Socio-economic characteristics of Lac Growers in Jharkhand

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Introduction

Lac cultivation plays an important role in the farmers' economy in remote and under developed areas of Jharkhand, West Bengal, Chhattisgarh, Madhya Pradesh, Orissa, Maharashtra and parts of Uttar Pradesh, Andhra Pradesh, Gujarat and NEH region. The lac growing regions of these states are characterized by a high proportion of tribal population, families living below the poverty line and a low literacy rate. The per capita income in Jharkhand was very low (Rs. 4,161.00) in comparison to that of the national average (Rs. 20,860.00) during 2003-04 (Anonymous, 2005). About 57 per cent of the population is below the poverty line in Jharkhand as against the national average of 26.1 per cent during 1999-2000 (Dutta and Sunderam, 2002). Around 23.22 lakh families in the rural areas of Jharkhand live below the poverty line, out of which 3.91 lakh belong to SCs and 8.79 lakh to STs. Poverty amongst the ST population is more pronounced and it is about 60.60 per cent against the national average of 44.45 per cent during 1999-2000. Jharkhand has one of the lowest rates of literacy in the country, which is only 54.13 per cent in 2001. The female literacy rate is still lower at 39.38 per cent. The literacy rate among tribals of Jharkhand is 46 per cent and tribal female literacy rate is 32 per cent (Sharan and Neelkanth, 2002).

The total geographical area of Jharkhand is 7.97 m ha. of which 2.7 m ha land is suitable for agriculture. These agricultural lands are distributed in upland, medium land and lowland. Of the total agricultural land, as much as 2.15 m ha is under rainfed agriculture and 0.3 m ha under irrigated agriculture (Singh, 2003). Due to the small size of land holdings and poor fertility of uplands, most of the tribal cultivators do not produce marketable surplus of agricultural crops for earning cash (Lal et al., 1976). The tribal population mainly depends on agriculture and forest produce for their livelihood with lac being an important source of cash income for these families. Lac cultivation

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also generates employment opportunities, particularly in the non-agricultural season. Jharkhand is the second largest producer of lac in the country contributing to 31 per cent of national production, the production being 6,385 tons during 2007-07 (Pal et. al, 2008). While a number of agri-commodity based socio-economic studies have been reported (Seema and Manoharan, 2002; Singh, 2003), there are very few studies in this direction with respect to lac. Keeping in view the above facts, it was felt essential to examine the existing level of socio-economic condition, lac production status and utilization percentage of lac host trees.

The present study was undertaken with the following specific objectives:

1. To assess the existing level of socio-economic status of lac growers.
2. To estimate the lac host holdings and lac production status of lac growers.

Research Methodology

The study was conducted in two leading lac producing districts in Jharkhand namely Ranchi and West Singhbhum. A three stage stratified random sampling technique was employed to select the sample lac growers. At the first stage four blocks from the selected districts were selected. The second stage involved selection of five villages from each selected block and the third stage involved selection of ten lac growers from each village at random. Thus, the total sample size was 400 lac growers. The relevant information was collected from the sample lac growers through a pre-tested questionnaire / schedule by survey method for the year 2003-04 and 2004-05. Tabular analysis was used for the different values of socio-economic conditions of lac growers and farm economy. Weighted average was used for average analysis.

Findings and Discussion

The data pertaining to profile characteristics of lac growers have been given in Table 1. The analysis of survey data shows that on an average 37.5 per cent lac growers have marginal land holdings of average size 0.73 ha., 48 per cent have small land holdings with average size 1.51 ha. and 14.5 per cent have large land holdings with average size 2.82 ha. The average family size was 5.3. it was observed that the family size (less than 5 members) was 64 per cent (59 per cent in Ranchi district and 69 per cent in West Singhbhum district.

Table 1: Profile characteristics of Lac Growers

Particulars	Ranchi	W. Singhbhum	Average
Land holding (%)			
Marginal (<1 ha.)	42.5	32.5	37.5 (0.73)*
Small (1-2 ha.)	46.5	49.5	48.0 (1.51)
Large (>2 ha.)	11.0	18.0	14.5 (2.82)
Family details			
Average house hold size	5.4	5.2	5.3
Families having members up to 5 (%)	59	69	64
Families having members > 5 (%)	41	31	36
Families having head's age <50 yr (%)	44	38	41
Families having head's age >50 yr (%)	56	62	59
Educational status (%)			
Illiterate	40	32	36
Primary	26	30	28
High school	32	34	33
University	2	4	3
Herd size (%)			
Below 5	50.0	31.0	40.5 (3.6)**
5-10	35.0	60.0	47.5 (6.2)
More than 10	15.0	9.0	12.0 (12.1)

* Figures in parentheses are average size of holding

** Average size of herd

The average literacy rate (primary, high school and university) of lac growers was 64 percent. Majority of family heads have education level up to high school. About 40.5 per cent lac growers have herd size below 5 with average size of 3.6; 47.5 per cent have herd size of 5-10 with average size of 6.2 and 12 per cent have more than 10 with average size of 12.1. In case of Ranchi district majority of lac growers (50.0 %) have herd size below 5 while in case of W. Singhbhum majority (60.0 %) have 5-10 herd.

The data in Table 2 indicates the sources of farm and off-farm income of lac growers in Ranchi and West Singhbhum districts. It is evident from the table that the ratio of farm

and off-farm income was 70:30. Income from lac cultivation was found to contribute towards 18.5 per cent and 26.4 per cent of the total income and farm income respectively. Contribution of lac in total income varied from 10.5 per cent to 51.2 per cent at lac growers' level. Lac was a subsidiary crop for the lac growers who depended on it for meeting cash expenses towards family needs and cash purchase for their house hold requirements. The average annual income from lac was around Rs. 7,000 per family. Amongst the different sources of income, food grains ranked 1st (29 %) followed by lac (18.5%) and labour (16 %) for Jharkhand. The same trend was found in case of Ranchi and W. Singhbhum districts.

Table 2: Source of farm and off farm income of lac growers (in percentage)

Particulars	Ranchi	W. Singhbhum	Average
Farm income			
Foodgrains	26.5	30.5	29.0
Vegetables	10.5	11.8	11.0
Livestock	12.2	11.1	11.5
Lac	19.8	18.0	18.5
Sub total	70.0	71.4	70.0
Off-farm income			
Salary job	4.2	2.6	3.5
Business /Shop	3.7	5.3	4.5
Forest produce	3.9	2.1	3.0
Labour	13.0	18.0	16.0
Others	4.2	0.6	3.0
Sub Total	30.0	28.6	30.0
Total	100.0	100.0	100.0

The data on lac host holding and contribution in lac production according to different size of host holdings have been presented in table 3. About 83.4 per cent lac growers have palas (Butea monosperma), 75.3 per cent have ber (Zizyphus mauritiana), 61.9 per cent have kusum (Schleichera oleosa) and 39.5 per cent have other host trees available for lac cultivation. Availability of palas was more in case of Ranchi district while ber and kusum was more in W. Singhbhum district at lac grower's level. In case of lac cultivation on palas, maximum lac growers (24.2%) have holding of 25-50 hosts but maximum contribution in lac production (38.4%) was obtained from the group having holding of 101-500 hosts due to more utilization of host trees. In case of ber, maximum

Table 3: Lac host holding and contribution in production according to size of host holding

Palas *(Butea monosperma)*

	No of hosts	No hosts	<25	25-50	51-100	101-500	>500
Ranchi	% Farmer	8.3	14.1	22.2	27.9	21.7	5.8
	Cont. in Prod.*	-	6.8	8.9	25.6	39.7	19.0
W. Singhbhum	% Farmer	29.8	17.1	28.0	6.4	14.8	3.9
	Cont. in Prod.	-	14.9	30.2	16.3	34.6	4.0
Average	% Farmer	16.6	15.3	24.2	20.0	18.8	5.1
	Cont. in Prod.	-	9.3	18.6	21.4	38.4	12.3
Ber *(Zizyphus mauritiana)*							
	No of hosts	**No hosts**	**<10**	**10-25**	**26-50**	**51-100**	**>100**
Ranchi	% Farmer	33.0	9.0	14.7	31.8	10.2	11.3
	Cont. in Prod.	-	3.8	12.6	34.5	24.9	24.2
W. Singhbhum	% Farmer	19.2	13.7	21.2	30.8	8.3	6.8
	Cont. in Prod.	-	12.1	24.1	29.6	17.1	17.1
Average	% Farmer	24.7	11.8	16.1	31.3	8.1	8.0
	Cont. in Prod.	-	8.1	19.3	32.2	20.3	20.1
Kusum *(Schleichera oleosa)*							
	No of host	**No hosts**	**<5**	**5-10**	**11-15**	**16-20**	**>20**
Ranchi	% Farmer	45.0	21.0	14.4	5.7	5.6	8.3
	Cont. in Prod.	-	5.3	36.2	24.5	15.4	18.6
W. Singhbhum	% Farmer	31.1	16.0	22.2	11.0	8.9	10.8
	Cont. in Prod.	-	10.0	39.1	18.4	15.3	17.2
Average	% Farmer	38.1	19.3	18.6	7.7	6.8	9.5
	Cont. in Prod.	-	7.9	37.8	21.7	15.3	17.3
Other							
	No of hosts	**No hosts**	**<5**	**5-10**	**11-15**	**16-20**	**>20**
Ranchi	% Farmer	63.4	23.0	3.5	4.6	3.2	2.3
	Cont. in Prod.		-	-	-	-	-
W. Singhbhum	% Farmer	58.9	14.2	9.3	6.2	6.7	4.7
	Cont. in Prod.		-	-	-	-	-
Average	% Farmer	60.5	18.6	6.7	5.9	4.9	3.4
	Cont. in Prod.		-	-	-	-	-

* Contribution in production

lac growers (31.3%) and maximum contribution in lac production (32.2%) was obtained from the group having holding of 26-50 hosts. In case of kusum, maximum lac growers (19.3%) have less than 5 hosts holding but maximum contribution in lac production (37.8%) was obtained from the group of 5-10 hosts holding. Maximum lac growers (18.6%) have less than 5 other hosts holding for lac cultivation for average of both the districts. Almost the same trend was found in case of Ranchi and W. Singhbhum district for lac host holding and contribution in lac production on different sizes of host holding.

Table 4 : Lac production status of lac growers

Particulars	Ranchi	W. Singhbhum	Average
Utilization of lac host trees (percentage of total number of hosts)			
Palas	26.2	32.1	28.7
Ber	54.3	49.2	53.8
Kusum	14.2	21.3	17.2
Other	7.5	7.1	7.4
Type of lac (percentage of total production)			
Rangeeni	89.0	56.6	74.0
Kusmi	11.0	43.4	26.0
Host-wise lac production (percentage of total production)			
Palas	43.7	28.0	37.0
Ber	46.2	34.0	41.0
Kusum	10.1	38.0	22.0
Distribution pattern of scale of lac production (percentage of lac growers)			
<100 Kg.	61.0	54.0	57.5
100-200 Kg.	30.0	32.0	31.0
>200 Kg.	9.0	14.0	11.5

The lac production status of lac growers is presented in Table 4. As evident from the table, the utilization of host trees for lac cultivation in the study area were 53.8 per cent for ber, 28.7 per cent for palas, 17.2 per cent for kusum and 7.4 per cent for other host trees. Maximum utilization of palas and ber was observed on marginal farms with kusum host on large farms. This indicates a greater scope for increasing lac production by utilizing more hosts for lac cultivation. The major causes for low utilization of hosts were found to be shortage of funds for purchase of broodlac, distance of host plant from home, uncertainty in production, height of hosts, distance from market, scattered host

plant, high cost of broodlac and difficulty in management of large scale hosts. The ratio of rangeeni and kusmi lac produced at growers level were 89:11 and 57:43 in Ranchi and W. Singhbhum districts respectively. In Ranchi district the maximum contribution (46.2 %) in lac production was from ber followed by palas (43.7 %) and kusum (10.1 %). In W. Singhbhum district it was 38 per cent from kusum followed by ber 34 per cent and palas 28 per cent. In terms of production, 57.5 per cent lac growers produced lac in the production group below 100 kg. with average production of 52.5 kg.; 31 per cent lac growers in the production group 100-200 kg. with average production of 148.7 kg. and 11.5 per cent lac growers in the production group more than 200 kg. with average production of 240.5 kg. annually. The low level of lac production is because of lac growers taking more interest in food grains production and majority of lac growers harvest ari lac (immature lac) because they do not have the financial resources to wait for the crop maturity stage and problem of theft increases at maturity stage.

Conclusion

Hence from the analysis it was found that nearly 85 per cent of lac growers in Jharkhand are marginal and small farmers and farming is their major occupation. It was also seen that farmers sell their produce immediately after harvest due to their cash need. Majority of family heads have education level up to high school. Income from lac cultivation is being used for cash expenses towards family needs and house hold requirements of the lac growers. Lac host utilization percentage was found to be very low due to various constraints faced by the lac growers. There is a greater scope for increasing lac production by utilizing more hosts for lac cultivation. The implications of the study are:

1. There is need for extensive transfer of technology programme and provision of adequate training facilities to the lac growers.
2. There is need to adopt a scientific method of lac cultivation to overcome the problems of broodlac shortage and uncertainty in lac production.
3. There is a need for developing lac producers' organization in the form of a co-operative society to protect the common interests of lac growers.
4. There is need to increase the share of kusmi lac as it is more profitable than rangeeni lac due to its better quality.

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