership of land. (in acres)

Size of land	No. of respondents	Percentage	Average size of holdings	Total holdings
Marginal Farmers (less than 2.50 acres)	87	17.40	1.57	136.59
Small farmers (2.50-5.00 acres)	168	33.60	4.12	692.16
Medium farmers (5-10 acres)	170	34.00	8.55	1453.50
Large farmers (above 10 acres)	75	15.0	10.52	789.00
Total	**500**	**100.00**	**6.14**	**3071.25**

Source: Computed from Primary Data.

Table 3 : Years of experience in farming.

Experience (in year)	Marginal		Small		Medium		Large		Total	
	No.	%age	No.	%age	No.	%age	No.	%age	No.	%age
Less than 5	6	1.20	2	0.40	1	0.20	3	0.60	12	2.40
5-10	16	3.20	15	3.00	12	2.40	8	1.60	51	10.20
10-15	16	3.20	10	2.00	32	6.40	20	4.00	78	15.60
15-20	36	7.20	63	12.60	70	14.00	24	4.80	193	38.60
20-25	10	2.00	76	15.20	53	10.60	9	1.80	148	29.60
Above 25	3	0.60	2	0.40	2	0.40	11	2.20	18	3.60
Total	**87**	**17.40**	**168**	**33.60**	**170**	**34.00**	**75**	**15**	**500.00**	**100.00**

Source: Computed from Primary Data.

an experience in farming to an extent of less than five years. The remaining 3.60 per cent have an experience of above 25 years.

Thus from the analysis, it can be concluded that a majority of the sample respondents have a farm experience of 15-20 years.

As it could be seen in the table 4, out of 500 sample respondents, only 166 sample respondents adopt some cropping pattern. This means, just 33.20 per cent adopts the cropping pattern while the remaining 66.80 per cent of the sample respondents' grow only one crop atleast for the last three years.

Among the sample respondents, who adopts the cropping pattern, the highest share of respondents (13.80 per cent), who are marginal farmers grow sorghum. As the size of holdings increases, the percentage of respondents growing sorghum gets declined to reach two per cent in the case of small farmers. None of the medium and large farmers grow sorghum. In the case of the marginal farmers, 4.80 per cent grow cumbu, three per cent grow banana and two per cent grow ragi. In the case of small farmers, out of the total of 9 per cent sample farmers who adopt crop rotation, 2.20 per cent grow banana, 0.40 per cent grow banana, 5.80 per cent grow cumbu and the remaining 0.60 per cent grow ragi. In the case of medium farmers, out of the total of just 0.40 per cent sample farmers who adopt crop rotation, all of them grow cumbu. In the case of large farmers out of the total of just 0.20 per cent sample farmers who adopt crop rotation, all grow cumbu.

Thus from the above discussion, it could be observed that from the medium level of holdings, the cropping pattern is found to be almost nil. The copping pattern is found to be more in the case of small and marginal holdings. The probable explanation to this situation is that at the lower size of holdings, the influence of the micro level factors like, the infrastructure facilities, the socio economic factors and the technical factors are pervasive which results in the higher cropping pattern.

Cropping intensity is defined as a ratio between net sown area (NSA) and gross cropped area (GCA). It thus indicates the additional percentage share of the area sown more than once to NSA. It may be measured by the formula-gross cropped area/net sown area x 100. The intensity of cropping, therefore, refers to raising a number of crops from the same field during one agricultural year. The index of cropping intensity is 100 if one crop has been grown in a year and it is 200 if two crops are raised. Higher the index, greater is the efficiency of land use.

As it is seen in table 5, the cropping intensity in the case of sample marginal farmers is 1.05 per cent. It is found to be the same in the case of medium and small farmers also. Due to the working of the economies of scale and the availability of required input and irrigation it is found to be slightly higher in the case of large farmers

Table 4 : View of the cropping pattern (in the last three years) in their farms.

Holdings	Sorghum	Banana	Cumbu	Ragi	Total
Marginal Farmers (Less than 2.50 Acres)	69	15	24	10	118
Percentage	**13.80**	**3.00**	**4.80**	**2.00**	**23.60**
Small Farmers(2.50-5.00 Acres)	11	2	29	3	45
Percentage	**2.20**	**0.40**	**5.80**	**0.60**	**9.00**
Medium Farmers(5-10 acres)	0	0	2	0	2
Percentage	**0.00**	**0.00**	**0.40**	**0.00**	**0.40**
Large Farmers(above 10 acres)	0	0	1	0	1
Percentage	**0.00**	**0.00**	**0.20**	**0.00**	**0.20**
Total	**80**	**17**	**56**	**13**	**166**
Percentage	**16.00**	**3.40**	**11.20**	**2.60**	**33.20**

Source: Computed from Primary Data.

Table 5 : Cropping intensity in sample farms. **(in acre)**

Size of Land	Net area sown	Area sown more than once	Gross cropped area	Cropping intensity
Marginal Farmers(Less than 2.50 acres)	136.59	6.59	143.18	1.05
Small Farmers(2.50-5.00 acres)	692.16	9.42	701.58	1.01
Medium Farmers(5-10 acres)	1453.5	18.54	1472.04	1.01
Large Farmers(above 10 acres)	789.0	147.0	936.0	1.19
Total	**3071.25**	**181.55**	**3258.80**	**1.06**

Source: Computed from Primary Data.

with 1.19. The overall cropping intensity for the entire sample farm is estimated at 1.06 per cent.

Thus from the analysis, it can be concluded that in the case of growers, the cropping intensity is found to be higher among the large farmers followed by the marginal farmers. It is lower and the same in the case of small and medium farmers.

Irrigation is the most important factor in farming according to the Agriculture Department and Irrigation Officers. Irrigation plays an important role in transforming the crop cultivation and better yield. The importance of irrigation is higher in a situation when there is not only a monsoon failure but also to achieve higher production and productivity through cropping intensity. There are various types of irrigation such as in their well irrigation, rivers, tanks and canal etc. But there are additional factors such as their location, their topography, geological aspect and height, hilled area depending on various elements. In the region under study mainly three types of irrigation are practiced namely well irrigation, canal irrigation and tank irrigation.

The irrigation intensity is the ratio of the gross area irrigated to the net area irrigated. As it could be seen in table 6, the overall irrigation intensity for the entire sample farms stood at 1.21. This is slightly higher than the irrigation intensity found in the case of the state of Tamil Nadu as a whole with an irrigation intensity of 1.18 (Department of Economics and Statistics, 2012).

A holding wise examination of the irrigation intensity would indicate that except for large holdings, the irrigation intensity declines with the size of holdings. For example, the irrigation intensity, which stood at 0.08 in the case of the marginal farmers. In the case of small farmers, the irrigation intensity is 0.6, while for medium farmers it is 0.01. It is 0.15 in the case of large farmers.

Thus from the analysis, it can be concluded that the average irrigation intensity in the study area is lower than the state average and the intensity of irrigation declines with the size of holdings.

The production of agricultural crops is being greatly influenced by the number of manual labour. Hence, in the present paragraph, it is attempted to examine the number of days of manual labour used in the farm. In the Indian context, there are two types of labour used in the agricultural farm. They are the family labour and hired labour.

A bifurcation of the labour into family labour and hired labour employment in the sample farms indicate

Table 6 : Irrigation intensity in sample farms. (in acres)

Holdings	Gross area irrigated	Net area irrigated	Irrigation intensity
Marginal farmers (less than 2.50 acres)	15.74	1.29	0.08
Small farmers (2.50-5.00 acres)	131.32	8.51	0.06
Medium farmers (5-10 acres)	1157.85	9.42	0.01
Large farmers (above 10 acres)	423.89	62.00	0.15
Total	**1728.8**	**81.22**	**0.30**

Source: Computed from Primary Data.

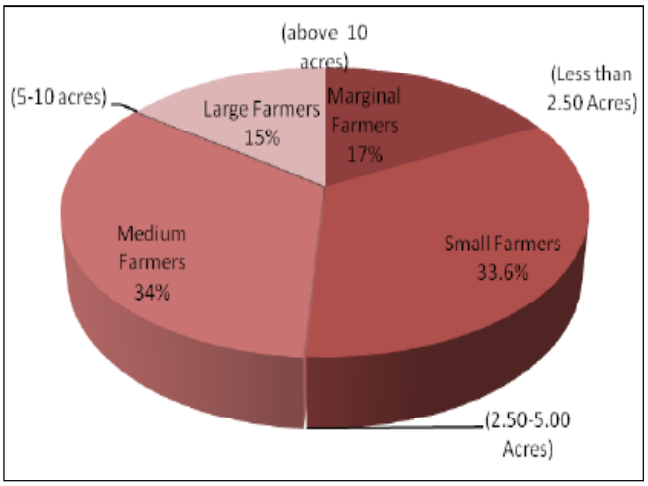

Fig. 1 : Size of ownership of land (percentage).

Table 7 : Use of manual labours in sampling farms.

(No. of days/ per acre)

Size of holdings	Average no. of family manual labour (days)	Average no. of hired manual labour (days)	Total
Marginal farmers (less than 2.50 acres)	73(51.41)	69(48.59)	142(100.00)
Small farmers (2.50-5.00 acres)	64(47.06)	72(52.94)	136(100.00)
Medium farmers (5-10 acres)	58(45.31)	70(54.69)	128(100.00)
Large farmers (above 10 acres)	46(37.70)	76(62.30)	122(100.00)
Total	**47.29(38.67)**	**75(61.33)**	**122.29(100.00)**

Source: Computed from Primary Data. Figures in parenthesis indicates the percentage of man hours.

that in the case of family labour, size of holdings of marginal farmers stood at 142 mandays. A bifurcation of the labour into family labour and hired labour indicates that while the share of family labour stood at 51.41 per cent of the total, the hired labour man-hours took a share of 48.59 per cent of the total. In the case of small farmers, out of the total of 136 man hours, 47.06 per cent of the man hours are spared by the family members, while the remaining 52.94 per cent of the total man hours is being provided by the hired labour. In the case of medium farmers, out of the total of 128 hours, 45.31 per cent of the hours are being provided by the family labour while the remaining 54.69 per cent of the hours is being provided by the hired labour. In the case of the large farmers, out of the total of 122 hours, family labour has spared 37.70 per cent of the hour is being provided by the family labour while the remaining 62.30 per cent is being spared by the hired labour.

Overall, of the total of 122.29 man hours, 38.67 per cent is being spared by the family labour, while the remaining 61.33 per cent is being spared by the hired labour. Thus from the analysis, it can be concluded that the share of hired labour forms nearly a little lower than two third of the total employment, while the remaining a little higher than one third of the labour forms the family labour. The share of family labour is found to be higher in the case of marginal farmers.

As discussed in various studies, the use of bullocks various with the size of holdings. This is because after the introduction of mechanization in 1965-66 in Indian agriculture and in Tamil Nadu the use of tractors replaced bullocks. However, it is an established fact that the use of tractors is limited to large farm holdings. In the present paragraph, it is attempted to examine the use of bullocks by size of holdings.

As it could be seen in table 8, in the sample farms considered there are totally 127 pairs of bullocks were used during the three years. The share of bullock pair usage among the various size of farms indicate that the highest share of bullock usage stood at 48.03 per cent in the case of marginal farmers. The next highest usage could be seen in the case of small farmers with 33.07 per cent. In the case of the medium farmers 17.33 per cent use 23 pairs of bullocks have been used. Another 1.57 per cent of the large farmers use 19 pairs of bullocks during the study period.

Table 8 : Use of bullock labours (pairs) in sample farms.

(Bullock of pairs/acre)

Farmers group	No. of bullock labour (pairs)	Percentage	Cumulative Percentage
Marginal farmers (less than 2.50 acres)	32	48.03	48.03
Small farmers (2.50-5.00 acres)	29	33.07	81.10
Medium farmers (5-10 acres)	23	17.33	98.43
Large farmers (above 10 acres)	19	1.57	100.00
Total	**127**	**100.00**	

Source: Computed from Primary Data.

Table 9 : Use of tractors in sample farms.

(No. of tractor hours/acre)

Farmers group	Used tractors (hours)	Percentage	Cumulative percentage
Marginal farmers (less than 2.50 acres)	3	4.69	4.69
Small farmers (2.50-5.00 acres)	11	17.19	21.88
Medium farmers (5-10 acres)	31	48.44	70.32
Large farmers (above 10 acres)	19	29.68	100.00
Total	**64**	**100.00**	

Source: Computed from Primary Data.

Table 10 : Use of seedsin sample farms.

(kg of seed/acre)

Farmers group	Quantity of seeds used (kg)	Percentage	Cumulative Percentage
Marginal farmers (less than 2.50 acres)	10.36	24.66	24.66
Small farmers (2.50-5.00 acres)	10.71	25.50	50.16
Medium farmers (5-10 acres)	10.99	26.17	76.33
Large farmers (above 10 acres)	9.94	23.67	100.00
Total	**42.00**	**100.00**	

Source: Computed from Primary Data.

The above analysis provides the conclusion that the use of bullocks has been declining at larger and larger size of holdings. The probable explanation for this situation is that at higher levels of holdings, the farmers are able to practiced modern agricultural practices which results in the usage of less number of bullocks which are replaced by tractors. The above analysis reestablishes the conclusion made in the other studies that the mechanization replaces the human and cattle power.

Thus from the analysis, it can be concluded that the usage of bullocks is higher among the marginal farmers when compared to large farmers.

In the mechanized agricultural practices, the use of tractors becomes essential. In the present paragraph, it is attempted to examine the use of trackers by size of holdings.

As it is seen in table 9, during the last three years, there are totally, 64 hours have been used tractors to carry out the agricultural practices. Size wise usage indicates that in the case of marginal holdings, 4.69 per cent is the usage intensity of tractors, which is the least. In the case of small farmers, the usage intensity of tractor is 17.19 per cent. While in the case of medium farmers, the usage intensity is 48.44 per cent, in the case of large farms, the usage intensity is 29.68 per cent.

The above analysis provides the conclusion that the use of tractors has been increasing with the increasing size of holdings. The probable explanation for this situation is that at higher levels of holdings, the farmers are able to practiced modern agricultural practices, which results in the usage of more number of tractors. Thus from the analysis, it can be concluded that as the size of holdings increases, the usage of tractors get increased.

Seed is the basic input in agriculture. In the mechanization of agriculture, apart from other inputs, the type of seed used has a greater bearing on the production and productivity in agriculture.

As it could be seen in table 10, in the case of marginal farmers, on the average 10.36 kg HYV seeds has been used. Holding wise usage of can be given as: 10.71 kg in the case of small farmers, 410.99 kg in the case of medium farmers and 9.94 kg in the case of large farmers.

From the above discussion, it can be concluded that as the size of holdings increases, the use of seeds is on the increase. Thus from the analysis, it can be concluded that the use of seeds increases with the increase in size of holdings.

Under the mechanization process, the use of fertilizer is an important input. Studies carried out in the context of

Table 11 : Use of fertilizers in sample farms.

(kg of Fertilizer/acre)

Farmers group	Fertilizers used (kg)			Total NPK
	N	P	K	
Marginal farmers (less than 2.50 acres)	227	225	120	572
Small farmers (2.50-5.00 acres)	265	263	158	686
Medium farmers (5-10 acres)	300	300	191	791
Large farmers (above 10 acres)	162	169	103	434
Average	**238.5**	**239.25**	**143**	**275.89**

Source: Computed from Primary Data.

agricultural production could come out with the conclusion on the significant influence of fertilizer on the productivity of agricultural produce. In the present paragraph, it is attempted to examine the use of fertilizer among the sample farms.

In the case of the usage of Nitrogen (N), the marginal farmers use 227 kilograms, small farmers use 265 kilograms, medium farmers use 300 kilograms and the large farmers use 162 kilograms of Nitrogen. In the case of Phosphorous, the marginal farmers use 225 kilograms, small farmers use 263 kilograms, medium farmers use 300 kilograms and the large farmers use 169 kilograms. In the case of Potassium, the marginal farmers use 120 kilograms, small farmers use 158 kilograms, medium farmers use 191 kilograms and the large farmers use 103 kilograms of Phosphorous per acre.

Overall, the marginal farmers use 572 kilograms of fertilizer per acre, small farmers use 686 kilograms, medium farmers use 791 kilograms and the large farmers use 434 kilograms of fertilizer per acre. Thus, the average level of fertilizer usage increases with the size of holdings.

Intensive cultivation of high yielding varieties of different crops requires application of plant nutrients in large quantities. Supplying these nutrients from chemical fertilizers has got certain limitations and inherent problems. Further, these chemical fertilizers can supply only a few plant nutrients like nitrogen, phosphorus and potash. Non-inclusion of organic manures such as farmyard manure, compost, green manures, etc. in the manurial schedule have resulted in the depletion of fertility status of the arable soils and their consequent degradation. Organic manures, especially farmyard manure, have a significant role for maintaining and improving the chemical, physical and biological properties of soils.

Table 12 : Use of farm yard manure in sample farms.

(No. of Cart Load/acre)

Farmers group	No. of farm yard manure (FYM)	Percentage	Cumulative Percentage
Marginal farmers (less than 2.50 acres)	28	14.81	14.81
Small farmers (2.50-5.00 acres)	50	26.46	41.26
Medium farmers (5-10 acres)	70	37.05	78.31
Large farmers (above 10 acres)	41	21.69	100.00
Total	**189**	**100.00**	

Source: Computed from Primary Data.

Table 13 : Use of pesticides in sample farms.

(No. litre /ha.)

Farmers group	Pesticides (litre)	Percentage	Cumulative Percentage
Marginal farmers (less than 2.50 acres)	6.80	19.21	19.21
Small farmers (2.50-5.00 acres)	8.40	23.73	42.94
Medium farmers (5-10 acres)	11.90	33.62	76.56
Large farmers (above 10 acres)	8.30	23.44	100.00
Total	**35.4**	**100**	

Source: Computed from Primary Data.

As it is seen in table 12, the entire sample respondents have used during the past three years a total of 189 cart loads of farm yard manure per ha of land. The holding wise use of farm yard manure can be given as: marginal farmers (28 cart load per acre), small farmers (50 cart load per acre), medium farmers (70 cart load per acre) and large farmers (41 cart load per acre).

Thus from the analysis, it can be concluded that the total usage of farm yard manure among the sample respondents is 189 card load and the usage of FYM increases with the size of holdings.

As it could be seen in table 13, all the sample respondents on the average used 35.40 litres of pesticide per acre. In terms of usage of pesticides by size of holdings, the highest share of 33.62 per cent of the medium farmers use 11.90 litres of pesticide per acre. Another

Table 14 : Average area irrigated by sources in sample farms.

Farmers Group	Canals	Tanks	Wells	Gross irrigated area
Marginal farmers (less than 2.50 acres)	7.43(47.20)	0.07(0.44)	8.23(52.29)	15.74(100.00)
Small farmers (2.50-5.00 acres)	38.99(29.69)	0.26(0.20)	92.07(70.11)	131.32(100.00)
Medium farmers (5-10 acres)	240.53(20.77)	2.32(0.20)	915.01(79.03)	1157.85(100.00)
Large farmers (above 10 acres)	76.30(18.00)	2.12(0.50)	345.47(81.51)	423.81(100.00)
Total	363.25(21.01)	4.77(0.28)	1360.77(78.71)	1728.79(100.00)

Bracket values indicate percentages to total.
Source: Computed from Primary Data.

23.73 per cent of the small farmers consume 8.40 litres of pesticide per acre. While 23.44 per cent of the large farmers use 8.30 litres of pesticides, 19.21 per cent of the marginal farmers use 6.80 litres of pesticide per acre.

Thus the above analysis indicates that the usage of pesticides increases with the size of holdings and this is expected as, at higher level of holdings, the cultivation of is more and hence the usage of inputs including pesticides is also expected to be more.

As indicated already, irrigation forms one of the major input that decides not only the production an d productivity of crops but also a facilitator for the cropping pattern. This helps the farmers to keep the land utilised throughout the year. This in turn increases their earnings and naturally the standard of living of the farmers. Having understood that the state government has been implementing various policies and programmes including water conservation, storage, watershed management and saving of rain water. In the context of irrigating the land, the source of water for irrigating the land plays a pivotal role, in the present paragraph it is attempted to examine the sources of water for irrigating the crop among the sample farmers by size of holdings.

As it could be seen in table 14, on the average, well irrigation constituted the highest share in the source of irrigation of crop. This is being followed by canal irrigation. Tank irrigation as a source constituted the meager share. A holding wise source of irrigation indicates that in the case of marginal farmers, 52.29 per cent of irrigate their lands by wells. Another 47.20 per cent irrigate their lands with canals. The remaining 0.44 per cent irrigate their lands with tanks.In the case of small farmers, 70.11 per cent of irrigate their lands by wells. Another 29.69 per cent irrigate their lands with canals. The remaining 0.20 per cent irrigate their lands with tanks. In the case of medium farmers, 79.03 per cent of irrigate their lands by wells. Another 20.77 per cent irrigate their lands with canals. The remaining 0.20 per cent irrigate their lands with tanks. In the case of large farmers, 81.51 per cent of irrigate their lands by wells. Another 18.0 per cent irrigate their lands with canals. The remaining 0.50 per cent irrigate their lands with tanks.

Overall, a little lower than four fifths of the agricultural land is being irrigated by wells. This is being followed by canal irrigation and tank irrigation. Thus from the analysis, it can be concluded that a majority of the sample farmers depend on wells for irrigating their lands.

Conclusion

The study on the farm profile and farm practices by the tribal farmers is a maiden attempt as far as the study area is concerned. Hence, the conclusion provided in the research would be of immense use to the planners and policy makers to frame suitable policy for the improvement of their farm practices and economic conditions.

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