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A Study on the Status and Prospects of Tasar Sericulture Industry and its Impact on Tribal Lives in Jharkhand

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Abstract: ***This paper reviews the status and prospects of the "Tasar Silk Industry" in the state of Jharkhand. Tasar Sericulture is practiced in the states of Jharkhand, Orissa, West Bengal, Madhya Pradesh, Chhattisgarh, Andhra Pradesh, Uttar Pradesh, Maharashtra, Telangana and Bihar with Jharkhand being the leading producer with 80% of the tasar silk production employing around 1.5 lakh farmers in rearing, reeling and weaving activities, This is an agro-based, cottage industry practiced as "a way of life" by the various tribal inhabitants of this state like Santhals, Hos, Uraons, Kerwars and others. Tasar silk is not only known for its charm, texture and its natural golden color, but it also has a high ethical value. It is known as "Ahimsa Silk" as it does not kill the silkworm by boiling the cocoons while it is still inside it. The fibre is extracted only after the silkworm (Antherea Mylitta and Antherea Proyeli J) has left the cocoons. Tasar sericulture is being promoted widely through premier bodies like The Central Silk Board and its subsidiary i.e Central Tasar Research and Training Institute; Ranchi, which has undertaken research and development and training programs, since its establishment in 1964, thereby improving the silk production as well as empowering the lives of weak and marginalized tribes of Jharkhand. Growing demands from foreign countries, elucidate the promising future of the tasar silk industry in Jharkhand which in turn would uplift the living qualities of the rural people.***
Heavy investment in this industry now, would bring good returns in future, not just in terms of an improved economy, but also an improved society. This paper highlights the fact that apart from the huge potential to earn foreign exchange for the country, tasar culture has immense ethical values and truly carves for us a path towards sustainable development.
Keywords: Tasar, sericulture, Jharkhand, tribal, Ahimsa Silk, Sustainable Development.

I. INTRODUCTION

Sericulture is the science that deals with the production of silk by rearing of silkworm. Sericulture plays a vital role in the flow of income from the urban-rich sections of the society to the rural poor, as demand for silk is largely from the higher-income group. (Sheela Patel, 2016) Sericulture is one of the oldest agro-based cottage-industry in India and probably dates back to the beginning of the Christian era. Scientifically, sericulture can be defined as "art and science of silkworm rearing" for the production of raw silk. (RL Ram, 2020)

Tasar silk, was known as "Kosa" silk in ancient India and is also known as *Vanya* silk [*Vanya* means forest in Sanskrit] or Wild silk and alternatively spelled as tussar, tussah, tushar, tusar, tassar, or tussore across various parts of the world, in modern times. There is very limited data about the history and time of origination of tasar silk. However, inferences can be made that it was discovered in the medieval times. Before the medieval age, there weren't any traces of silk being made from natural or artificial objects.

Tussar silk is produced in various countries like China, India, Japan and Sri Lanka. India is the only country producing all four varieties of silk that is Mulberry, Moga, Tasar and Eri. Tasar has apparently originated from the Sanskrit term "Trasara" meaning shuttle. The master creators of the world famous Indian tasar belong to aboriginal forest populous who have been rearing tasar silkworms for centuries. (Hasansab Nadaf, 2020)

India is a land of rich cultural heritage and citizens here are fond of traditional fabrics which are either handspun or derived from natural and indigenous sources. Tusar silk is a non-mulberry silk known for its structure, texture, luster and the natural golden color which is exquisitely rich and deep. It is highly durable and has the highest wear-resistance due to its short fibers. It has an unusual glittery gold brilliance. Enough said, it is of an extremely rich quality, drawing great demand for itself due to it's physical attributes.

Tushar silk variety is produced from tropical silk worm [Scientific name- *Antherea mylitta*] and temperate silkworm [Scientific name- *Antherea proyeli j.*] They feed and breed on Arjun trees [*Terminalia arjuna*], Asaan trees [*Terminalia tomentosa*] and Oak trees [*Querecus sp*]. It is used to make sarees, dresses, gowns and various other clothings. Surprisingly, it is also added to soap for a more luxurious feel.

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India is one of the largest producers of tasar silk with different sericulture activities being carried out in various states such as Bihar, Jharkhand, West Bengal, Orissa, Chhattisgarh and Madhya Pradesh. India has enormously increased the production of silk. In FY 2008 production volume of the silk stood at 428 MT which in the FY 2019 stood at 2981 MT. Jharkhand is the largest producer of tasar silk in India with about 80% contribution to the production, followed by Chhattisgarh, Odissa and Madhya Pradesh.

Tusar production is an integral part of rural art and culture which provides employment to the weak and marginalized sections of the society, engaging 11 people for every kg of raw silk produced. The tribal and rural women are trained in traditional methods of extracting silk from cocoons. Tasar sericulture engages tribal families of Jharkhand in economic activities such as raising silkworms and harvesting their cocoons, extraction of thread and dying, spinning and weaving of fabric so obtained. Tasar sericulture helps in keeping rural inhabitants and denizens employed and engaged in economic activities. It also prevents rural migration to bigger cities in search of viable jobs and contributes in securing a moneymaking occupation. The investment required is relatively small and the produce provides raw materials to the textile industry all over the world.

Tasar sericulture is a form of cottage industry been extensively practice across the tasar-silk producing states. It is agro-based and labor-intensive industry employing lakhs of families in Jharkhand, Bihar, Orissa, Chhattisgarh, West Bengal, Andhra Pradesh and Uttar Pradesh, differing from one season to another.

II. OBJECTIVE OF STUDY

The objective of this paper is to highlight the potential of tasar silk industry in the state of Jharkhand as it is majorly inhabited by tribals and forms an integral part of their daily life. It shall also call attention to the various bodies and institutes operating in Jharkhand to promote this industry, thereby bringing the spotlight on the need to encourage heavy investment of attention and capital in this area. We shall also understand the importance of tasar Sericulture from the view point of Sustainable Development.

III. IMPORTANCE OF TASAR SERICULTURE IN THE LIVES OF TRIBES OF JHARKHAND

	Volume in metric tons
FY 2019	2,981
FY 2018	2,988
FY 2017	3,268
FY 2016	2,819
FY 2015	2,434
FY 2014	2,619
FY 2013	1,729
FY 2012	1,590
FY 2011	1,166
FY 2010	803
FY 2009	603
FY 2008	428

Fig- Production volume of tasar silk in MT.
Source :- Central Silk Board, Bangalore.

Tasar Sericulture industry is gaining momentum for the reason that this industry creates more employment avenues up to 2.5 lakh rural aboriginal families of the country and give high returns with low investments for sustainable development. Tasar culture is the main stay for many tribal communities in India. (Hasansab Nadaf, 2020)

Jharkhand has established itself as the largest Tasar silk producing state in India with tasar sericulture being widely practiced in Santhal Pargana i.e Godda, Deogarh, Dumka, Jamtara, Sahibganj and Pakur; Ranchi, Lohardaga, Hazaribagh and few others. Tasar sericulture forms an indispensable part of the lives of tribals in Jharkhand and has a prodigious ancestral and autochthonous value in their middle-class structure.

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The tribal inhabitants of these areas are engaged in rearing and collecting tasar silkworms. There are many tribes of Jharkhand involved in this work like the Santhals, Hos, Kols, Paharias, Uraons, Cheros, Kerwars, Bhuians, Samantas, Chamars and Kurmis. It is an elephantine task to determine even the approximate number of persons engaged in tasar sericulture activities. The numbers differ from one season to another as this is not the primary occupation of the people. They also engage in other occupations such as agriculture and animal husbandry or work at construction sites keep themselves employed throughout the year.

Large production base, availability of skills, land and labor. Low investment, short gestation period and higher returns. Easily adoptable technologies and strong domestic demand-pull are some of the strengths of sericulture in India. Whereas unpredictable rainfall and reducing ground water level effects plantation. Climatic condition is another barrier of sericulture. There is resistance in rural masses to adopt new technologies for sericulture. The rearers have small land holding for rearing. There is lake of competitive marketing network are counted as weakness of sericulture in study area. Some Opportunities like sericulture sector includes active involvement of rural women. The demand for silk is growing in the national & international market day by day because of its qualities. Due to awareness in education in rural areas, literate farmers are willing to accept latest technological knowhow. (Dewangan, 2017)

The wealthy and opulent peasants do not engage themselves in tasar cultivation activities, while the impoverished peasants hardly afford to engage in 3 to 4 months of this type of activity. Quite a large number of laborers are needed for constant surveillance during the period of rearing of silkworms on the asan, sal and oak trees since the cocoons are prone to attacks by birds and pests. The women of the tribes wind off the cocoons using the conventional techniques. They immerse the cocoons in pots or pants with boiling water and add antacids such as caustic soda to lighten them. The fibres are then caught on a semi rotating brush, and are later collected on conical reels. The thread so obtained is called 'lak'. The weavers spend three days to finish making a single 10 metre cloth. The average income earned by the Reshamdoots range from Rs. 40,000 to 60,000 per annum, about Rs. 25,000 to 35,000 per annum by seed farmers from two crop rearings and Rs. 10,000 to 20,000 per annum by commercial and nucleus farmers from one crop. The involvement of people in sericulture has enhanced their socio-economic status.

Jharkhand the momentus tasar producing state currently provides livelihood to around 1.5 lakh peasants in precincts such as rearing, reeling, spinning and weaving. Technological advancements and gargantuan augmentation drives enforced by the central and state agencies led to the intent increase in tasar raw silk production from the 90s onwards. Records stood at 428 MT in 2008 which increased to 2981 metric tons in 2019.

IV. BODIES PROMOTING TASAR SERICULTURE IN JHARKHAND

The Central Silk Board established in 1948, a statutory body formed by an act of the Parliament called Central Silk Board Act,1948 is the prime government institution of our country looking after the development of the “Queen of Textiles-Silk” industry. It’s main function is to synchronize the ongoing sericulture development programs in the 178 units dispersed in various states via an amalgamated Central Sector Scheme “Silk Samagra” for the growth and advancement of silk industry.

Under the patronage of Central Silk Board, the Central Tasar Research And Training Institute (CTR & TI) was constituted in 1964 in Ranchi,the capital of Jharkhand, to accommodate to the needs of tasar silk industry of the state. It’s primary objective is to provide the Research And Development(R&D) support to this agro-based industry in Jharkhand. It also provides for human resource training and formulating developmental programs for the society. It has enormously contributed to the development of tasar sericulture in this state by providing improved technology and handing it over to the field, and provides training to the tribal and rural farmers and unemployed youth to help them become better entrepreneurs. The accomplishments of CTR & TI can be seen in few success stories as follows.

Mrs. Barki Hembram, of Santhal Pargana, was engaged in silkworm rearing activities for quite many years but due to lack of technical knowledge, her production was limited to 10 to 15 cocoons per DFL, but she continued to be engaged in this, due to lack of other viable sources of income. CTR&TI, through its regional station in Dumka, indulged her in skill development programs, by giving her on-the-job training for tasar silk production to better infuse technology in her traditional methods. She, along with two other mates, got actively involved in this program and soon became “Resham Saathis”. As a result of this rigorous training, Barki Hembram could now produce 60 cocoons per DFL to 70 cocoons per DFL, during the first and second season respectively, earning her an annual income of Rs 1,10,000. This improved her financial status considerably. She now owns her own pukka house and a motorcycle. She has also enrolled her children in a better school.

Another success story is of Shri Prabhu Rai from village Bamerjhanti (Dumka district), a farmer who had maintained his own tasar farm by trimming and truncating activities along with disinfecting and decontaminating work using bleaching powder. Due to the technical support provided by the CTR&TI, he could now shoulder disinfecting work.

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He uses a net in the early rearing stages and then uses a concoction of lime and bleaching powder throughout the rearing period. His produce was 200 DFLs (DBV) in the first season and 400 DFLs (DBV) in the second, earning him Rs. 23000 & Rs. 80000 in the two seasons respectively. He has now engaged himself in agricultural activities as well.

CTR & TI aims to see India emerge as the "Global Silk Leader". It aims at using avant-garde technology evolved by the institute, to increase capacity, quantity and quality in the tasar silk industry of Jharkhand. It is on the path to grow the required skill and excellency to empower the industry. It takes valuable steps to empower and improve the quality of life of the rural denizens by providing skill development training, so that they can be self employed by adopting tasar sericulture activities. It develops and improves the silk breeds, so as to multivariate the silk products in order to meet the dynamic demands of the market.

Thus, it is clear that the Central Silk Board, through its various agencies like CTR&TI, does a commendable job in improving the tasar silk industry and increasing the produce, thereby, contributing to make Jharkhand, the leading producer of Vanya tasar silk. It has taken out the tribal people of Jharkhand from a mine shaft of poverty and unemployment and made the future of the tasar silk industry very bright and promising.

V. SUSTAINABLE DEVELOPMENT THROUGH TASAR SERICULTURE

Sericulture has provided downstream employment and income generation in rural and semi urban areas, high participation for low-income and socially under privileged groups, a larger role for women in development and huge potential for contribution to export earnings. This sericulture sector is not only important for generating rural employment and preventing rural migration but also for protection and preservation of ecology, socio-economic change, heritage and socio-cultural values. (Dewangan, 2017)

The world is constantly muddling through climate change, loss of biodiversity and resource inadequacy. Tasar sericulture shows us a path towards empowerment of the tribal population as well as conservation of biodiversity.

This is an exceptionally environment-friendly industry as it can be carried out with the least efforts even in remote forest villages. It does not require electricity or composite machinery, in contrast to the mulberry silk. Tasar silk is prepared without harming, mistreating, abusing or exploiting the silkworms. It is often referred to as "Ahimsa Silk". 'Ahimsa' means non-violence, thereby indicating the harmless nature of this sericulture. Before plucking the cocoons from the branches of Asan or Oak trees, the moth is allowed to leave the cocoon, opposite to the traditional mulberry silk, which boils the cocoons whilst the silkworm is still inside the cocoon. To make one pound of mulberry silk approximately 3000 silkworms are killed which means a billion silkworms are exploited and killed every year. Selective breeding carried out for over a thousand of years now make the silkworms unfitted to survive in their natural habitat. This proves the fact that they have been largely manipulated to fulfill human needs.

Sericulture, has also stabilized the lives of poor tribals of Jharkhand as well as other states as it provides basic amenities to the rural population making up for the gaps which could occur due to total dependency on agriculture and other mainstream activities. It contributed in a gradual poverty eradication. Agriculture is mainly restricted to two seasons a year and lack of availability of land and lean cash returns, makes the rural population seek various jobs to sustain them and their poverty-stricken families. Tasar sericulture is an agro-based, labor intensive cottage industry which provides the disparaged, a secondary occupation. This is one such cottage industry which requires a relatively low investment affordable by the tribals, has a shorter gestation period of 2 weeks and has profound availability of skill and labor and a sizeable production base. As an alternative source of income tasar sericulture has the potential to reduce rural migration to urban areas in search of viable jobs, thereby reducing the hiking concentration of population in urban areas.

Factors that helps India position itself for large scale promotion of tropical tasar sericulture-based livelihoods such as: Favorable agro-climate for tasar silkworm rearing, availability of large tracts of wastelands owned by poor people that could be put to use for raising host tree plantations and, subsequently, for silkworm rearing, availability of asaan and arjuna trees in natural forests, low opportunity costs of labor, subsistence, mono-cropped, kharif paddy based agriculture etc. (RL Ram, 2020)

Tasar sericulture, thus, is a path towards sustainable development as it not only provides an alternative employment opportunity and empowering the rurals and tribals, but also preserves the silkworms and moths which can be endangered if the trend continues.

VI. CONCLUSION

The tribes in Jharkhand are mostly uneducated and lack proper skills to take up technical jobs in urban areas. They are exploited, victimized and enslaved in areas where they migrate to do petty jobs to sustain their families. They are paid less and labour is terribly extracted from them. Jharkhand is abundant in forests, mines and minerals with a diverse biodiversity living in the dense forest. The people here are extremely plain sailing yet hard working and entrepreneurial as they engage themselves in agriculture and other labor-intensive occupations.

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Tasar sericulture is one such industry that has a reassuring future due to increasing demands of silk, from countries like Thailand, Italy, Japan, France, UAE, Korea, Vietnam etc. as an alternative to mulberry silk, which is expensive and non-ecofriendly.

Jharkhand not only has the potential to double up it's production many folds, to cater the hike in demand, but also has the capability to absorb huge portion of the rural and tribal people into the various activities relating to this. Tasar sericulture, holds importance not only as an economic activity, but also has an emotional connect, as it keeps the biodiversity intact, thereby contributing to sustainable development. It's texture, feel, shine and it's natural colors like beige, honey-gold, cream and the bronze shades, allows it to be woven in a variety of clothes. Thus, tasar sericulture empowers the rural sector in a number of ways. The promotion of this industry is highly advisable, as it is fundamental to the holistic development of the tribals of Jharkhand.

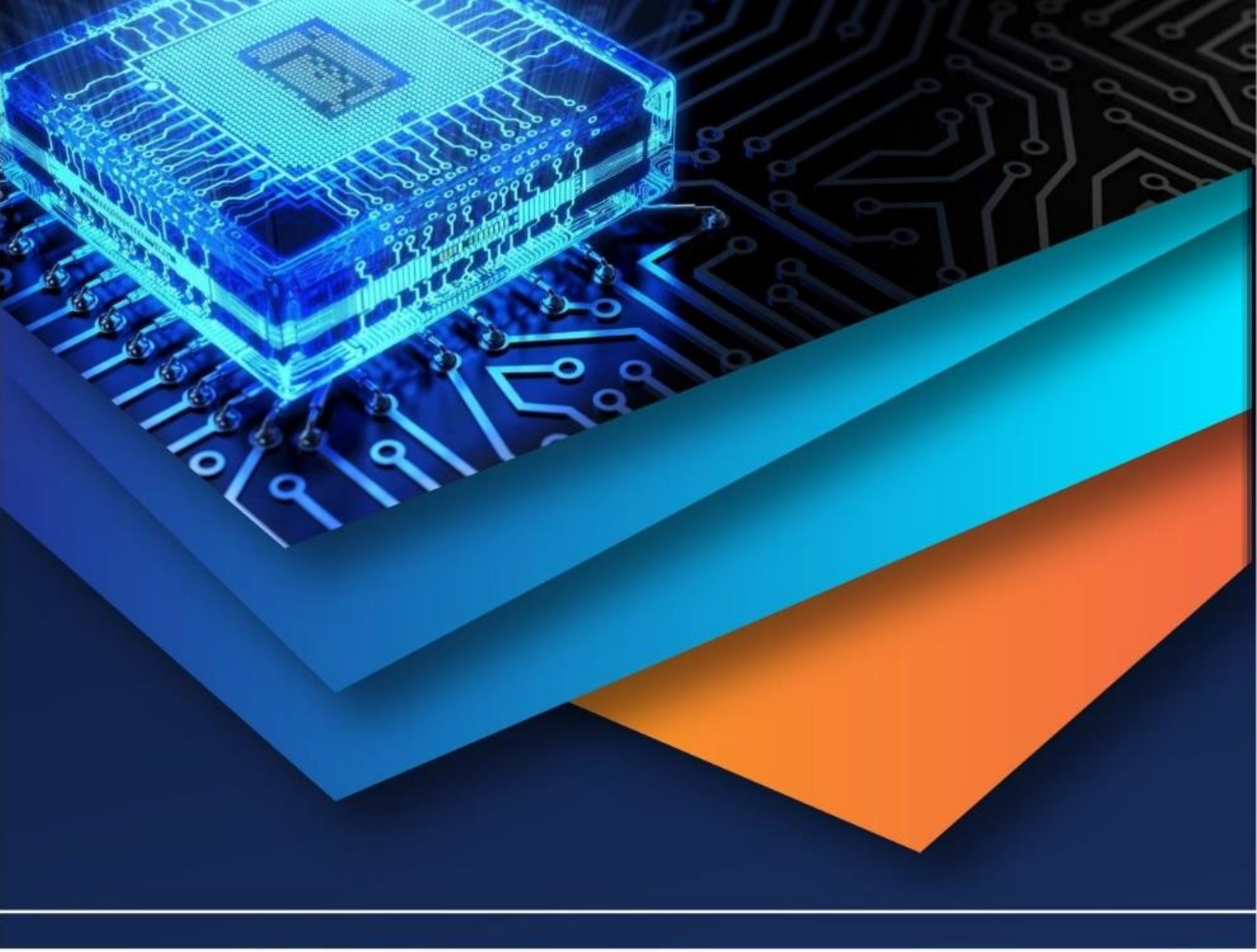
Various programs such as Research and Development and extensive training activities, are the need of the hour and is highly suggested in order to promote this industry in Jharkhand. Advanced technology needs to be developed to promote this industry. Infusion of technology with the indigenous know-how tribals can provide remarkable results. Investments should be made in this promising sector, so as to empower the rural population with advanced technology and better species to improve production as well as earning. Training should also be provided to the tribals who are still dependent on traditional indigenous methods, to not just multiply cocoon production, but training should also be given in weaving and tailoring silk. More SHGs should be constituted to teach the woman weaving and tailoring of silk.

Overall, the future of tasar silk industry in the state of Jharkhand seems bright and extremely promising.

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