

INCLUSION AND EMPOWERMENT OF TRIBAL WOMEN
IN LAC VALUE CHAIN AND MARKETS – A CASE STUDY OF GUMLA
DISTRICT IN JHARKHAND SUPPORTED BY
PACS, NEW DELHI

WORKING PAPER 1

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Abbreviations

BC	Backward Class
BDSP	Business Development Service Providers
DFID	Department for International Development
GMT	Grassroots Management Training
ICAR	Indian Council of Agricultural Research
ILD	Inclusive Livelihoods Development Programme
IINRG	Indian Institute of Natural Resins and Gums
JASCOLAMPF	Jharkhand State Co-operative Lac Marketing & Procurement Federation Ltd
MSP	Minimum Support Price
MoU	Memorandum of Understanding
NGO	Non Governmental Organisation
NTFP	Non Timber Forest Produce
PACS	Poverty Areas Civil Society Programme
PMC	Project Management Committees (PMCs)
PSCL	Package of Scientific Cultivation of Lac
SOP	Standard Operating Procedures
UK	United Kingdom
VLSC	Village Level Service Centre
SHG	Self Help Group
SC	Scheduled Class
ST	Scheduled Tribe

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ABSTRACT

The tribal communities in central India are excluded in many ways from accessing and benefiting from the fruits of mainstream development. Within tribal groups, women are more marginalized and sidelined than men despite their multiple roles in the household. Women's exclusion from the mainstream knowledge systems, market sphere and their limited access and control over the resources affects the overall development of tribal communities. Key for economic growth of tribal communities is the equal participation and promotion of women's physical and economic rights. This necessitates for a purposive design of activities and institutional mechanisms for both socially inclusive economic empowerment and environmentally sustainable growth by building their knowledge and skills to restore NTFP based value chains for sustainable livelihoods. The present paper is an attempt to analyse and document the findings of an inclusive Lac livelihood model executed by a NGO Udyogini under PACS Programme to address the geographical, social, technological and economic inclusion of tribal women in the Lac supply chain and downstream market integration to improve their incomes in Gumla district of Jharkhand state. It is found that by employing inclusive strategies, scientific technologies and participative approaches the socially excluded women could be organized, engaged and integrated successfully by leveraging proven Lac based livelihood model in the value chains and markets for increasing their incomes. The women demonstrated entrepreneurial abilities to handle markets and acquired economic empowerment over the incomes generated for family needs, mostly for education and health, while in some cases for assets building. The case study provided ample evidence that disadvantaged women could be receptive, cooperative and capable of acquiring new skills and leadership responsibilities for value chain refinement, micro-enterprise development and management through appropriate training and skill building.

PACS by partnering with Udyogini has revived the neglected and insignificant Lac based livelihoods for social and economic inclusion of tribal women through inclusive approach in the trouble torn Gumla district in Jharkhand.

Key Words: Social Exclusion, Social Inclusion, Empowerment, Lac Cultivation, Value Chain, Rural markets, Sustainable Livelihoods

1. Introduction

It is an undeniable fact that tribal communities, particularly in central India, are excluded in many ways from accessing and benefiting from the fruits of mainstream development initiatives over the centuries. The tribal societies have inseparable association with natural resources and they are generally self-sufficient for their socio-economic, cultural and physical existence. But, gradual exposure to non-tribal culture and changes in the surrounding environment - physical, social and economic - speeded up the change process in cultural domain of tribal groups. Due to these changes, the tribal people have lost their traditional dependence and authority over their economic resources — land, forest and other resources, therefore, their livelihoods are badly affected.

The tribal people are invariably found to be having lower income, poorer physical living conditions, basic amenities and a range of other services. They have poor access to labour, land and capital markets and poorer returns to work as well as weaker political representation. Interestingly, the social exclusion and poverty have become interrelated for tribes. Conventional poverty indicators reveal that there is a strong correlation between being indigenous or tribal and being poor or extremely poor (Thakur, S 2012). The poverty and social exclusion experienced by tribal people are largely due to discrimination at social and institutional level during colonial and post independent era despite the apparent inclusive policies, institutions and special funds allocation for their development. Tribal society in the post-Independence era has undergone an unprecedented change in respect of culture, modes of making a living and social differentiation (Xaxa, V, 2004).

2. Social Exclusion and Inclusion

In the context of development and welfare discourse for tribal communities, it is important to understand the concepts of 'social exclusion' and 'social inclusion' that are most widely used in recent years by social scientists, development professionals, politicians, and the elite general public as well. Social exclusion is a widely written subject to understand and explain the backwardness, discrimination and poverty of dalits, minorities, women and tribal communities. This concept was first emerged in the policy discourse in France and subsequently its adoption by other European countries have had an increasing impact on the analyses of social disadvantages in Europe over the last couple of decades (Aasland and Flotten,2000). After the World Summit for Social Development held in Copenhagen in 1995, the concept gained widespread applicability and increasing attention has been paid on relevance of the concept to social policy analysis in developing

countries (Kabeer, n.d.:1), and it was widely adopted by development agencies and in development studies as another way of understanding and identifying reasons for reducing poverty (Jackson, 1999:125).

There are several definitions of 'social exclusion' in the literature. European Foundation has defined 'Social exclusion' as 'the process through which individuals or groups are wholly or partially excluded from full participation in the society within which they live' (European foundation, 1195, p.4, quoted in de Haan, 1998, cited in Francis, 2002). It is the process by which certain groups are pushed to the margins of society and prevented from participating fully by virtue of their poverty, low education and inadequate life skills. This distances them from education, employment and income generation opportunities as well as social and community networks. They have little access to power and decision-making bodies and little chance of influencing decisions or policies that affect them, or that improve their standard of living.

'Social inclusion' is the opposite of social exclusion. The World Bank defines social inclusion as "the process of improving the terms for individuals and groups to take part in the society". Social inclusion aims to empower poor and marginalized people to take advantage of the opportunities in equitable and non-discriminative modes. It ensures that people have a voice in decisions which affect their lives and that they enjoy equal access to markets, services and political, social and physical spaces (World Bank report, 2013).

Therefore, social inclusion is a term that can be used to describe a series of positive actions to achieve equality of access to goods and services, to assist all individuals to participate in community and society, to encourage the contribution of all persons to social and cultural life and challenge all forms of discrimination. By ensuring that the marginalised and those living in poverty have greater participation in decision-making, which affects their lives, will allow them to improve their standard of living and overall well-being.

3. Rationale for Project Intervention

Interestingly, both 'social exclusion' and 'social inclusion' have negatively contributed for the marginalization and disempowerment of tribal groups in the country. In inclusive process, the tribes were exposed to new surrounding environment which is different in culture, physical, social and economic spheres and they have lost their traditional identity and cultural disintegration was quite rapid. Social scientists have mentioned that social and cultural disintegration through influence of such external forces has made tribal people more vulnerable to severe exploitation throughout the country. This inclusion process has not enabled them to access and enjoy the basic necessities, services and markets of mainstream development to lead a better quality of life. While the inclusion process has

made them vulnerable to external forces and broke their traditional safety nets, the inherent shortcomings such as lack of awareness, knowledge and skills to cope up and integrate with inclusion effects led them to be 'excluded' from the mainstream development and alienated from their symbiotic relationship with natural resources; they are left to fend for themselves in backwardness and dire poverty.

With in tribal groups, women are more marginalized and sidelined than men despite their multiple roles and considerable hard work to contribute for the livelihood security of the family. Key for economic growth of tribal communities is the equal participation and promotion of women's economic rights which entails promoting a range of women's rights to education, ownership, mobility, income opportunities and voice in decision making, suitable technologies and gadgets. Women's exclusion from the market sphere and their limited access to, and control, over the resources affects the overall development of tribal communities (Bradshaw, S 2013).

Therefore, any developmental activity designed for tribal livelihood promotion should take cognizance of historical transgression of increased vulnerability, cultural erosion and collapse of livelihood systems through negative inclusion process and inadvertent exclusion leading to marginalization. This calls for a purposive design of activities and institutional mechanisms for both socially inclusive economic empowerment and environmentally sustainable growth focusing on building their knowledge and skills to restore sustainable livelihoods.

In the backdrop of above discussion, this working paper attempts to critically review the field interventions made by a NGO Udyogini to address the geographical, social, technological and economic inclusion of tribal women in the Lac supply chain and downstream market integration to improve their incomes and livelihoods sustainably in Gumla district of Jharkhand state with the financial and conceptual support from Poorest Areas Civil Society (PACS) Programme, New Delhi during March 2013 to Dec 2015. The paper draws upon its inputs and insights from the volumes of documentation generated by the project on this initiative, field records, focused group discussions and case studies of the target women.

4. The Context and Drivers of Inclusive Initiative

Jharkhand has emerged as a 28th state in the year 2000 bifurcating from Bihar, mainly to avoid exclusion of tribal communities by the dominant non-tribal classes and to ensure an inclusive development of its large tribal population by creating a "adivasi state" (Horo, A, 2013). The state has large tribal population (28%) belonging to 32 different tribal

communities, of which Santhals, Oraons, Mundas and Hos are the major ones. They mainly depend on forests and agriculture for sustenance. As agriculture is rain dependant, most of the households resort to diversified pattern of occupations to secure their livelihoods. Forest based seasonal livelihoods are quite common and play an important role in providing income security to most of the households. Lac, a high value naturally secreted resin, is one among the economically important Non-Timber Forest Produce (NTFP) that has strong potential to generate sustainable incomes to tribal households. Therefore, Lac rearing has become a traditional occupation for thousands of tribal households in Khunti, Bundu, Chandel, Chakradharpur, Chaibasa, Gumla, Latehar, Garhwa, Daltonganj, Manika and Chandwa areas in Jharkhand.

Gumla is one of the twenty-four districts of Jharkhand and has higher tribal population within the state. About 75% of the households are below the poverty line despite the endowment of good climate and natural resources. The district has about 27% of forest cover and forest products offer ample multiple livelihood opportunities. Average income of tribals in Gumla from forest produce is between 16-26% (Gharai, A and Chakrabarti, S, 2009).

The women contribute significantly to the income generation of a tribal family since they play key roles in agriculture and forest produce collection. They do more physical labour in their agricultural fields and forest than that of the tribal men. However, the gender gap in female literacy is higher as compared to tribal male literacy of 57%. They lack knowledge and awareness of accessing support from government and how markets operate and wherewithal to negotiate them. They do not know how to add value to primary products and develop processes and systems for resource productivity and value addition and to sustain the negotiated market links. The insurgency has further plagued their status and marginalized them from inclusion and empowerment.

The main drivers of this all women inclusive development initiative are Poorest Areas Civil society Programme (PACS), an initiative of the UK Government's Department for International Development (DFID) that is working in partnership with civil society in India, and Udyogini, a NGO that was started in 1992 and works with socially and economically disadvantaged women to empower them through micro-enterprise development and management¹. Udyogini is specialized in enterprise training, value chain development and local micro-enterprise promotion and offers its services to NGOs, government and donors

¹ For more information about Udyogini, please visit the website: www.udyogini.org

who are involved in such activities. Udyogini has found Lac as an important Non Timber Forest Produce (NTFP) to revive and support livelihoods of the socially excluded tribal women in insurgency affected districts of Jharkhand. Over the years of its continuous work with Lac producers, Udyogini has evolved a replicable and scalable model on Lac as women's enterprise promotion.

PACS, which is a seven year programme (2009-2016) in India, has promoted high impacting, scalable and innovative livelihood enhancement models to organise, engage and integrate socially excluded communities, especially women, into value chains and markets in a sustainable and equitable way². The Lac enterprise based livelihoods model that Udyogini has developed involving tribal women is one of such livelihood models that PACS has supported in Jharkhand. Udyogini partnered with PACS to introduce and scale up Lac enterprise model to a large number of women Lac producers with inclusive approach in Gumla district.

5. Social exclusion in Lac Supply Chain and Markets

India is a major producer and exporter of Lac and contributes 60% of the world's requirements, of which Jharkhand alone contributes about 42% of the total Lac production in the country. Lac is secreted by a specialized group of plant bugs, *Laccifer lacca*, commonly known as Lac insects. It has two strains – Kusumi and Rangini. Lac insects are basically sap suckers and secrete a resin to make its home on the host trees. They can thrive on the tender branches of many tree species, but three tree species Kusum (*Schleichera oleosa*), Palash (*Butea monosperma*) and Ber (*Zyziphus mauritiana*) are commercially important. Lac has very good market because it has many uses in paint, jewelry, pharmaceutical coating, food, electric industry and so on (Yogi, R, Bhattacharya, A, et al, 2014).

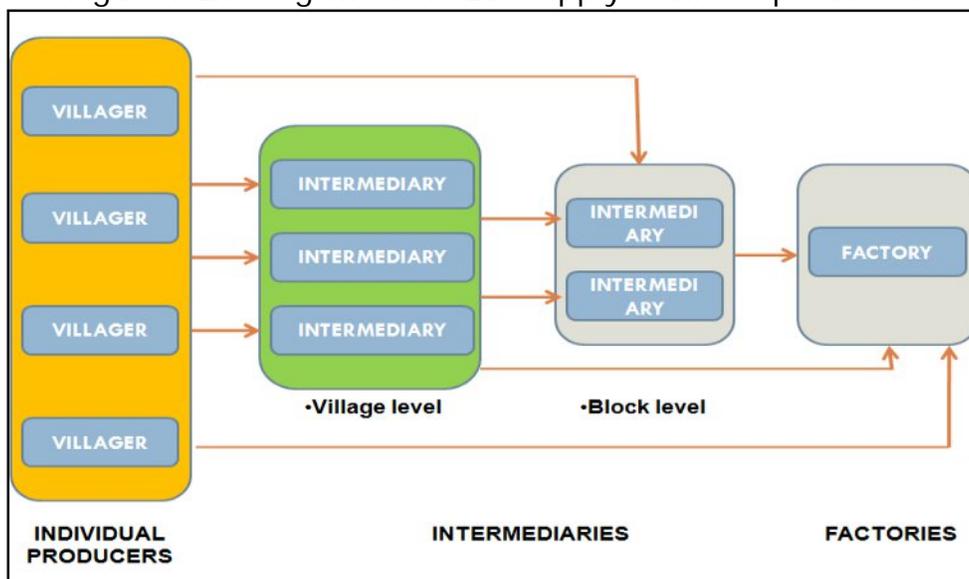
Lac cultivation is a traditional activity among the tribal households and by default everyone is aware of the host trees and handling of general Lac cultivation process steps. Of late, displacement of tribal population from forests has led to reduction in production. However, those who own trees that are suitable for Lac still take up cultivation of Lac. Vagaries of weather especially change in temperature and heavy hailstorms during critical stages of insect life cycle effects the crop badly. Besides, the traditional ways of Lac cultivation are fraught with many lacunae in terms of pruning pattern, optimum brood quantity, inoculation method, and disease and pest management. As a result, Lac

² For more information about PACS Programme, please visit the website: www.pacsindia.org

production is dwindling considerably due to change in the climatic conditions and unknown pest infestation, depriving the tribal households of very potential income source. The quantity of production is too little to neither sustain the interest of producer nor generate appreciable income to attract for serious care in the absence of Minimum Support Price (MSP) by the government (Moyna, 2010). Likewise, lack of income opportunities and social instability due to Maoist activities migration is reported to be a common phenomenon, which has too disrupted the Lac supply chain.

The market assessment and value chain analysis study³ conducted by Udyogini in the beginning of the project in Gumla district revealed that the value chain consists of three major types of players, viz., the producers, the intermediaries and traders (Figure 1). There are two major haats (markets) that the producers from Gumla sell their crop, viz., Palkot Baazar and Pokla Bazaar. More than 90% of the Lac produce traded in these Haats is then taken to the major markets and trading centers in town.

Figure 1: Existing exclusive Lac Supply Chain for producers



Prices at each level in the value chain depend on the quantity and strain of Lac as well as market knowledge and bargaining power of producers. Producers lose money in unfair transactions in the local market for scrap Lac because of small volumes and non-graded produce since the market use differential pricing on the basis of resin content. Producers do not follow standard measurement practices. Crop is sold by the sack thus reducing the

³ Unpublished report entitled "Market Assessment and Value Chain Analysis of Lac in Gumla district of Jharkhand" by Udyogini in 2013.

margins. Buyers delay payments to intermediaries, sometimes by more than a week, leading to delay in payments to producers ultimately. However, asymmetries in pricing, stock and measurements resulting from informality of the transactions in the chain affect returns to producers as well as intermediaries, though the former are the worse sufferers.

Comparatively, the activities in Lac cultivation are physically inhibiting women to handle the tree hosts and their involvement mostly limits to the pre and post-harvest work of Lac production. In relation to marketing, the knowledge, mobility and transportation problems restrict women from accessing downstream market players directly, which would have given them a margin advantage. In addition, lack of awareness of market imperfections and ways of negotiations hamper fair returns to them even when such access has been possible. By and large, the scale of involvement and strategic value for women's participation, skills, and incomes is more at the back end of the value chain, i.e., to improve the quantity and quality of Lac available for industrial uses!

The Lac Sub Sector study conducted by Sengupta, N, et al (2010) revealed the constraints that exist along the entire Lac sub sector and concluded that the processors are better organized than the Lac producers, as the former receive better support through institutions created for them such as the IINRG, SHEFEXIL⁴ and the financial institutions in case of unfavorable market conditions. It highlighted the poor access to scientific methods and inputs of Lac cultivation by the producers in the remote areas. It further observed that extension agencies do not exist to take the scientific knowledge developed in the laboratories of IINRG to the Lac producers pointing out the dire need of such extension efforts in Lac value chain to support Lac producers, especially the women entrepreneurs.

6. Inclusive Interventions of the Project

Udyogini has evolved a replicable and scalable model on Lac as women's enterprise promotion and empowerment over the years of working with Lac supply chain in other districts of Jharkhand since 2008. The best practices are evolved over a period of time and standardised as a model consisting of a set of five components, viz., (1) introduction of scientific practices for Lac cultivation, (2) Lac Business Development Service Providers (LacBDSPs) for training and monitoring of PSCL applications, (3) Brood Farm promotion, (4) Establishment of Village Level Service Centers (VSLCs), and (5) Institutionalization through Cooperatives to address the inclusion and empowerment of tribal women. PACS partnership helped it to extend the model to Gumla district, which is badly in need of good

⁴ Shellac And Forest Products Export Promotion Council, formerly Shellac Export Promotion Council, sponsored by Ministry of Commerce & Industry, Govt. of India.

initiatives for social inclusion to generate dependable and sustainable income opportunities for poor rural communities. The project has set forth the following five objectives to achieve inclusion and economic empowerment of women through implementation of these components in five blocks of Gumla district, covering 1600 producers in each block with the support of PACS in a two and half years period.

- Enhance the income of 8000 women producers
- Establish 20 brood farms to combat brood insufficiency
- Strengthen backward linkages by building a cadre of 50 BDSPs to increase outreach
- Strengthen forward linkages in terms of aggregation and marketing
- Establish Systems and Institutions for Monitoring and Evaluation

The subsequent sections are devoted to discuss about the analysis and findings of this model on the ground.

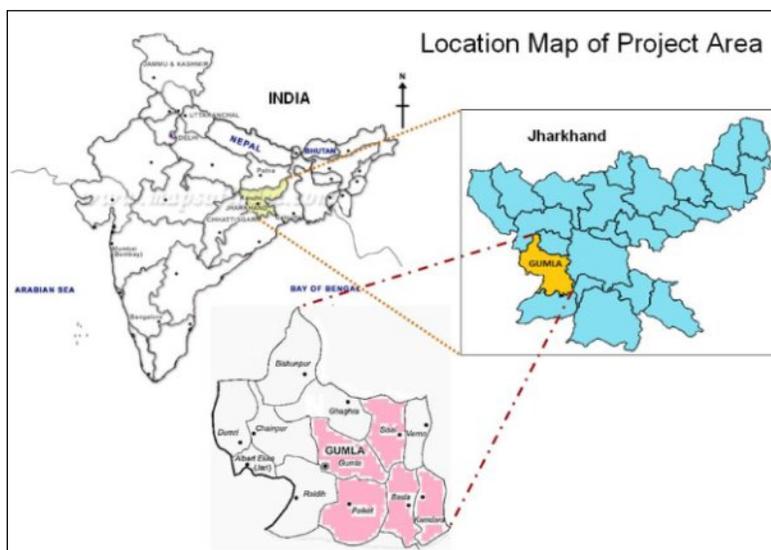
6.1 Geographical Inclusion

Gumla is the most disturbed district in Jharkhand due to unabated insurgency for many years. Naxals pose serious security challenges to the department officials, who do not dare to move freely for the fear of abduction. The region is almost excluded from welfare schemes from the government line departments and financial support from the formal financial institutions. Lack of sustainable incomes from agricultural lands, undependable seasonal employment opportunities from NTFP and devoid of any support from a welfare state administration, livelihoods of tribal people are seriously affected. Migration has become a common phenomenon in the villages, affecting the family system of tribal households physically and emotionally. In such precarious circumstances, the project has indeed risked to select such a volatile geography, in terms of the law and order situation and staff security, and connected these excluded people to the external players of Lac supply chain to revive their income generating opportunities through revival of Lac cultivation.

The project in a short span of two and half years has mobilized and brought in 8180 households drawn from 185 villages belonging to 27 Panchayats falling in five blocks viz., Gumla, Kamdara, Basia, Sisai and Palkot of Gumla district into the Lac supply chain. All these geographical areas are challenged by Naxalism and excluded from developmental activities where there is literally a parallel system of governance by Maoists that includes the elected village bodies, Jan Adalats and a people's police with their own system of taxation (Kujur, R, 2005).

The project has linked up these excluded women groups to access technical, financial and material inputs support from agencies that are otherwise unreachable to remotely located and neglected communities. Adopted good strategies like established partnerships with reputed agencies for capacity building, financial support and market linkages for Lac supply chain and facilitated their active involvement throughout the project period.

Figure 2: Location of the Project



IINRG, which is an ICAR institute of the Ministry of Agriculture, Government of India for advanced research on Lac and other natural resins and gums for improved scientific package of practices for Lac cultivation and drawn its scientist staff to the remote project areas to conduct trainings to Lac producers and provide overall technical support to the project. The Jharkhand State Co-operative Lac Marketing & Procurement Federation Ltd. (in short "JASCOLAMPF"), which is the apex commodity co-operative body in India is specifically meant for Lac promotion to mobilize the services like cooperatives formation, trainings, inputs subsidy, marketing and mini processing units support. Major Lac traders were identified and ensured market linkages to remote village level aggregation and marketing centres being run by women entrepreneurs for downstream market integration for fair price. The women entrepreneurs were trained and linked up with the social venture capital agencies like Rang De for credit needs. The initiative has demonstrated that the backward and poverty stricken geographical areas can be brought into mainstream development fold through revival of local potential livelihood support value chain models, despite unfavourable conditions like insurgency and socio-political instability.

6.2 Social Inclusion

Gumla is predominantly a tribal district. This section deals with ways and means that Udyogini has attempted to address the socializing of excluded tribal communities into Lac value chain. Mainstreaming of social inclusion process is mainly aimed at capacity building of producers, generating community based resource for retaining and extending the knowledge within the community and evolving a self-reliant and self-sustained institutions for promoting Lac as sustainable livelihood opportunity among the tribal communities. The project has brought 8184 women Lac producers, which constitute 72.03% of tribal households followed by 11.30%, 9.67% and 6.95% of SC, BC and other community households respectively into the Lac value chain and improved market linkages (Fig.2). The tribal households belong to Munda, Oraon and Kadhia tribes which represented different tribes (dynasties) namely Topno, Indwar from Munda tribe, Ekka from Oraon tribe, while Barla and Kerketta from Khadiya tribe. The Scheduled Castes (SC) households are included mainly from Lohra, Lohar and Ram, while the Backward Castes (BC) households belonged to Sahu, Mahto, Gop, Ohadar living in the project areas. The project has covered a small percentage of households from Singh, Rawatiya and Khan communities as well. However, the coverage of producers in each block is not uniform as envisaged initially (i.e., 1600/block). Udyogini adopted a set of strategies and approaches based on previous experience elsewhere to implement the activities designed for social inclusion in Lac cultivation, marketing and institution building process in a totally new geographical area in a short span of time. The relevance and impact of these strategies and approaches are discussed below.

Table 1: Social status of households included by the project

S. No	Social status	No. of Producers
1	Scheduled Tribes	5895
2	Scheduled Caste	925
3	Backward Caste	795
4	Others	569
TOTAL		8184

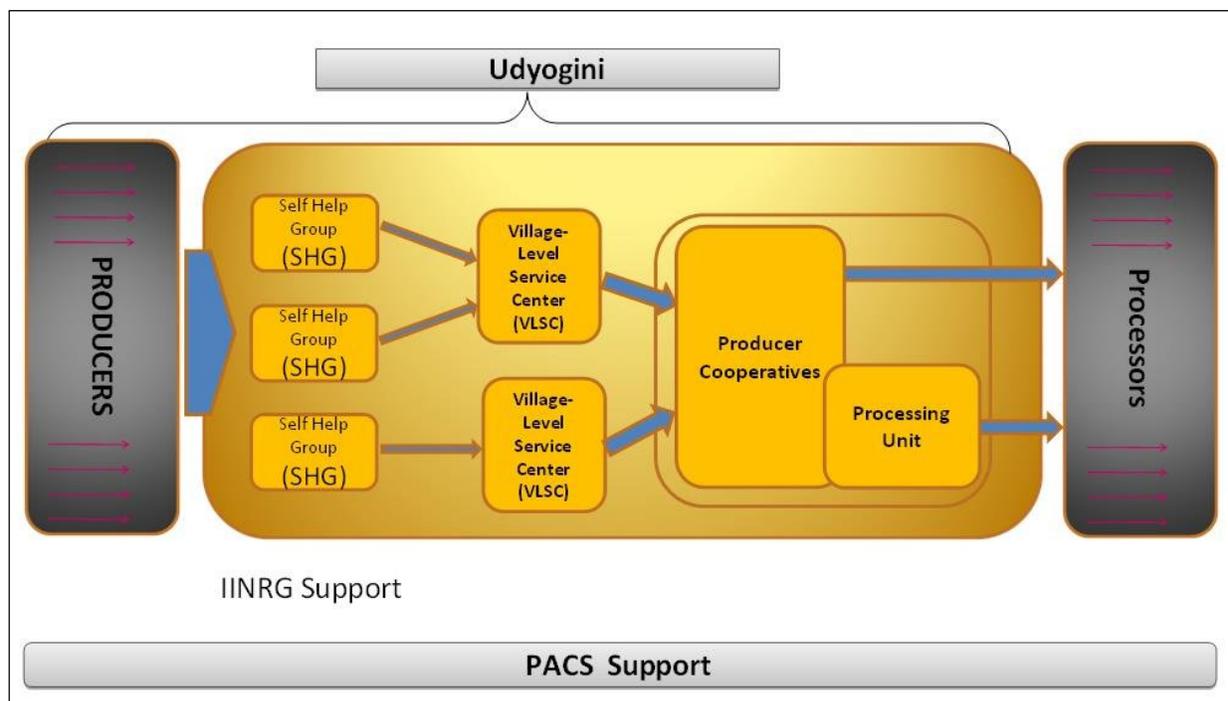
Udyogini's interventions began with the market assessment and Lac value analysis study and base line survey⁵ of selected sample of households in the project area, which helped

⁵ The objective of the study was to assess the potential for production and trade of Lac, and its promotion as a rural livelihood enterprise in Kamdara, Gumla, Basia, Sisai and Palkot blocks of Gumla district of Jharkhand State. About 30% of the targeted population of 8000 Lac producers from five selected blocks of Gumla district was taken for the base line study.

Udyogini to get better grasp over the communities' socio-economic backgrounds, migration and gender issues, status of Lac cultivation and its productivity related constraints, the market structure, gaps in the backward and forward linkages in the Lac sub sector.

Udyogini selected the field staff from the project villages. This helped in quick access to the nook and corner of new project area and selection of villages, having more number of host trees and favourable conditions for Lac cultivation, for the project smoothly. The project has followed cluster approach and built up a cadre of 25 field staff from the local communities and trained them in all technical aspects of handling host trees and nurturing Lac insects for higher Lac productivity. Another good strategy is that the women Lac producers were identified in a short span of time from the existing SHGs, formed either by another NGO or SHGs formed by the villagers themselves to access the government support. For, these women were already in the social inclusion process in the mainstream thrift and credit activities, linked to financial institutions and handling their own affairs.

Figure 3: PACS- Udyogini's Inclusive model of Lac Value Chain



This strategy has helped not only to easily mobilize the women for social inclusion process but also saved at least one year of project time and considerable resources for mobilizing and organizing the communities for the project in that new, remote and naxal affected areas. However, Udyogini could have considered taking entire SHG group members into

the Lac supporting activity, which would have not only ensured better integration of Lac value chain into group activities but also helped in institutionalizing the social inclusion process for long term to impact their economic empowerment into other sectors like education, health, and so on.

Though Udyogini specialized in working with women, it took more than a quarter of the project period to motivate the women to come out, interact and work in the male dominated society. Udyogini being a new player in the area had to put in more efforts to build its credibility and visibility for acceptance of the communities, government departments and PRIs. Village meetings were held for sensitizing the community about Udyogini' work, the potential of Lac activity and the huge contribution that women could make in the process of Lac cultivation right from making bundles of brood to scrapping of Lac to make it as assured source of family income. As this sensitivity developed and confidence built up on Udyogini staff, women came forward to attend meetings and started taking part in the process of Lac cultivation. Udyogini established crèches for children of Lac producers to facilitate participation of women with infants in Lac cultivation activities. A Gender Justice Module was developed as part of Grassroots Management Training (GMT) to build the skills of women to negotiate and sensitise their male counterparts to free some time for themselves to perform the activities like pruning and spraying on time, while handling the household engagements.

Trainings were organized by technical experts cluster wise in all villages and panchayats to women groups. The module was designed to cover all the aspects of Lac production cycle for both the strains. Out of 8184 producers mobilised, in the first year 4413 producers were covered and the rest 3771 were covered in the second year of the project cycle. Training and exposure visits of Panchayati Raj functionaries were done mainly to share details of the intervention and showcase the performance of Lac production with scientific methods, which helped create a positive ambience for the project as it helped the PRI members realize the potential of Lac cultivation as one of the major tools for livelihood generation for their community and enlisted their full support and cooperation for the project.

The project has formed four Project Management Committees (PMCs) for 20 Panchayats, one each for four Panchayats, consisting of village Mukhyas, women cluster representatives and opinion makers of the area for quarterly reviews of project activities in the Gram Sabhas to help address the issues related to Lac transactions in the village and motivate non beneficiary villagers to adopting PSCL technologies, thus helping to increase the outreach and impact of the project. Udyogini attempted the quarterly social audits in

the Panchayats with an aim to ensure transparency, accountability and participation of all stakeholders, but it has encountered many challenges like delicacy in sharing financial information publicly in the extremist infested areas for the fear of extortion and non participation of community leaders and government officials. Though it is a very good strategy to bring about social inclusion process at the village level, it is, however, an ambitious activity at this stage as it requires more time and efforts for social engineering to prepare all stakeholders for it.

Udyogini has a strategy of creating a cadre of women known as Lac Business Development Service Providers (LacBDSPs), which is an integral part of Udyogini's enterprise promotion, for localizing the extension system to reach more number of Lac producers and monitor the activities effectively through this cadre of community based resource persons. Though the target is 50 women BDSPs, Udyogini has identified initially 197 women, who are capable of becoming BDSPs, keeping in mind the premature drop out of BDSPs. It is reported that about 60 women are now active and have potential to become BDSPs. These BDSPs are made well equipped with various training curriculums to enable them to act as resource persons for the community. Initially Udyogini with the support of PACS are paid the remuneration (on the basis of performance) to the BDSPs and later on the BDSPs are expected to charge this as a service fee from the community. They are intended to earn additional incomes through their service provision roles such as training on Lac cultivation, facilitating market linkages etc. Udyogini has created service portfolio for Lac BDSPs, which is used for deciding their remuneration.

BDSPs, being from the community, have the advantage of ensuring better learning processes in the community and easier mobility. BDSPs are selected through a standard format designed to analyse crucial aspects like mobility, reading and writing skills, basic accountancy skills etc. This stringent selection criterion enables the best of the service providers to be selected. If this concept succeeds, the community rooted technical knowledge and skills would indeed ensure horizontal spread and have cascading effect on inclusion of the larger number of households in the district. However, the sustainability of the cadre needs to be reviewed by Udyogini and this cadre needs to be further strengthened especially in the context of its withdrawal soon from the area and so does its honorarium payment. Income generation for BDSPs from the community for providing services may not be a feasible idea in practice and gradually BDSPs may be de-motivated to continue their services in the absence of economic incentive i.e., payments from community, due to the spread of PSLC practices across the region in due course of time.

Udyogini introduced one more institutional innovation of Village Level Service Centres (VLSCs) to run by women entrepreneurs for strengthening the market integration through forward linkages in the Lac supply chain for aggregation, value addition and marketing of Lac and assure fair weighing and pricing to the producers by eliminating the intermediaries. Udyogini identified 50 women for VLSCs, but only 25 of them were given three phase training on enterprise development so far. Out of the 25 trained, eight have started their shops recently – six in Kamdara and two in Sesai Blocks. Udyogini has arranged Rs. 10,000 as loan from its ICCO project to interested four VLSCs out of the eight for opening their shops with groceries and food grains. The rest have put in their own money to start their shops. Udyogini visualizes a retail portfolio for VLSCs to sustain offering a two-way service for goods.

VLSC is a good concept to train rural women to become business entrepreneurs and improve their livelihoods. It is a good tool to create numerous such women entrepreneurs in the rural areas for their economic empowerment and social inclusion. However, as it is, VLSCs are independent entities and needs to be strengthened so that the VLSCs do not become an exploitative layer in course of time in order to make their business viable and handle the risks of price fluctuations in the market, while earning adequate compensation for the time of holding stocks. It should be ensured that VLSCs do not resort to unfair weighing and pricing to sustain their shop / business and the interests of VLSCs do not become counterproductive in addressing the interests of Lac producers and their empowerment.

The project visualized formation and registration of Cooperatives of Lac producers basically for accessing the benefits from Jharkhand Lac Marketing and Procurement Federation (JASCOLAMPH), a Jharkhand state government body to support Lac Cooperatives. The project could organize all women Cooperatives, which would enable women to take lead role in the earlier male dominated Lac value chain. Under the project, the target was to form only two Cooperatives for the 8000 Lac producers, but Udyogini formed and registered 8 Cooperatives in 3 blocks of Gumla district targeting 400 members in each Cooperative. These Cooperative bodies are together having a membership base of about 3222 members by now. Udyogini is conducting phase wise trainings in order to mobilise and build the capacities of the Cooperative members. Apart from this, JASCOLAMPH has provided 4 days residential training to four of these Cooperatives to strengthen them. They had also provided tools and equipment at subsidized rate to help adopt scientific methods in Lac cultivation.

However, the Cooperatives are in the initial stage and it is preposterous to comment on their strength, governance, independence and capability for achieving the inclusion of socially excluded communities through anchoring the Lac value chain and building forward market linkages at this juncture. As of now, the Cooperatives need to be strengthened beyond the PACS project and make them vibrant and viable institutions that entail removing the social and institutional barriers for its members to increase their access to development opportunities through collectivization of diverse communities for solidarity and empowerment. This is a very long process which requires knowledge and skills on the part of facilitators to achieve it. Interaction with three Cooperative members revealed that in general they seem to be under the impression unanimously that these bodies are for their benefit and collective marketing of Lac for better price.

Based on the above discussion, it can be concluded that the excluded communities, especially women, are receptive, cooperative and capable of acquiring new skills and leadership responsibilities for any value chain provided they are given a space deliberately through appropriate training and skill building and if that new domain of opportunity impacts their livelihoods positively. However, institutionalizing the social inclusion process in a sustainable manner in any NTFP value chain in the given ecosystem in which they live requires appropriate institutional structures that provide opportunities and resources necessary, apart from capacity building, to participate fully in economic, social, political and cultural life and enjoy a standard of well-being (World Bank, 2011). In this context, Udyogini has succeeded in mobilizing a large group of women to revive the neglected and insignificant Lac based livelihoods for improving their incomes through technical trainings and gender sensitization, but the relevance and potential of institutional arrangements envisaged viz., BDSPs, VLSCs and Cooperatives for guaranteeing the space and opportunities for social inclusion needs a critical review for this inclusive Lac based livelihoods enterprise promotion model to succeed and replicate elsewhere.

6.3 Technological Inclusion

Traditionally, Lac is a harvested forest-based commodity being produced by Lac secreting insects growing naturally on host trees through self inoculation. The communities used to collect and aggregate the scrap Lac from the isolated trees that are scattered over a wide area of forest. The volumes of naturally occurring Lac are not only low but also time consuming and unviable due to management challenges. Where the communities resorted to cultivate it on the trees located in their lands followed primitive methods like tying the brood to bamboo stick, which is kept standing close to the branches for inoculation. The trees were neither pruned nor protected from pest attack. The branches were cut

prematurely due to lack of knowledge on crop cycles of Lac strains and insect behaviours as well as scrape off small quantities of Lac for money during the emergencies. Continued use of traditional techniques and lack of scientific knowledge on brood inoculation, host rotation and careful handling of the stock resulted in brood shortage affecting the Lac production and productivity badly. In fact, there are abundant host trees in the private lands, leaving the forests aside. Therefore, Lac production can be harnessed considerably by involving the producers in increasing the quantity and quality because of the wide gap between market demand and supply and opportunities for regular incomes.

This serious gap is filled up by Udyogini by introducing a Package of Scientific Lac Cultivation (PSLC) practices developed by IINRG to the target Lac producers and creation of brood farms in the project areas to meet the gap in brood insufficiency for reviving and scaling up scientific Lac cultivation. Udyogini has formalized its association with IINRG through a MoU to seek technical support to provide training and field support services to its target group. Formal MoU with IINRG for knowledge resources and on the field troubleshooting support is the major strength for achieving technological inclusion in the project. For, IINRG's trainings are generally accessible to only men because the trainings usually take place on the campus, which deter women to participate due to their engagement with domestic chores as well as lack of encouragement, hence leading to their exclusion from learning scientific knowledge and skills on Lac cultivation. IINRG, however, has primarily targeted women in manufacturing of Lac craft and jewelry. Udyogini through proactive interaction and constant facilitation has motivated the scientists of IINRG to visit remote villages and impart trainings at the door steps of women as per the convenience of the latter, which has helped motivate and participation of women in those events and subsequently enabled good adoption of PSCL practices by them, which reflected in increased Lac cultivation activity on all available hosts leading to higher production of Lac in all project villages.

A Standard Operative Procedures (SOP) document for Lac cultivation has been prepared by Udyogini with the inputs from IIRNG. The knowledge and skill building mainly involved in training sessions, exposure visits to IINRG and guiding adoption of practices through handholding by field assistants. As per the data shared by Udyogini, all the targeted 8000 producers got trained in PSCL and practically applied the training in Lac cultivation with good results. They were given 3 kgs of brood Lac from the project to encourage kick-start the PSCL adoption. They were also given producer cards to record the data for key steps of Lac cultivation including production, investment and profit details empowering the producers in data management for better planning and execution.

The project has introduced new practices in the region such as inoculation of kusumi strain on Ber tree, which the community was totally ignorant of this fact since the time immemorial and only rangini strain was being cultivated on Ber. Introduction of kusumi on Ber has increased the host options and number of cycles per year. In fact, majority of the Lac producers have Ber trees and this would help them produce Lac throughout the year alternating rangini and kusumi strains, which would keep the women engaged for longer period and provide more assured income flows. Similarly, introduction of Flemingia semialata, a perennial shrub with high coppicing ability has not only increased the choice of host plants further to producers but also introduced a new host for production of good quality Kusumi crop during July – Jan season. Having short height and bushy nature, Flemingia is women friendly Lac host as it is easy to grow and handle Lac cultivation unlike the tree hosts. All the demonstrations of Flemingia in 157.73 acres (against the targeted 150 acres) were found to be well taken care of by the women indicating the good response from the producers for this new host species.

Besides introduction of PSCL and above innovations, the project has established 20 brood farms for increasing the brood availability, as often lack of brood availability is the major bottleneck for producers. The project provided supply of critical inputs such as secateurs, spraying machines and pesticides to the producers to carry out PSCL practices as suggested. The level of awareness and adoption of PSCL were found to have increased over the repeated cycles of rangini and kusumi strains and built the confidence and belief of producers to increase their income through Lac cultivation. Impressed by the results in increased Lac production and higher incomes, the attitudes and behaviours of people towards Lac host trees have changed to careful tending and protection. This behavioural change can in the long run improve the local vegetation and increase biodiversity contributing to protection of the environment.

Due to PSCL introduction, Lac activity got impetus to become the primary source of livelihood over the precarious rainfed agriculture based incomes to these families. This is the most perceptible and worthwhile impact of the project indicating technological inclusion of these communities in scientific Lac cultivation practices. The impact of technological inclusion was quite evident as all the producers have internalized the key process steps well in PSCL such as pruning the branches with secateurs, estimation of optimum brood quantity based on host tree age and canopy size, tying the brood to branches with thread, and spraying the pesticides twice for insect and disease control. It is most likely that these aspects can gradually spread horizontally to their peers across the

villages in the five project blocks and beyond in Gumla district, as everyone is having host trees and aware of Lac cultivation traditionally.

6.4 Economic Inclusion

Studies on tribal communities indicate that the status of tribal women is generally better than the women of non-tribal societies. However, gender discrimination does exist within tribal communities as well in terms of access to basic rights and economic opportunities. Tribal culture does not allow ownership rights to women on lands, as the land ownership is always lineal and individuals are not entitled to own nor sell it to outsiders; more so in case of women. Nevertheless, tribal women work harder than men and undertake multiple roles to support the family. In fact, tribal societies consider women as “goods of assets” for their hard working nature and diverse productive roles. Udyogini's Lac based livelihood model showed that the tribal women could be integrated into the value chains and markets of NTFPs taking control over the production, processing and marketing of the usufructs of trees being grown on their lands. This demonstrates new opportunities for women, who are denied of land ownership, to assert ownership over the usufructs of trees underutilized for their economic empowerment in male dominated society.

Tribal women travel 15–20km each way to the nearest market to sell their Lac. They have little or no control over the price received for their produce and their Lac is not adequately value added to fetch a premium price. Due to cash flow issues, women sell when they need the money but not when the price is high. VLSC is a two way supply chain model which Udyogini innovated and it has the potential to eliminate the intermediary or middlemen between the village products and the potential market. It can help to empower the women producers to become stakeholders in this two way supply chain model. After the harvest, all the Lac is aggregated in VLSC and the women entrepreneur of VLSC would negotiate in potential market with the aggregated product when the product has demand and better price. However all VLSCs are not fully functional as of now to handle the aggregation and marketing support to producers and the challenge is to ensure that they are strengthened and do not become an alternate layer of exploitation. When the Cooperatives are fully operational, as visualized in the model, the Lac value chain might become a self run enterprise for these marginalized communities and provide adequate profits through collective purchases and sales after aggregation and value addition.

The Lac model of Udyogini has provided sufficient evidence that improvement of value chains of NTFP, Lac in this case, can help empower women when they are given access and

control over these economic assets and economic independence can elevate their status in the house and society. It was found in field enquires and progress reports that the scientific methods ensured a minimum of 3 to maximum of 20 times of Lac production over the quantity of brood Lac used compared to the highly unpredictable base line of production before the project intervention. Going by the reports of Lac producers interacted, Lac cultivation through scientific methods is assured to give at least three times the brood Lac used and definitely a good income for producers. The random case studies from the Lac producers revealed that the income levels ranged from Rs. 20,000 to Rs. 50,000 in a Lac cycle of six months, despite the fluctuating market prices, over the previous base line of meager income levels ranging from Rs.2000 to Rs.5000 per annum, depending upon the number and diversity of host trees endowed by the family.

Dissemination of PSCL technologies and its positive impact in terms of higher production and incomes to the producers made the women to look at Lac host trees as money making 'machines' now. They are closely guarding the trees for any theft of brood Lac and extra care is being taken to nurture them. This is a remarkable achievement of the project, which demonstrated the potential of Lac cultivation model for income augmentation of these poor households leading to economic inclusion of women particularly.

The random case studies have also revealed that the increased incomes have mostly been handled by women and interestingly in majority of the cases the money was spent for education of their children instead of material goods, which could in the long run lead to socio-economic inclusion of these families. Increased incomes from Lac cultivation can also discourage distress migrations and encourage families to stay back and take care of their host trees to get regular incomes for better livelihood. However, the impact of economic inclusion through project interventions on migration needs to be further studied to make any worthwhile comment on its influence.

7. Conclusions

Social inclusion and exclusion refer to the extent that individuals, families and communities of tribal households are able to fully participate in the society and control their own destinies by improving the value chains of the natural resources endowed in their ecosystem (Stewart, 2000). Natural endowment of huge number of host trees and easy handling of PSCL with few days of involvement per cycle, Lac is found to be an important intervention in Gumla district in particular and Jharkhand in general to economically uplift the tribal communities for their socio-economic inclusion. The Lac model has demonstrated

that the Gumla district with more than one fourth of its geographical area under forests could offer ample opportunities for socio-economic inclusion of tribal and other poor communities by reviving and improving the NTFP value chains and micro-enterprise development. Scientific approaches and timely inputs can revive the traditional NTFP based livelihoods, especially the Lac, for tribal communities and harness them to generate sustainable incomes for their socio-economic inclusion.

The model has also shown that that the excluded tribal communities could be brought into the mainstream development fold through appropriate strategies for their mobilisation, capacity building on scientific methods of handling the livelihood activity and the necessity of introducing the community based institutions to provide space for their participation. With appropriate inclusive strategies and approaches, the marginalized women could be receptive, cooperative and capable of acquiring new skills and undertaking new responsibilities of value chain refinement, micro-enterprise development and management through appropriate training and skill building. However, the complete inclusion of women from poor households in all facets of development in the society requires a set of policies, strategies, approaches and inclusive institutions that support pro-poor growth and social equity for accessing and benefiting from the fruits of mainstream development (Bennett, 2002). The interventions of Udyogini have, to a large extent, ensured the technical, social and economic inclusion of women by giving those opportunities to acquire new skills, space for active participation in decision making as well as leadership for carrying out multiple roles in the Lac value chain and market integration. Nevertheless, Udyogini needs to review the institutions introduced in the model and the complementarity of their roles and responsibilities to institutionalize the inclusion process for empowerment of tribal and non tribal women living in the rural areas of Gumla district in Jharkhand.

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