SOCIO-ECONOMIC CHARACTERISTICS OF LAC GROWERS IN KANKER DISTRICT OF CHHATTISGARH

GOVIND PAL

Transfer of Technology Division
Indian Institute of Natural Resins and Gums (ICAR), Ranchi (Jharkhand).

Introduction

Lac is a natural resin secreted by an insect known as lac insect, *Kerria lacca* (Kerr.) thriving on the tender twigs of specific host trees *viz.* palas (*Butea monosperma*), ber (*Zizyphus mauritiana*), kusum (*Schleichera oleosa*), *Ficus* sp. etc. Resin, dye and wax, which are natural, renewable, non-toxic and eco-friendly products derived from the lac. 'Rangeeni' and 'Kusmi' are the two strains of lac insect which are based on preference of the insect for specific host plants. India is the leader amongst different lac producing countries of the world. The national production of lac was 17,175 tons during 2008-09. Lac cultivation plays an important role in the farmers' economy in remote and under developed areas of Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, West Bengal, Orissa, and parts of Uttar Pradesh, Andhra Pradesh, Gujarat and NEH region. It is a very remunerative crop, paying high economic returns to the farmers and also foreign exchange to the country through its export. The export earning from lac and lac products during the year 2007-08 was around 124.27 crores (Pal *et al.*, 2009).

The lac growing regions of the state are characterized by high proportion of tribal population, families living below poverty line, low literacy rate and high forest cover. About 49 per cent population was below poverty line in Kanker district of Chhattisgarh as against the state and national average of 40.90 and 27.50 per cent respectively, during the year 2004-05. The share of SC and ST population in total population in the district was 4.5 and 55.7 per cent respectively. The forest area in relation to total geographical area in the district was 48.65 per cent (Anon., 2002, 2003 and 2009).

Lac cultivation generates employment opportunities, particularly in the off-agricultural season. Chhattisgarh is the largest producer of lac in the country contributing around 42 per cent of national production and it was 7,198 tons during 2008-09. Agri-commodity based socio-economic studies have been reported by a number of workers (Seema and Manoharan, 2002; Singh, 2003). Pal *et al.* (2009) and Lal *et al.* (1976) have studied the socio-economic condition of lac growers in Jharkhand. Only meager information in this aspect was 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 and utilization percentage of lac host trees.

Methodology

The study was conducted in Kanker district of Chhattisgarh which is one of the leading lac producing district. A three stage stratified random sampling technique was employed to select the sample lac growers. At first stage two blocks from the selected districts, at second stage, five villages from each selected block 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 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 have been given in Table 1. The analysis of survey data shows that on an average, 18.0 per cent lac growers had marginal land holding of average size 0.64 ha, 25.0 per cent small land with 1.04 ha, 39.0 per cent medium with 2.82 ha., 16.0 per cent semi-medium land with 6.45 ha and 2.0 per cent had large land holding with average size 13.0 ha. The families having up to 5 members and more than 5 members were 54 per cent and 46 per cent respectively, with an average family size of 5.92. On an average, the age of 39 per cent family heads was more than 50 years and 61 per cent family heads were less than 50 years.

More than 90 per cent lac growers residing in *Kachcha* house. The average literacy rate of lac grower's family head was 73 per cent. 39 per cent family heads had education up to primary level, 25 per cent had up to high school, 6.0 per cent up to Intermediate level and only 3.0 per cent had education up to degree level. 40.0 per cent lac growers had herd size below 5 with average size of 3.11 and 60 per cent had more than 5 with average size of 6.0.

The data in Table 2 indicate source of farm and off-farm income of lac growers in Kanker district of

Table 1

Profile characteristics of lac growers.

Sl. No.	Particulars	Percentage of lac growers
A.	***Land holding***	
1	Marginal (<1 ha.)	18 (0.64*)
2	Small (1-2 ha.)	25 (1.04)
3	Medium (2-4 ha.)	39 (2.82)
4	Semi-medium (4-10 ha.)	16 (6.45)
5	Large (>10 ha.)	2 (13.00)
B.	***Family details***	
1	Average house hold size	5.92
2	Families having members up to 5	54 (4.19)
3	Families having members > 5	46 (8.00)
4	Families having head's age <50 yr	61 (35.20)
5	Families having head's age >50 yr	39 (50.64)
C.	***Educational status***	
1	Illiterate	27
2	Primary	39
3	High school	25
4	Intermediate	6
5	Degree	3
D.	***Herd size***	
1	Below 5	40 (3.11**)
2	Above 5	60 (6.00)

*Figures in parentheses are the average size of land holding

**Figures in parentheses are the average numbers

Table 2

Source of farm and off farm income of lac growers (in percentage).

Sl. No.		Particulars	Share in total income (percentage)
A.		***Farm income***	
	1	Foodgrains	25.87
	2	Vegetables	4.14
	3	Livestock	4.24
	4	Lac	23.54
		Sub total	57.79
B.		***Off-farm income***	
	1	Salary job	3.71
	2	Business /Shop	4.88
	3	Forest produce	16.22
	4	Labour	14.63
	5	Others	2.76
		Sub total	42.21
		Grand Total	100.00

Chhattisgarh. It is evident from the table that the ratio of farm and off-farm income was 58:42. Income from lac cultivation was found to contribute towards 23.54 and 40.73 per cent of total income and farm income respectively. Lac was a subsidiary crop for the lac growers who depend on it for meeting cash expenses towards family needs and cash purchase for their house hold requirements. Amongst the different sources of income, foodgrains ranked first with 25.87 per cent followed by lac (23.54 per cent), forest produce (16.22 per cent), labour (14.63 per cent), business / shop (4.88 per cent), livestock (4.24 per cent), vegetables (4.14 per cent), salary job (3.71 per cent) and others (2.7 per cent).

The data on lac host holding have been presented in Table 3. About 58.0 per cent lac growers had 'palas' (*Butea monosperma*), 17.0 per cent had 'ber' (*Zizyphus mauritiana*), 87.0 per cent had 'kusum' (*Schleichera oleosa*) and 12.0 per cent had other host trees available for lac cultivation. This shows that majority of lac growers had 'kusum' tree for lac cultivation. Regarding availability of 'palas' host for lac cultivation, maximum lac growers (23.0 per cent) had average holding of 13.04 hosts followed by 20 per cent with 3.95 hosts 11.0 per cent with 36.64 and only 4.0 per cent had average holding of 231.25 hosts. In case of *'ber',* 16.0 per cent lac growers had average holding of 2.38 hosts and 1.0 per cent had 100.0 hosts. In case of 'kusum' maximum lac growers (37.0 per cent) had holding of less than 10 hosts (average number 4.65) followed by 35.0 per cent with average of 16.37 hosts. 11.0 per cent had 38.73 and only 4.0 per cent had average holding of 59.0 hosts. Few lac growers had other lac host holding, 8.0 per cent s had average holding 3.63 hosts followed by 3.0 per cent with 20.0) and 1.0 per cent with 250.0 hosts.

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 were 58.65 per cent for 'palas', 32.61 per cent for 'ber', 39.76 per cent for 'kusum' and 21.24 per cent for other 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 ratio of 'rangeeni' and 'kusmi' lac produced at growers level were 20:80. 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 (79.03 per cent) in lac production was from 'kusum' followed by 'palas' (19.55 per cent), other hosts (1.28 per cent) and 'ber' (0.14 per cent). In terms of production, 51.0 per cent lac growers produced lac in the production group below 100 kg. with average production of 60.44 kg., 23.0 per cent lac growers with av. production of 161.22 kg, 11.0 per cent growers with av. production of 234.44 kg and 15.0 per cent with 418.08 kg annually. Some of the growers were more interested in foodgrains production and some of the lac growers harvested 'ari' lac (immature lac) because they do not have the financial resources to wait for the crop

Table 3

Lac host holding of lac growers.

Sl. No.	Name of hosts	Host holding group/average percentage of farmers				
		No host	<10	10-25	26-50	>50
1	Palas (*Butea monosperma*)	42.0	20.0 (3.95)	23.0 (13.04)	11.0 (36.64)	4.0 (231.25)
2	Ber (*Zizyphus mauritiana*)	83.0	16.0 (2.38)	0.0	0.0	1.0 (100.00)
3	Kusum (*Schleichera oleosa*)	14.0	37.0 (4.65)	35.0 (16.37)	11.0 (38.73)	4.0 (59.0)
4	Other	88.0	8.0 (3.63)	3.0 (20.0)	0.0	1.0 (250.0)

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

Table 4

Lac production status of lac growers.

Sl. No.		Particulars	Average value
A.		***Utilization of lac host trees (percentage of total number of hosts)***	
	1	Palas	58.65
	2	Ber	32.61
	3	Kusum	39.76
	4	Other	21.24
B		***Type of lac (percentage of total production)***	
	1	Rangeeni	19.57
	2	Kusmi	80.43
C		***Host-wise lac production (percentage of total production)***	
	1	Palas	19.55
	2	Ber	0.14
	3	Kusum	79.03
	4	Other	1.28
D		***Distribution pattern of scale of lac production (percentage of lac growers)***	
	1	<100 Kg.	51 (60.44*)
	2	100-200 Kg.	23 (161.22)
	3	201-300 Kg.	11 (234.44)
	4	>300 Kg.	15 (418.08)

* Figures in parentheses are the average production of lac in respective group

maturity stage and problem of theft increases at maturity stage.

Conclusion

Nearly 82 per cent of lac growers in Kanker district of Chhattisgarh are marginal, small and medium farmers and farming and forestry are their major occupations. Some farmers sell their produce immediately after harvest due to their needs. Majority of family heads have education level up to primary. Income from lac cultivation is used for cash expenses towards family need and house hold requirements of the lac growers. Lac host utilization percentage was found to be low due to some constraints faced by the lac growers. There is a greater scope for increasing lac production by utilizing more hosts for lac cultivation. Production of lac and share of income from lac can be increased in the area by adopting following measures:

1. Extensive transfer of technology programme and provision of adequate training facilities to the lac growers.
2. Adoption of scientific method of lac cultivation to overcome the problem of broodlac shortage and uncertainty in lac production.
3. Development and strengthening of lac producer's organization to protect the common interest of lac growers and help in marketing of lac and broodlac, security of crop and availability of inputs and machines in lac cultivation.
4. Promotion of plantations of lac host plants for lac cultivation on plantation basis.

SUMMARY

The study pertains to data collected from randomly selected 100 lac growers in Kanker district of Chhattisgarh for the year 2008-09. The study resulted that 39 per cent lac growers were medium farmers followed by small (25 per cent), marginal (18 per cent), semi-medium (16 per cent) and large (2 per cent). The majority of lac growers had education up to primary level. Average family size was 5.9.

Share of income from lac was 23.5 per cent in total average annual income of lac growers. Share of farm and off-farm income at growers level was 58:42. About 58 per cent lac growers had *palas* (*Butea monosperma*), 17 per cent had *ber* (*Zizyphus mauritiana*), 87 per cent had *kusum* (*Schleichera oleosa*) and 12 per cent had other host trees available for lac cultivation in the study area. Lac host utilization percentage was low due to some constraints faced by the lac growers. The host utilization percentage was maximum for *palas* (58.65 per cent) followed by *kusum* (39.76 per cent), *ber* (32.61 per cent) and other host (21.24 per cent). About 51.0 per cent lac growers produced lac with average production of 60.44 kg., 23.0 per cent had average production of 161.22 kg., 11.0 per cent had 234.44 kg. and 15.0 per cent had 418.08 kg. annually. Outcome of the study may be helpful in strengthening the socio-economic condition of lac growers in Chhattisgarh.

Key words: Lac growers, socio-economic characteristics, Kanker district, Chhatisgarh.

जिला कांकेर, छत्तीसगढ़ के लाख उत्पादकों की समाजार्थिक विशिष्टताएं

गोविन्द पाल

सारांश

यह अध्ययन छतीसगढ़ के कांकेर जिले के यादृच्छया चुने गये 100 लाख उत्पादकों से संग्रहीत आंकड़ों से सम्बन्धित है। संग्रह 2008-09 में किया गया। अध्ययन से यह परिणाम मिला कि 39% लाख उत्पादक मध्यवर्गीय किसान है जिसके उपरान्त छोटे किसान (25%), सीमान्त किसान (18%), अर्द्ध मध्यवर्गीय किसान (16%) और बड़े किसान (2%) आते हैं। लाख उत्पादकों की बहुसंख्या प्राथमिक स्तर तक शिक्षित परिवार का औसत आकार 5.9 है। लाख से मिलती आय लाख उत्पादकों की कुल औसत वार्षिक आमदनी का 23.5% बैठती है। खेतों में या खेतों से बाहर लाख उत्पादकों की आमदनी 58:42 है। लगभग 58% उतपादकों के यहाँ पलाश (*ब्यूटिआ मोनोस्पर्मा*), 17% के यहाँ बेर (*जिजीफस मौरिटियाना*), 87% के यहाँ कुसुम (*शेलीकेरा ओलिओसा*) और 12% उत्पादकों के यहाँ अन्य पोषीवृक्ष, इस अधीन क्षेत्र में लाख उत्पादन करने के लिए लगाए हुए हैं। लाख पोषियों का उत्पादन प्रतिशत कुछ कठिनाइयों के कारण कम है जो लाख उत्पादकों का यहाँ झेलनी पड़ती है। पोषी उपयोजन प्रतिशत पलाश के लिए अधिकतम (58.65%) है जिनके पश्चात् कुसुम (39.76%), बेर (32.61%) और अन्य पोषी पादप (21.24%) आते है। लगभग 51.0% लाख उत्पादकों ने औसतन 60.44 किग्रा० उत्पादन किया। 23.0% उत्पादकों का औसत उत्पादन 161.22 किग्रा० रहा, 11.0% उतपादकों ने 234.44 किग्रा०और 15.0% उत्पादक ने औसतन 418.08 वार्षिक लाख उत्पादित किया। इस अध्ययन का परिणाम यह हो सकता है कि उससे छत्त्सीगढ़ के लाख उत्पादकों की समाजार्थिक दशाएं मजबूत बनाने में कुछ सहायता मिल जाए।

References

Anon. (2002). *Chhattisgarh at a Glance 2002*. Government of Chhattisgarh

Anon. (2003). *State of Forest Report 2003*. Forest Survey of India, Dehra Dun

Anon. (2009). *Agricultural Research Data Book, 2009*. IASRI, New Delhi

Lal, S., D. D. Prasad and A. Patel (1976). 'Lac in socio-economic development of tribals', *Indian Farming*, XXVII (8) : 19-20.

Pal, G., M. L.Bhagat and A. Bhattacharya (2007). 'Socio-economic characteristics of lac growers in Jharkhand', *MANAGE, Extension Research Review*, VIII (**2**): 61-68.

Pal, G., A. K. Jaiswal and A. Bhattacharya (2009). *Lac statistics At a Glance 2009,* Indian Institute of Natural Resins and Gums, Ranchi.

Seema and M. Manoharan (2002). 'Socio-economic characteristics and marketing behavior of coconut growers in Andaman and Nicobar Islands', *Indian J. of Agricultural Marketing*, **16** (2): 26-31.

Singh, R. K. (2003). 'Socio-economic dynamics of rice production systems in Jharkhand state'. CRURRS (CRRI), Hazaribagh, Jharkhand.