

Udyogini and Lac Producers in Jharkhand: Catalyzing Inclusive Value Chains at the Base of the Pyramid

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Jeevan J. Arakal¹
Rajeev Roy²

Abstract

Dr Vanita Viswanath, the chief executive officer (CEO) of Udyogini, and her team have been working with lac producers in the Indian state of Jharkhand. The protagonists in the case have been helping the lac producers overcome the productivity and transactional constraints in their value chain. This case captures the key facets of the intervention, the outcomes and the various perspectives the team had taken in evaluating its intervention in the lac value chain. The process of measuring the impact at the base of the pyramid and the impact for the small producers on parameters of institution building, wealth creation and poverty reduction are the focal points of this case. Vital decisions have to be taken by Dr Viswanath and team based on this evaluation from the point of view of the lac producers.

Keywords

Base of pyramid, lac, impact, value chains, collective marketing, business development services, women's empowerment

The lac value chain model had demonstrated results and potential for innovation because it integrates local entrepreneurship and service provisioning as key design features along with SHGs.¹ For tribal women in backward states and districts, these features promote and challenge them to become role models for evolution of self and enterprise in ways they could not imagine earlier. (Vanita Viswanath CEO, Udyogini)

Disclaimer: Jeevan J. Arakal and Rajeev Roy have written this case solely for class discussion for programmes in management education. The authors do not intend to illustrate either the effective or ineffective handling of a managerial or an administrative situation. The case study does not represent or endorse the views of the management about the issues in the case. The author may have disguised certain names and other identifying information to protect confidentiality where needed. The case has been compiled from field data, information in the public domain and primary sources.

¹ Xavier Institute of Management, Bhubaneswar, Odisha, India.

² Loyola University, Baltimore, MD, USA.

Corresponding author:

Jeevan J. Arakal, Xavier Institute of Management, Bhubaneswar 751013, Odisha, India.
E-mails: jeevan@ximb.ac.in; jeevanarakal@gmail.com

It was May 2012, Dr Vanita Viswanath the CEO of Udyogini and her executive team were meeting in Ranchi, the capital of Jharkhand. The team consisting of Nikhil S., Mithilesh Singh and Nilanjana Moitra had assembled to brainstorm on Udyogini's intervention in the lac value chain in different parts of the state over the last three years. The team wanted to understand the real impact of its interventions on small lac producers and then examine the various alternative courses of actions. This was a mission critical activity as donors and stakeholders were seeking a clear direction from Udyogini for the ensuing year.

Udyogini—Organization Background²

The literal meaning of Udyogini is a working woman; the organization was created in the year 1992 under the provisions of the Societies Registration Act of 1860.³ The organization's goal was to become a service provider for micro-enterprise management services for poor and illiterate women. Given this value orientation, Udyogini had traditionally focused on the most backward regions of India located in states such as Odisha, Bihar, Chhattisgarh, Rajasthan, Madhya Pradesh and Uttar Pradesh. The organization started operations in a context where micro-enterprises operated at a subsistence level; sadly, the conditions have not changed significantly since its inception in many parts of the country. Udyogini's interventions have focused on transferring management and technical skills that would help these micro-enterprises to become profitable, one important dimension being catalyzing sustainable market access for poor producers, increasing their returns in the process. As the years have passed, Udyogini had worked with poor producers in the lac, honey, bamboo and related value chains⁴ where there are large numbers of small producers and wage labourers. The organization had gone on to support disadvantaged groups such as commercial sex workers so that they can be rehabilitated to take an alternate profession. Appendix 1 captures the evolution and expansion of the organization since the year 1992.

Lac Producers in Jharkhand—Udyogini's Focus Area

The work in the Indian state of Jharkhand commenced in the year 2008 and was supported by Interchurch Organization for Development Cooperation (ICCO), Netherlands.⁵ The state had a population of nearly 33 million. Nearly 28 per cent of the population consists of scheduled tribes⁶ and scheduled castes⁷ constitute 12 per cent of the population. In India, the states of Jharkhand, Chhattisgarh and Madhya Pradesh account for nearly 84 per cent of lac production in the country. Jharkhand alone contributed 42 per cent of the nation's production. Lac production was a traditional practice in tribal families dependent on forests and agriculture and, due to its market importance, had potential for substantial incomes. It contributes to biodiversity conservation and forms an integral part of biodiversity in many communities. In Jharkhand, about 500,000 families live in the forest regions and are engaged in lac cultivation resulting in the creation of about 35–50 million person-days of employment per year.

The purpose of Udyogini's intervention according to Dr Vanitha Viswanath was the development of the lac value chain. The choice of lac as the fulcrum for intervention was in view of the gap in supply and the growing demand for the produce. A large number of people were also involved in the production of lac; thus, a successful implementation would positively impact a large group of small lac producers. Since 2008, Udyogini had been able to work with more than 3,500 producers until April 2012.

Understanding Lac Production and Potential

Lac is a high-value natural secreted resin extracted from an insect (*Laccifer lacca*) that inhabits the twigs of specific host plants such as *ber*,⁸ *kusum*⁹ and *palash*.¹⁰ The lac insect grows on a certain host consuming the plant sap as its food and secreting a resinous covering for protecting itself and its young larvae. In India, about 113 varieties of host plant have been identified; two types of insects, *rangeeni* and *kusumi*, are used for lac production, with lac produced from the latter garnering higher prices in the market. This resinous covering is known as lac and the twigs of the host tree carrying lac encrustation are called sticklac. Some part of the twigs with live insects is saved as brood (raw material) for fresh inoculation. The Indian Institute of Natural Resins and Gums (IINRG)¹¹ estimated that the national production of sticklac in the year 2009–2010 was approximately 16,495 tons. Lac had many uses in paint, jewellery, pharmaceutical coating, food, electric industry and, earlier, in gramophone record manufacturing. Udyogini observed that the production of lac was prone to massive fluctuations, from the period 1971 to 2007; production actually fell continuously,¹² various reasons account for this sustained reduction such as traditional methods of production, suboptimal utilization of host trees, changes in climatic conditions and a combination of socio-economic factors. Udyogini found that the overall sector was facing a shortage of brood lac, which was imported from Thailand and Indonesia. Ironically, while lac prices have been increasing every year due to inadequate supplies, the full potential of lac cultivation was yet to be tapped. Although producers owned an average of 100–150 host trees per family, more than 50 per cent of their trees remain unutilized. Since 2007, there had been a gradual rise in the production. Udyogini identified a series of issues and challenges in each stage of the lac value chain. Appendix 2 captures the trends in lac exports and production from India.

Problems and Challenges in the Lac Value Chain

Udyogini studied the lac production process in detail and identified a series of problems. Changes in climatic conditions such as increased temperatures, fog and sudden rainfall had substantially reduced the total production of lac. Unusually hot summers badly affected the resin which melted, killing the insect and reducing overall yields. Parasitic organisms had reduced the overall yields by 60 per cent; sufficient care was not taken to protect the brood leading to further shortages. In distress situations, the producers also cut the lac prematurely just to earn some money, further reducing the productivity of the host plant.

Women found it difficult to participate in the production process as the host trees such as *palash* and *kusum* were too tall for them to climb up. Women, however, were engaged in pre- and post-harvest work that did not involve climbing, such as tree spraying, making bundles of brood, as well as scraping of lac (after branches have been cut) and sale of *phunki* (the seed of lac after the insects have exited). Udyogini examined the role of women and felt that their contribution was grossly undervalued in the entire lac value chain.

Producers were also not concentrating on the value addition process; they typically scraped the lac off the branches and twigs and sold it to the local traders. In many cases, producers chose not to dry the lac, further reducing quality and impairing better price realization. Local traders were exercising greater care in the drying of lac in a more controlled environment, focusing on the overall quality and standardization as the produce was being aggregated. Appendix 3 captures the various aspects of lac cultivation, harvesting and processing.

Udyogini realized that the issues and challenges did not end in the production phase. The marketing mechanisms were not favouring the producers. There were large-scale asymmetries in pricing, terms of payments often plagued by uncertainty and delays and inaccurate measurement of the produce. All this ensured that the net price realization for the producers as a percentage of the final market price always remained low. Constraints of mobility and cultural barriers also prevented women from playing an active role in the marketing process. Appendix 4 captures the flow of lac and brood lac in the value chain.

Udyogini—Addressing Problems and Challenges in the Lac Value Chain

Udyogini initially started focusing its activities in a place called Bundu in the Ranchi district of Jharkhand. This choice was made because more than 500 lac producers had stopped production, in spite of the extremely favourable eco-system and the concentration of lac trading hubs near Bundu. Every family in this region had a minimum of 150 host plants, much of which sadly remained unutilized.

Dr Vanita Viswanath's team initially focused on 100 producers, providing technical inputs in partnership with the IINRG. Men and women from the community were trained in appropriate methods of tending, pest management, optimal utilization of host plants and conserving quality brood for the next lac production cycle. The impetus was on enhancing the productivity and quality of lac producing hosts. Udyogini subsequently started working on new ways to increase productivity in the region. One of the key activities was to pilot the use of new host plants. Its pilot studies revealed that a new host plant *Flemingia semialata* was more resilient to climatic disruptions and produced double of what traditional hosts such as *palash* would yield.

In the year 2010, Udyogini further expanded its outreach to more than 750 producers. The introduction of this new plant also had a positive impact on the role of women in the community; *Flemingia semialata* only grew to a height of six feet and eliminated the need for climbing. In many cases, women started growing the plant in kitchen gardens. Udyogini's baseline studies revealed that a producer earned about rupees 3,200 annually from lac production. Within a period of six months, field studies by Udyogini calculated an increase of nearly 120 per cent in producer incomes.

Udyogini—Enriching the Lac Value Chain

The team at Udyogini realized the limitations of only focusing on producers. The area of intervention was filled with institutional voids¹³; the overall capabilities of all stakeholders were very low. This operating context convinced the team to start focusing on the overall process of eco-system development. Udyogini along with the IINRG started training producers on the benefits of scientific production of lac; persons designated as business development service providers (BDSPs) were trained on the various aspects of lac production. It was expected that they would then act as catalysts transferring their knowledge to the members of the community; such institutional mechanisms at the community level were either absent or poorly developed. By the end of the year 2011, three 350 such business service providers had transferred their knowledge to more than 3,500 women.

Thus, an institutional mechanism for knowledge transfer and capacity enhancement had been facilitated by Udyogini. These field levels service providers received support from the community in the form of transportation, lodging, telephone expenses and a service fee that adds up to around rupees 1,000 for a week's work. One BDSP facilitates quality lac production for 60–100 producers for three to four cycles in a year. Since the BDSP is herself a lac producer, she had a stake in continuously building up her quality in applying new technologies. Thus, this institutional mechanism had the potential to

create a virtuous cycle of increased coordination, capabilities and incomes. For ensuring the uniformity in capacity building efforts, Udyogini developed, disseminated and monitored standard operating procedures, this was to ensure that all lac-producing clusters were developing at a comparable rate on common parameters.

The team at Udyogini assessed that a serious weakness in the lac eco-system was the shortage of good quality brood lac. To alleviate the problem of brood scarcity, Udyogini promoted the establishment of brood farms to meet brood sufficiency in the production process and for host tree development. Brood farms normally had 30 host plants; producers were encouraged to become brood entrepreneurs reinvesting a greater part of their incomes from lac, thus, increasing the amount of brood available for sale in every cycle. This substantially brought down the cost of transportation to get brood in addition to sustaining livelihoods that would otherwise have been lost due to lack of brood.

The lac value chain also imposed significant constraints on the producer; there were also significant pressure in the form of sales in times of extreme financial distress. The Udyogini team started formed self-help groups (SHGs) consisting of women who could save and help each other in times of financial distress. The need to increase the bargaining power of producers was appreciated by the core team of Udyogini and the brainstorming culminated in the creation of village-level service centres (VLSCs). These centres would act as focal collection centres, the process of grading and sorting was also done at these centres. Traders purchased from these centres, thus reducing the asymmetries between producers and traders. Udyogini continued to promote women as entrepreneurs who managed these centres, which served nearly 70–100 lac producers. The services rendered by the VLSCs resulted in an increase of nearly 20–25 per cent in incomes for producers compared to prices in the traditional value chain.

The service centres also paid around 25 per cent upfront to producers. This was possible as funds could be borrowed from the SHGs of which the entrepreneur is a member; the rest of the amount was paid after the produce was finally sold in the market. The entrepreneurs earned around rupees two to five per kilogram for aggregation depending on the quality of lac. Udyogini continued to support the VLSCs and producers, as part of the comprehensive process of developing the entire lac eco-system.

The introduction of the *Flemingia semialata* host plant facilitated the greater involvement of women; however, there was need for greater support mechanisms for the women producers. The responsibility of looking after the children was often in the hands of women; this constrained their ability to pursue their own livelihoods, which sometimes required travel to local markets. The team at Udyogini found that these women carried their infants on their back while they go about their lac-related tasks; this was an enormous source of uncertainty for the women. Udyogini facilitated the establishment of crèches for children of lac producers; they are operated by Ujas, the registered producers' society established by Udyogini. The crèches have been set up in villages without effective anganwadis. This institutional mechanism had given more mobility, confidence and capabilities to the women in their pursuit of lac-based livelihoods.

Udyogini also supported other organizations that were interested in lac value chains, for example, it tied up with the institutions such as the National Rural Livelihoods Mission (NRLM) for faster development of the lac value chain. Appendix 5 captures the various partnerships that Udyogini had forged with the aim of strengthening the lac value chain.

Udyogini—Evaluating Impact on the Lac Value Chain

During the meeting, Dr Viswanath and her team were spending a lot of time and effort to understand the impact of Udyogini's interventions in the lac value chain. One of the team members started reading out field reports of producers who have benefitted from the intervention.

Katrina Munda of Angara cluster left her job as an Anganwadi worker and is full time in lac production. She earns rupees three to five lakhs per year from lac and had started building a pukka house for herself. She plans to give up her below poverty line card! The highest earning lac producer is, however, Sugan Devi, who earns nearly rupees seven to eight lakhs per year. (Nilanjana Moitra, Udyogini-Jharkhand)

However, the team was wanted to develop a comprehensive understanding of the impact that Udyogini had made over the last four years. How could the team understand the real impact on the producers? There were several questions which were related to one another. The team slowly started listing the outputs and outcomes of their intervention over a four-year period.

The intervention had already reached 3,557 women in Jharkhand. More than 30 village-level centres were operational. An average VLSC did transactions of about rupees 15–20,000 every month and their gross margin was about 15 per cent. The major activity was retailing but buying village output (sticklac, sal leaf plates and paddy) differentiated it from any other retail outlet. More than 60 lac business development providers were active in the area. VLSCs were now a two-way chain with the retail services helping to reduce transportation costs and wage losses of women customers, who earlier travelled between 5 and 7 km from their villages to the nearest shop to obtain their daily needs.

This outreach by Udyogini had also resulted in a substantial increase in incomes; Udyogini decided to do a sample study of producers, and field surveys and interviews were conducted to assess the change in the financial status of producers. The community had seen an overall increase of 50–300 per cent in incomes. There was an increase of 70 per cent in the discretionary incomes of the women interviewed. Borrowings from local moneylenders had come down and many producers had purchased life insurance policies; there was evidence to demonstrate that expenditures on children's education had gone up. Nearly 70 per cent of the producers reported that they are able to buy silver jewellery, mobile phones, televisions and better clothes. There are examples of producers who also built toilets in their homes.

The capacity enhancement of the BDSPs had played a critical role in the creation of better market access, superior technical inputs and coordination in the actions of the community. They also seemed to have forged links with the downstream buyers and traders; there was enough indication that through repeated interactions their capacity to transact on behalf of the community had increased.

The intervention had also linked the producers to various institutional mechanisms, Udyogini had linked the community to the IINRG. In early 2012, the NRLM¹⁴ had recognized Udyogini's work for a partnership with NRLM for support and scale-up for lac in Jharkhand. The Jharkhand State Co-operative Lac Marketing & Procurement Federation Ltd. (JHASCOLAMPF)¹⁵ had started providing direct support in the form of subsidized brood, equipment, training and buyback for lac jewellery products to the cooperatives with Udyogini. Partnerships were a good way to move into new areas. It cut downtime required for community outreach, the work in Bundu also commenced by partnering with a local organization called Society for Integrated Development. Appendix 4 captures the various institutional tie-ups forged by Udyogini.

Members of the team such as Nikhil and Mithilesh felt that some aspects of the value chain had still not been addressed. They felt that new initiatives were needed to support the small lac producers in Bundu. They argued that full potential of aggregation would be achieved only if VLSC coordinated to form cluster-level service centres; this would further increase the bargaining power of the poor producers. Nilanjana interjected the discussion saying that a cluster-level service centre was a good idea; however, the crucial element of the puzzle was how this centre would coordinate and transmit price signals to the lac producers.

The larger question that drew the attention of the team was the need for a more robust community institution such as cooperatives. Udyogini had harnessed the social capital of the community to create six

cooperative societies that were involved in the production of lac. This community cohesion was necessary for leveraging the power of aggregation. These cooperatives also had the potential to become social safety nets.

Dr Viswanath then opened the discussion on a very important question; she wrote down the following on the whiteboard of the Udyogini conference room:

‘Should Udyogini Engage Higher Up in the Value Chain?’

This question opened up a whole new set of opportunities and challenges. Udyogini had only facilitated the selling of raw lac to traders. An attempt to refine lac into various forms of shell lac for various user industries would call for investments in facilities. It also meant that Udyogini would have to bypass traders and processors and go directly to buyers. This would lead to increased prices but also increased the cost of processing, risk of finding buyers and antagonism from traders who were dealing with Udyogini. The other serious challenge was that the scale of operations at Bundu was not sufficient to reach out to big buyers in cities, for that Udyogini would have to also increase its area of operation in Jharkhand. The way forward for the lac producers had to be decided.

Issues and Alternatives for the Future

The team felt that sufficient progress had been made over the last four years; however, there was a need to have a comprehensive understanding of the impact. Most importantly, the team wanted to understand the process by which the various initiatives acted in concert to create a large change in the lac value chain. There was no doubt in the Udyogini team that the lac value chain model had demonstrated results and potential for local entrepreneurship and women’s empowerment. However, some doubts and issues still remained unaddressed, the aggregation of lac had only jumped one step of dealing with traders and the lac producers still did not have access to the downstream buyers and final end users of lac. In some places, the VLSC had become unviable and shut down its operations; there was a need to create new institutions. Suggestions were being given for the initiation of cooperatives as a complement or a replacement of the VLSCs. There was agreement in the group that the right questions had to be asked to chart a way for the future. After brainstorming for a few hours, the Udyogini team was focused on answering the following questions and issues:

- How had the intervention addressed the key issues and problems confronting lac producers?
- In the years ahead, how could the Udyogini team make a more rigorous evaluation of their actions and the ensuing outcomes?
- What were the improvements in the lac value chain and the improvements that had to be made?

These questions were important and needed well-thought-out answers. The days ahead were very exciting and challenging.

Acknowledgement

The authors acknowledge the support extended by Dr Vanita Viswanath and the team at Udyogini for the preparation of this case study. The members of the community who agreed to share their work with us are the soul of this case study; their life and experiences are the basis of this case.

Appendix

Appendix 1. Udyogini Organizational Growth and Evolution

Udyogini came into existence in 1992 as a service provider for micro-enterprise management services, principally training for poor, asset less and mainly illiterate women in the backward states of India. Ela Bhatt, the founder of the Self-Employed Women's Association (SEWA), is a founding member of Udyogini and was its first Chairperson. As a specialized agency, on this date, and when there is recognition of the need to go 'beyond credit' to enable women to invest in productive activities, Udyogini is placed at the very centre of developing cutting-edge knowledge and practice for microenterprises for the poor, especially women. Back in the early 1990s, when Udyogini was established, the focus on microenterprise management training was innovative at a time when even microcredit was a new idea. Udyogini took an early lead in the domain by motivating smaller NGOs towards microenterprise in their portfolio of programmes for poverty alleviation for women. It enabled NGOs, through a programme of sustained support comprising training for enterprise awareness, management and counselling, to move into developing microenterprise programmes and having staff with orientation to microenterprise. The NGOs that have grown and now have established microenterprise programmes such as URMUL, SURE and LUPIN in Rajasthan; NIPDIT and Samanwita in Orissa and ADITHI in Bihar are distinguished alumni of Udyogini's enterprise motivation and management training.

Udyogini, supported through a World Bank initiative, developed the concept of and manual for Grassroots Management Training (GMT), which is now a core activity in Udyogini's work in India and in many NGO and government programs around the world such as in Peru, other Andean and African countries and Romania. Udyogini's vision and perspective on microenterprises for women had always been to empower women to understand and participate in critical enterprise processes. As the market gains prominence, the need for women to become knowledgeable, confident and lead enterprises just as they have led microcredit initiatives becomes critical. Udyogini's innovative efforts to establish theory and practice for women's microenterprise knowledge, promotion and service provision for outreach are in this site. We hope you enjoy browsing through it.

By 2010, Udyogini had a presence in more than seven states of the country. The organization is working on supporting a large number of value chains in the country today.

Source: Udyogini Homepage – <http://www.udyogini.org/history.html>

Appendix 2. Trends of Lac Export in India

Year	Quantity (Tons)	Amount (in Lakhs)
2004–05	7,301.53	16,587.51
2005–06	7,280.58	15,962.08
2006–07	7,362.58	14,772.39
2007–08	7,906.33	12,426.87
2008–09	6,968.42	12,414.50

(Appendix 2 continued)

(Appendix 2 continued)

Sr. No.	State	Production in 2010 (in Tonnes)
1	Andhra Pradesh	35
2	Assam	100
3	Chhattisgarh	4,995
4	Gujarat	65
5	Jharkhand	6,925
6	Madhya Pradesh	2,390
7	Maharashtra	520
8	Meghalaya	10
9	Orissa	400
10	Uttar Pradesh	200
11	West Bengal	855
12	Total	16,495

Source: <http://ilri.ernet.in/~iirng/Lac%20statistics%202010.pdf>

Appendix 3. Lac Cultivation, Harvesting and Processing Process

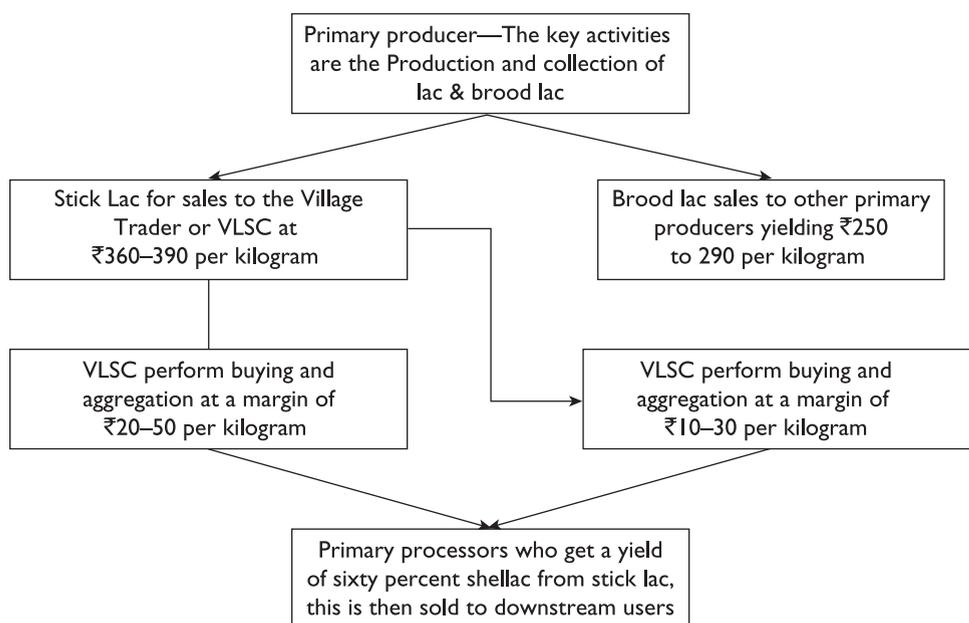
- **Climate and Host Trees:** Lac insects can be cultured over a fairly wide range of the tropics and sub-tropics and on a large number of host trees.
- **Insect Species:** The lac insects fall under the Lacciferinae sub-family of the Lacciferidae, and of the various species the most important for commercial production is *Laccifer lacca*. In India, two strains are cultivated, 'Kusumi' and 'Rangeeni', which differ in their seasonal cycle and preferred host trees. Strains in other lac producing countries are less well defined.
- **Production Systems:** as cultivation is a seasonal, part-time agroforestry activity which may be based on cultivated or wild host trees. In order to obtain maximum yields of sticklac, the insects are cultured, the host trees are managed and attention is given to control of parasites.
- **Husbandry:** The first operation is pruning of the host tree in order to stimulate the growth of young shoots which provide sap as food for the insects. This is done four to six months prior to inoculation of the tree with 'broodlac', a cocoon containing mature females at a stage just prior to emergence. Eggs laid on the host develop into larvae and form a resinous cocoon ('sticklac'). Harvesting is undertaken approximately six months later and the tree is subjected to a repeat treatment of pruning and inoculation.
- **Harvesting:** Harvesting involves cutting off the twig with the attached sticklac. For lac dye production, this should be done before all of the insects escape since they contain, rather than the resin, the desired pigment. The insects are killed by exposing the sticklac to the sun. When the primary objective is seedlac and shellac production, most of the insects may be allowed to escape as the quality of the product is partly assessed on its colour; the paler the better.
- **Processing:** Twigs and other extraneous matter are first removed from the sticklac by hand picking, winnowing and sieving. Processing is undertaken as quickly as possible thereafter in order to avoid deterioration. Lac dye is isolated as the next step, both for its deliberate production and for its discarding if the primary purpose is seedlac/shellac production. The operation involves crushing the sticklac and extraction several times with water; insects and other debris are removed also at this stage. The dyestuff is obtained as a precipitate on acidification of the aqueous extract. The washed resin obtained after dye removal is known as 'seedlac'. Conversion of seedlac to the fully refined product, 'shellac', can be accomplished by several processes: simple melting and

filtering under pressure; melting and extrusion under pressure; and solvent extraction. Bleaching is carried out to obtain the palest form of shellac.

- **Yields:** Sticklac yields are dependent upon various factors: the insect strain, the host tree and the management system. Annual yields of sticklac per tree reported for Bihar in India are: 6–10 kg on kusum (*S. oleosa*); 1.5–6 kg on ber (*Z. mauritanea*); and 1–4 kg for palas (*B. monosperma*). Pigment contents in sticklac can be as high as 10% but the yield of isolated lac dye can be below 1% with poor quality sticklac and inefficient extraction methods. The yield of fully refined shellac is approximately 50% of the sticklac raw material.

Source: <http://www.fao.org/docrep/v8879e/v8879e08.htm>- FAO Web Resource on Lac & Resins.

Appendix 4. The Lac Value Chain¹⁶



Source: Authors' own.

Appendix 5. Institutional Linkages Forged by Udyogini

Name of the Organization	State	Nature of Involvement
Society for Integrated Development	Jharkhand	Udyogini's role was to plan and give strategic support and capacity building SID had to do the implementation plan at grass root level under the supervision of Udyogini.
Manav Vikas Mahila Jagriti Samiti	Jharkhand	Mobilization for VLSCs Hazaribagh district.
Range De	Jharkhand	Mobilization at a block called Tamar
		Financial linkage for VLSC entrepreneurs

Source: Udyogini organizational archives.

Notes

1. SHGs—a village-based institution formed by 10–20 women, the largest number of such groups are found in India.
2. To know more about Udyogini, please visit the organization's homepage at www.udyogini.org
3. This act had been in existence since the British ruled India and can be used to register organizations which are non-profit and developmental in their scope and activities.
4. Value chains—networks of institutions through which goods and services pass from producers to consumers.
5. ICCO—an organization working in 44 countries on issues related to poverty reduction, more information available at <http://www.icco-international.com/int/about-us/>
6. Scheduled tribes—are indigenous people who are referred to as adivasis, they still maintain a traditional way of living and suffer from chronic poverty.
7. Scheduled castes—constitute about 15 per cent of the Indian population and are a historically backward group on all human development indicators.
8. *Ber*—a spiny, evergreen shrub or small tree up to 15 metres high, the botanical name of the tree is *Ziziphus mauritania*.
9. *Kusum*—a tree with beautiful flowers and the botanical name of the tree is *Schleichera oleosa*.
10. *Palash*—a deciduous tree which grows up to 15 metres high, the botanical name of the tree is *Butea monosperma*.
11. IINRG—a research institute studying all aspects of lac and other natural resins.
12. Growth and Instability in the Production and Export of Indian Lac, Govind Pal, Indian Institute of Resins and Gums, article in the Indian Forester, 2010.
13. Institutional voids—absence of intermediaries efficiently connecting buyers and sellers, creating obstacles to operate in markets.
14. NRLM—one of the major programmes of the Ministry of Rural Development, Government of India.
15. JHASCOLAMPF—a commodity cooperative body in India specifically meant for lac established in the year 1963 for the overall development of lac industry in the tribal-dominated regions.
16. Price as on April 2012; these figures were arrived at on the basis of detailed field notes.