



Socio-economic status of *Lac* growers in Korba District of Chhattisgarh

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Abstract : The study pertains to data collected from randomly selected 100 *Lac* growers in Korba district of Chhattisgarh during the year 2008-09. The study indicated that 48 per cent *Lac* growers were marginal farmers followed by small (27 %), medium (18 %), semi-medium (5 %) and large (2 %). The majority of *Lac* growers had education up to middle level. Share of income from *Lac* was 19.8 per cent and 36.3 per cent of total income and farm income, respectively of *Lac* growers. In case of off-farm income, maximum income was contributed by labour activity which was 21.2 per cent of total income of farmers. The host utilization percentage was maximum for *kusum* (56.2 %) followed by *palas* (44.6 %) and *ber* (13.1 %). About 68.0 per cent *Lac* growers produced *Lac* with average production of 48.6 kg., 21.0 per cent *Lac* growers had average production of 118.9 kg. and 11.0 per cent *Lac* growers had average production of 336.8 kg. annually. The study of marketing behavior indicated that around 95 per cent grower sold their produce either in village or in the market/ *haat* up to 5 km radius. Grading practice was less operational in the area. *Lac* was used as a cash crop and majority of farmers sold *Lac* in the lots of 5-10 kg. Around 85 per cent farmers sold *Lac* immediately after harvesting. Implications of the present study will be helpful in strengthening the socio-economic condition of *Lac* growers and *Lac* marketing scenario in Chhattisgarh.

Key Words : *Lac*, Socio-economic, Chhattisgarh

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INTRODUCTION

Lac is a natural resin secreted by an insect, *Kerria lacca* (Kerr.) thriving on tender twigs of specific host trees viz., *palas* (*Butea monosperma*), *ber* (*Ziziphus mauritiana*), *kusum* (*Schleichera oleosa*), *Ficus* spp. etc. Resin, dye and wax, which are natural, renewable, non-toxic and eco-friendly products are derived from *Lac*. *Rangeeni* and *kusmi* are two strains of *Lac* insect, based on preference of the insect for specific host plants. India is the leader amongst different *Lac* producing countries of the world.

Lac is an export oriented commodity, cultivated in the states of Jharkhand, Chhattisgarh, West Bengal, Madhya Pradesh, Orissa, Maharashtra, parts of Uttar Pradesh, Andhra Pradesh, Gujarat and NEH region. Majority of the tribal households of *Lac* growing regions carry out *Lac* cultivation

as a subsidiary occupation to agriculture. It is a very remunerative crop, paying high economic returns to farmers and also earns foreign exchange through its export. *Lac* cultivation generates employment opportunities, particularly in the off-agricultural season. The national production of *Lac* was 17,900 tons during 2011-12. About 70 per cent of *Lac* produced in the country is exported to over 50 countries mainly in refined and semi refined forms. The export earnings from *Lac* and *Lac* products during the year 2010-11 was around 211 crores (Pal *et al.*, 2012).

Agriculture and allied activities in Chhattisgarh account for nearly 80 per cent of the work force of the state. Out of the total geographical area of 13,519 thousand hectares, net cropped area is 4,769 thousand hectares, which constitutes about 35 per cent of the total geographical area. These

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agricultural lands are distributed in upland, medium land and lowland. Average rainfall in the state is around 1400 mm and about 90% of the total rainfall is confined to the monsoon season *i.e.* mid- June to September. Rainfall is erratic, temporal and spatial distribution in the state. The majority of state population mainly depends on agriculture and forest produce for their livelihood and *Lac* is one of the important sources of cash income for the families. Average per capita income of Chhattisgarh was Rs. 44,097 as compared to national average Rs. 54,835 at current prices in 2010-11.

Chhattisgarh is an important producer of *Lac* in the country and on an average contributing around 30 per cent of national production during last five years (average production of *Lac* during 2007-08 to 2011-12 was 4900 tons). Works on agri-commodity based socio-economic study have been reported by a number of workers (Seema and Manoharan, 2002; Singh, 2003). Pal *et al.* (2007) and Lal *et al.* (1976) have studied the socio-economic condition of *Lac* growers in Jharkhand. Only meagre information on this aspect is available in case of *Lac* growers of Chhattisgarh. Keeping in view the above facts, it was felt necessary to find out the existing level of socio-economic condition, *Lac* production status, utilization percentage of *Lac* host trees and marketing behavior of *Lac* growers.

MATERIAL AND METHODS

The study was conducted in Korba district of Chhattisgarh, which is one of the leading *Lac* producing districts of the state. A three stage stratified random sampling technique was employed to select the sample *Lac* growers. In first stage, two forest divisions from the selected districts, at second stage, five villages from each selected divisions and at the third stage, ten *Lac* growers from each selected village were selected at random. Thus, the total sample size was 100 *Lac* growers. The relevant information was collected from the sample *Lac* growers through a pre-tested questionnaire by survey methods for the year 2008-09. Tabular analysis was used for the different values of socio-economic condition, marketing behaviour of *Lac* growers and farm economy. Weighted average was used for average analysis.

RESULTS AND DISCUSSION

The data pertaining to profile characteristics of *Lac* growers has been given in Table 1. The analysis of survey data shows that on an average, 48.0 per cent *Lac* growers had marginal land holding of average size 0.61 ha., 27.0 per cent had small land holding with average size 1.32 ha., 18.0 per cent had medium land holding with average size 2.92 ha., 5.0 per cent had semi-medium land holding with average size 6.47 ha. and 2.0 per cent had large land holding with average size 14.0 ha. The families having up to 5 members and more

Table 1: Profile characteristics of lac growers

Sr. No.	Particulars	Percentage of lac growers
Land holding (%)		
1.	Marginal (<1 ha.)	48 (0.61*)
2.	Small (1-2 ha.)	27 (1.32*)
3.	Medium (2-4 ha.)	18 (2.92*)
4.	Semi-medium (4-10 ha.)	5 (6.47*)
5.	Large (>10 ha.)	2 (14.00*)
Family details		
1.	Average house hold size	6.1
2.	Family having members up to 5 (%)	42 (4.3**)
3.	Family having members > 5 (%)	58 (7.3**)
4.	Family having head's age < 50 yr (%)	83 (36.3**)
5.	Family having head's age >50 yr (%)	17 (53.4**)
Educational status		
1.	Illiterate	18
2.	Primary	44
3.	Middle	30
4.	High school	5
5.	Intermediate	2
6.	Degree	1
Herd size		
1.	Below 5	81 (3.8**)
2.	Above 5	19 (13.1**)

* Figures in parentheses are the average size of land holding

** Figures in parentheses are the average numbers

than 5 members were 42 per cent and 58 per cent, respectively, with an average family size of 6.1. On an average, the age of 17 per cent family heads was more than 50 years and 83 per cent family heads were less than 50 years.

The average literacy rate of *Lac* grower's family head was 82.0 per cent. About 44.0 per cent family head had education up to primary level, 30.0 per cent had education up to middle, 5.0 per cent had education up to high school, 2.0 per cent had education up to intermediate level and only 1.0 per cent had education up to degree level. About 81.0 per cent *Lac* growers had herd size below 5 with average size of 3.8 and 19.0 per cent had more than 5 with average size of 13.1.

The data in Table 2 indicate source of farm and off-farm income of *Lac* growers in Korba district of Chhattisgarh. It is evident from the Table 2 that the ratio of farm and off-farm income was 54.5:45.5. Income from *Lac* cultivation was found to contribute towards 19.8 and 36.3 per cent of total income and farm income, respectively. *Lac* is a subsidiary crop for the *Lac* growers who depend on it for meeting cash expenses towards family needs and cash purchases for their household requirements. Amongst the different sources of income, food grains ranked 1st (29.6 %) followed by labour activity (21.2 %), *Lac* (19.8 %), forest

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

Sr. No.	Particulars	Share in total income (percentage)
Farm income		
1.	Food grains	29.6
2.	Vegetables	1.9
3.	Livestock	3.2
4.	Lac	19.8
	Sub total	54.5
Off-farm income		
1.	Salary-job	2.0
2.	Business/Shop	2.5
3.	Forest produce	18.6
4.	Labour	21.2
5.	Others	1.2
	Sub total	45.5
	Grand Total	100.00

produce (18.6 %), livestock (3.2 %), business / shop (2.5 %), salary job (2.0 %), vegetables (1.9 %) and others (1.2 %). The income from forest produce is mainly from collection of *Mahua* (*Madhuca longifolia*) flower and seed, *Tendu* leaves (*Diospyros melonoxylan*), Sal seed (*Shorea robusta*), *Harra* (*Terminalia chebula*), *Bahera* (*Terminalia bellirica*), *Dori* (Oil seed) *Chironji* seed (*Buchanania lanzan*), Nagarmotha (*Cytrus rotundus*) etc. This income increased in case of marginal farmers.

The data on *Lac* host holding have been presented in Table 3. About 48.0 per cent *Lac* growers had *palas* (*Butea monosperma*), 51.0 per cent had *ber* (*Zizyphus mauritiana*), 97.0 per cent had *kusum* (*Schleichera oleosa*) host trees available for *Lac* cultivation. This shows that majority of *Lac* growers had *kusum* trees for *Lac* cultivation in the study area. Regarding availability of *palas* host for *Lac* cultivation, maximum *Lac* growers (26.0 %) had holding of 10-25 hosts (average number 13.8) followed by 9.0 per cent had holding of 26-50 hosts (average number 45.2), 7.0 per cent had holding of less than 10 host (average number 4.6) and only 6.0 per cent had holding of more than 50 host (average number 88.0). In case of *ber*, 41.0 per cent *Lac* growers had holding of less than 10 hosts (average number 3.7), 6.0 per cent had holding of 10-25 hosts (average number 13.0), 3.0 per cent had holding of 26-50 hosts (average number 45.0) and only 1.0 per cent had holding of more than 50 hosts

(average number 300.0). In case of *kusum*, maximum *Lac* growers (62.0 %) had holding of less than 10 hosts (average number 4.6) followed by 31.0 per cent had holding of 10-25 hosts (average number 13.4) and 4.0 per cent had holding of 26-50 hosts (average number 41.7).

Table 4 indicates the *Lac* production status of *Lac* growers. As evident from the table, the utilization of host trees for *Lac* cultivation in the study area was 44.6 per cent for *palas*, 13.1 per cent for *ber* and 56.2 per cent for *kusum* host trees. 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 fund for purchase of broodlac, distance of host plant from home, uncertainty in production, height of hosts, scattered host plant, high cost of broodlac and difficulty in management of large scale hosts. The utilization percentage of *Lac* host trees available nearer to farmer house was more in comparison to the hosts available far from farmers house.

The ratio of *rangeeni* and *kusmi* *Lac* produced at growers level were about 27:73. This was due to huge availability of *kusum* host in the study area in farmers land and in forest area. In the district, maximum contribution (72.3 %) in *Lac* production was from *kusum* followed by *palas* (26.5 %) and *ber* (1.2 %). In terms of production, 68.0 per cent *Lac* growers produced *Lac* in the production group below 100 kg. with average production of 48.6 kg., 21.0 per cent *Lac* growers in the production group 100-200 kg. with average production of 118.9 kg. and 11.0 per cent *Lac* growers in the production group more than 200 kg. with average production of 336.8 kg. annually. Some of the growers were more interested in food grains production and some of the *Lac* growers harvested *ari* *Lac* (immature *Lac*), because they did not have the financial resources to wait for the crop maturity stage and problem of increased theft at maturity stage.

Marketing behavior of *Lac* growers has been presented in Table 5. Most of the farmers (95 %) sold their produce either in village or in the market up to 5 km. Source of knowing price was through *Lac* traders (65 %), other *Lac* growers (40 %) and institutional agency (30 %). Grading behavior was less operational in the area; only 10 per cent farmers sold their produce offer grading based on quality of produce. Majority of farmers (70 %) selling their produce to traders in local *haat* as farmers were dependent as non-institutional borrowing. Farmers also sell their produce to

Table 3 : Lac host holding of lac growers

Sr. No.	Name of hosts	Host holding group/average percentage of farmers				
		No host	< 10	10-25	26-50	>50
1.	Palas (<i>Butea monosperma</i>)	52.0	7.0 (4.6)	26.0 (13.8)	9.0 (45.2)	6.0 (88.0)
2.	Ber (<i>Zizyphus mauritiana</i>)	49.0	41.0 (3.7)	6.0 (13.0)	3.0 (45.0)	1.0 (300.0)
3.	Kusum (<i>Schleichera oleosa</i>)	3.0	62.0 (4.6)	31.0 (13.4)	4.0 (41.7)	0.0

Figures in parentheses are the average numbers of hosts in respective group

Table 4 : Lac production status of lac growers

Sr. No.	Particulars	Average value
Utilization of lac host trees (percentage of total number of hosts)		
1.	Palas	44.57
2.	Ber	13.11
3.	Kusum	56.21
Type of lac (percentage of total production)		
1.	Rangeeni	27.0
2.	Kusmi	73.0
Host- wise lac production (percentage of total production)		
1.	Palas	26.5
2.	Ber	1.2
3.	Kusum	72.3
Distribution pattern of scale of lac production (percentage of lac growers)		
1.	<100 kg	68.0 (48.6*)
2.	100-200 kg	21.0 (118.9*)
3.	>200 kg	11.0 (336.8*)

*Figures in parentheses are the average lac production (kg.) in respective group

NGO/ Forest department or village traders. Storage is one of the important factors which make the farmers to fetch better price during the time of demand, but it was found very less (only 10 % adopted) among the farmers. Absence of institutional market and domination of private market might be possible reason for poor storage behavior among the farmers. Only 40 per cent farmer sold broodlac (seed material of *Lac*) as it fetched more price and profitability in comparison to sticklac. Regarding quantity of each lot of sale, majority of farmers (54 %) selling *Lac* in the lot of 5-10 kg, as *Lac* is used as cash crop and used for meeting cash expenses towards family needs and household requirements. Around 85 per cent farmers sold their produce immediately after harvest. Majority of farmers (75 %) received full payment while 25 per cent farmers received partial payment for their produce. Regarding the market decision, it was found that 40 per cent respondents were selling independently of any private trader and 30 per cent each to particular private traders and Institutions.

Conclusion:

From the analysis, it was found that nearly 93 per cent of *Lac* growers in Korba district of Chhattisgarh are marginal, small and medium farmers and farming and forestry was their major occupation. Income from *Lac* cultivation was being used for cash expenses towards family needs and house hold requirements. Lac host utilization percentage was found to be low due to some constraints faced by the *Lac* growers. Majority of farmers were selling *Lac* to traders in local *haats* as they were dependent as non-institutional borrowing. Low level of attitude towards institutional marketing was seen in

Table 5 : Distribution of lac growers according to behaviour of lac marketing

Sr. No.	Characteristics	Frequency (100 percentage)
1.	Distance of Market	
	Village	40
	Up to 5 km	55
	> 5 Km	5
2.	Source of price*	
	Other lac growers	40
	Traders	65
	Institutional agency	30
3.	Grading behaviour	
	Grading	10
	No Grading	90
4.	Sale agency*	
	Village trader	40
	Trader in <i>haat</i>	70
	NGO/ Forest department	20
5.	Storage practice	
	Present	0
	Absent	100
6.	Sale of Output*	
	Stick lac	100
	Broodlac	40
7.	Quantity of each lot	
	< 5 kg	21
	5-10 kg	54
	> 10 kg	25
8.	Time of sale	
	Immediately after harvest	85
	After some time of harvest	15
9.	Payment pattern	
	Fully	75
	Partially	25
10.	Market decision indicators	
	Selling to a particular private trader	30
	Selling independently to any private trader	40
	Selling independently to Institutions	30

* Multiple response

the area. It was also observed that some farmers sold their produce immediately after harvesting due to their cash need. More than 50 per cent growers sold *Lac* in the lot of 5-10 kg. There is great scope for increasing *Lac* production by utilizing more hosts for *Lac* cultivation. Production of *Lac*, income sharing from *Lac* and *Lac* marketing scenario can be improved in the area by adopting the following measures:

– Development and strengthening of *Lac* producers' organization to protect the common interest of *Lac* growers. This organization would be helpful in marketing of sticklac

and broodlac, security of crop and availability of inputs and machines for *Lac* cultivation.

– Extensive transfer of technology programme and provision of adequate training facilities to *Lac* growers.

– Promotion of plantations of *Lac* host plants for *Lac* cultivation on plantation basis.

– Adoption of scientific methods of *Lac* cultivation to overcome the problem of broodlac shortage and uncertainty in *Lac* production.

– More Institutional support is required to develop the market infrastructure.

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