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## Role of Santal women in agriculture: A case study of the Mayurbhanj district in Odisha

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### Abstract

The paper highlights the significant yet often underappreciated role of Santal women in agriculture of Mayurbhanj district in Odisha, where they actively participate in various farming activities, including sowing, transplanting, field preparation, and harvesting. Despite their crucial contributions to agricultural productivity, their labour remains largely undervalued both socially and economically. This study examines the gendered division of labour, which is shaped by traditional norms, cultural practices, and economic factors, revealing persistent challenges such as limited access to land ownership, financial resources, modern farming technologies, and extension services. Furthermore, it underscores their resilience in balancing agricultural responsibilities with household and caregiving duties. The findings advocate for gender-sensitive policies and targeted interventions to empower the Santal women, ensuring their contributions are recognized and valued in the agrarian economy.

**Keywords:** Role, Santal, women, agriculture, Mayurbhanj, district, Odisha

### 1. Introduction

The role of women in agriculture has long been a significant subject of interest in rural development and gender studies, particularly within the Santal community. Traditional agricultural practices continue to be prevalent among the Santal people, who are one of the largest indigenous groups in Odisha, India, with a substantial presence in the Mayurbhanj district. Agriculture remains the primary source of livelihood for the Santal community, and women play a crucial and indispensable role in every aspect of this agrarian economy <sup>[1]</sup>. Santal women are not merely helpers in the fields; they are central to agricultural production and sustainability. They contribute extensively to various farming activities, ranging from sowing seeds and transplanting crops to weeding, harvesting, and post-harvest processing. Their active participation extends across both subsistence and commercial agriculture, positioning them as key contributors to food security, rural livelihoods, and household income. However, despite their vital and multifaceted contributions, Santal women continue to face numerous challenges, including limited access to land ownership, financial resources, agricultural training, and decision-making power. Their work often remains unrecognized within their community and beyond, reinforcing existing gender disparities <sup>[2]</sup>. This case study of the Mayurbhanj district delves into the diverse roles played by Santal women in agriculture, examining their participation in various farming activities, the socio-economic impact of their labour, and the structural barriers they encounter. Santal women not only sustain their families but also make significant contributions to the broader agrarian landscape. They play a crucial role in seed preservation, indigenous knowledge transmission, and sustainable farming practices that have been passed down through generations. Additionally, they engage in allied agricultural activities such as animal husbandry, poultry farming, and forest resource collection, further strengthening the rural economy <sup>[3]</sup>. The study further aims to address gender disparities within the Santal community by emphasizing the need for equitable access to resources and opportunities. Ensuring equal participation of both women and men in decision-making processes and promoting the free expression of women's voices are essential steps toward recognizing and empowering them within society. Implementing gender-sensitive policies, providing targeted financial assistance, and enhancing skill development programs tailored to Santal women can foster greater economic independence and social inclusion.

Recognizing and valuing their labour is not just a matter of equity but also a crucial factor in improving agricultural productivity and rural development <sup>[4]</sup>.

## 2. Objective of the Study

This study aims to investigate the pivotal role of Santal women in agriculture in the Mayurbhanj district of Odisha. It focuses on their active participation in various agricultural activities and assesses their significant impact on the local economy. Additionally, the study seeks to analysis the influence of the agricultural system on the Santal community, highlighting both the contributions of women and the challenges they face in sustaining agricultural livelihoods.

## 3. Methodology of the study

A comprehensive survey was conducted in the Mayurbhanj district of Odisha to assess the living standards, cultural traditions, and socio-economic conditions of the Santal community, with a particular focus on their agricultural practices. The study examined key aspects such as cropping patterns, farming methods, land use, and labour distribution. Data collection methods included visual observation and a structured questionnaire designed to gather essential information from respondents about their agricultural activities, economic conditions, and the challenges they face in farming. Additionally, secondary data was obtained from various credible sources, including the Census of India, government reports, administrative records, policy documents, proceedings, newspapers, books, and a wide range of academic articles. The integration of both primary and secondary data provided a comprehensive understanding of the agricultural system and the socio-economic realities of the Santal community in the Mayurbhanj district of Odisha.

## 4. Scope of the Study

The study was conducted in three villages of the Mayurbhanj district of Odisha, namely Nuagan, Chadheipahadi, and Matikhani. These villages are multi-ethnic, with diverse communities, including scheduled tribes such as the Santal, Munda, Ho, and Kalha, living together and sharing cultural and economic ties. However, Chadheipahadi village also has a small number of weaving and caste-based families engaged in traditional handicrafts and other occupations. The primary livelihood of most households in these villages is settled agriculture, with farming being the dominant economic activity. Additionally, some households supplement their income through livestock rearing, wage labour, and small-scale trade, contributing to the overall rural economy <sup>[5]</sup>.

## 5. Review of literature

Tribal communities in India, particularly in Odisha, rely heavily on agriculture for their livelihoods, with their economies shaped by subsistence farming, traditional agricultural practices, and dependence on forest resources. Rath (2006) highlights the central role of agriculture in the tribal economy, emphasizing its significance in sustaining these communities. Kelkar and Nathan (2003) examine the critical role of tribal women, including Santal women, in agriculture, noting their involvement in nearly every stage of agricultural production from land preparation to post-harvest activities often contributing more labour than men.

Patnaik (2015) explores the specific context of the Mayurbhanj district, revealing that despite their substantial contributions, Santal women face marginalization in terms of access to resources and decision-making. Collectively, these studies underscore the need for gender-sensitive policies to address the challenges faced by Santal women and improve their socio-economic status.

## 6. Research Gaps

The role of Santal women in agriculture in the Mayurbhanj district of Odisha remains underexplored, with limited research on their unique contributions, decision-making power, and adaptation to modernization and climate change. The impact of cultural norms, access to resources, and institutional support has not been adequately addressed, while their roles in foraging, cottage industries, and overall economic contributions continue to be undervalued.

## 7. Agriculture

A survey of 300 Santal households reveals that one-third own land, while the remaining two-thirds are landless and depend on wage labour for their livelihood. Approximately 85% to 95% of the Santal population is engaged in agriculture, cultivating a variety of crops such as paddy, *Mandia* (millet), onions, potatoes, and vegetables. A traditional tool known as “Angom” is commonly used to level fields and enhance moisture retention, with bullocks providing the necessary power. Santal women in Mayurbhanj play a crucial role in agricultural activities, making significant contributions to crop production, food security, and household livelihoods. This section explores their agricultural practices, highlighting the interplay between traditional techniques and modern influences in shaping their farming methods <sup>[6]</sup>.

## 8. Involvement in agricultural activities

Women are the backbone of the agricultural workforce, yet their labour often goes unpaid and unrecognized worldwide. They undertake some of the most difficult and physically demanding tasks in agriculture, animal husbandry, and household management. In the Santal community of the Mayurbhanj district, women’s agricultural contributions align with these national trends. Santal women play a vital role in sustaining traditional farming practices, ensuring food security, and strengthening the rural economy. Their dedication and hard work deserve greater recognition, along with targeted support to enhance their productivity, economic opportunities, and overall living standards <sup>[7]</sup>.

## 9. Agricultural labour of Santa women

Agricultural activities among the Santal community are highly seasonal, with the division of labour largely influenced by the agricultural calendar. Their workload reaches its peak during critical periods such as sowing, weeding, and harvesting. Labour distribution within households and agricultural work is generally gendered but remains flexible. Men typically handle physically intensive tasks such as ploughing and irrigation, while women focus on activities that require precision and continuous care, such as weeding, transplanting, and harvesting. However, during peak agricultural seasons, particularly at harvest time, these roles often overlap, with both men and women working together to ensure timely completion of farming tasks <sup>[8]</sup>.

## 10. Agricultural tools used by the Santal tribe

### 10.1 Plough (Nahel)

The plough is one of the most commonly used agricultural tools among Santal farmers in Mayurbhanj in Odisha. Traditionally, the Santal people practice plough-based farming in the plains and foothills of Odisha, Jharkhand, and West Bengal, using wooden plough drawn by bullocks to till their fields. This method is central to their agrarian lifestyle, particularly for cultivating paddy, millet, and pulses. Santals craft and sell these ploughs themselves, primarily using *Sal* wood. According to tradition, only men operate the plough, and women are prohibited from even touching it. The plough, about 4-5 feet long with a sturdy wooden body, is fitted with a 1-foot-long, 1.6-inch-wide share for tilling <sup>[9]</sup>.

### 10.2 Yoke (Aran)

A yoke is a wooden bar fastened over the necks of two buffalo, typically cattle, and connected to a vehicle or load they are pulling. It is a wooden frame that joins two buffalo at the neck or head, enabling them to work together efficiently. Additionally, a yoke can refer to a frame that fits over the shoulders to carry a load in two equal parts. In mechanical contexts, it can be a crosspiece on the head of a control system that operates the elevator and ailerons. A yoke may also refer to a frame that holds a bell, a clamp that secures two parts together, or a fitted part of clothing, such as a strip around the shoulders or waist. The bullock cart, known as *Dangra Gadi* among the Santal community, is a traditional wooden cart pulled by oxen or bullocks. It is widely used by the Santal community for transportation and agricultural purposes <sup>[10]</sup>.

### 10.3 Sickle (Datram)

A sickle is a handheld agricultural tool with a short handle and a curved blade, used for cutting grass and grain crops. In the Mayurbhanj district of Odisha, the Santal people use a sickle, locally known as *Datram*, as an essential farming implement. The *Datram* features a short wooden handle and a curved metal blade, specifically designed for cutting crops, grass, and small branches. It is widely used during the rice harvest, playing a crucial role in agricultural activities, especially during the peak harvesting season.

## 11. Uses of the *Datram* in the Santal community

The sickle, locally known as *Datram*, is an essential tool in the agricultural practices of the Santal community. It is primarily used for harvesting crops such as paddy, millets, and pulses during the harvest season, with Santal women playing a major role in gathering and bundling the harvested produce. In addition to harvesting, the *Datram* is used for clearing fields by removing weeds and unwanted plants, ensuring better soil conditions for cultivation. Many Santal households rear cattle, and the sickle is crucial for cutting grass and collecting fodder for livestock. Beyond agriculture, the *Datram* is also widely used for household and forest-related tasks, including cutting small bushes around homes and gathering firewood. A strong string is often used to tie bundles of harvested crops or collected grass. Its lightweight design makes it easy to carry and handle, making it particularly useful for cutting tree branches as fodder for goats, especially during rainy days when fresh grass is scarce <sup>[11]</sup>.

## 12. Hoe (*Kudi*)

In the Mayurbhanj district of Odisha, the Santal people traditionally use a tool called a hoe, locally known as *Kudi*. The *Kudi* is a versatile hand tool with a wooden handle and a flat, broad metal blade fixed at an angle. It is primarily used for various agricultural activities such as digging, weeding, loosening soil, and preparing small plots for cultivation. The *Kudi* is particularly significant in shifting (jhum) cultivation, which involves clearing forest patches, tilling the soil, and planting crops. The hoe is an ancient and essential agricultural tool used for shaping soil, removing weeds, clearing land, and harvesting root crops. Shaping the soil includes piling it around the base of plants (hilling), digging narrow furrows (drills), and creating shallow trenches for planting seeds or bulbs. Weeding with a hoe involves loosening the top layer of soil or cutting weeds and plant residues to maintain soil fertility. Additionally, hoes are used to dig and move soil during the harvesting of root crops such as potatoes, making them indispensable in traditional farming practices <sup>[12]</sup>.

## 13. Increase in Wage Labour Santal people

With changes in agricultural patterns, many Santal people now work as farm labourers on others' land to earn a living. Due to land scarcity and financial constraints, some Santals do not own enough land for cultivation. As a result, they engage in daily wage labour, particularly during the sowing and harvesting seasons. Women, in particular, play a crucial role in agricultural labour, contributing significantly to both their own farms and wage-based work. These shifts reflect a transition from traditional self-sustaining farming to a more market-dependent agricultural system within the Santal community in the Mayurbhanj district <sup>[13]</sup>.

## 14. Role of Santal women

A significant portion of the agricultural work undertaken by Santal women is focused on subsistence farming, where most of the produce is used for family consumption rather than for sale in the market. Women actively manage kitchen gardens, cultivate vegetables, and ensure that their families have access to a diverse range of food sources beyond staple grains. By engaging in subsistence farming, Santal women play a vital role in ensuring food security for their households. Their knowledge of crop diversity and traditional farming practices helps sustain their families throughout the year, particularly during lean periods. The Santal women of Mayurbhanj district in Odisha are integral to the agricultural activities of their community, contributing significantly to both household nutrition and the broader agrarian economy <sup>[14]</sup>.

## 15. Socio-economic Contribution of Santal women

The socio-economic contribution of Santal women in agriculture is crucial to the sustenance and development of their families and communities in the Mayurbhanj district of Odisha. Their involvement in agricultural activities extends beyond mere labour, encompassing various economic and social roles essential for community resilience, food security, and economic stability. This section explores the diverse contributions of Santal women to their households, communities, and the broader agricultural economy <sup>[15]</sup>.

## 16. Irrigation Facilities in Agriculture

Efforts have been made to improve irrigation facilities, as agriculture is the primary occupation of the Santal



community in the Mayurbhanj district of northern Odisha. Small-scale irrigation projects, such as the construction of tanks and check dams, have been implemented to supplement rain-fed agriculture and enhance water availability for crops <sup>[16]</sup>.

### 17. Farming Techniques of Santal community

Farmers in the Mayurbhanj district rely on traditional farming techniques, such as manual ploughing with bullocks and the use of simple agricultural tools. However, there is a growing awareness of modern agricultural practices, and some farmers have begun adopting modern techniques, including the use of fertilizers and hybrid seeds <sup>[17]</sup>.

### 18. Rain fed Agriculture

The Santal people in the Mayurbhanj district primarily depend on a rain-fed agricultural system. The region relies on monsoon rains, which are crucial for crop cultivation, and farmers depend on the timely arrival and distribution of rainfall for their agricultural activities. This reliance on rain-fed agriculture makes the Santal community vulnerable to fluctuations in rainfall patterns. Inadequate rainfall or drought can lead to crop failure, income loss, and food insecurity, further exacerbating their economic challenges <sup>[18]</sup>.

### 19. Agricultural Changes among the Santals

The Santal people engage in various occupations to sustain their livelihoods. During fieldwork, the researcher collected data on the economic activities of the Santals, which include agriculture, agricultural labour, and cultivation. Kinship ties play a significant role in their agricultural activities, as they rely on their kin members for farming work. Previously, they cultivated their land solely for domestic consumption and sought labour from their kin network within the village. They utilize both primary and secondary kin members for agricultural purposes, fostering a system of mutual support and cooperation <sup>[19]</sup>.

### 20. Cropping Patterns

The primary crop cultivated by the Santal people is paddy, which serves as their staple food. Additionally, they grow a variety of pulses, cereals, oilseeds, and vegetables, which supplement their food supply, enhance nutritional intake, and contribute to their livelihood. These crops are cultivated in both small kitchen gardens and larger agricultural plots, reflecting the community's diverse and sustainable farming practices <sup>[20]</sup>.

### 21. Traditional Seed Storage Practices

The Santal community uses natural materials such as earthen pots, bamboo baskets, and wooden boxes for seed storage, ensuring proper ventilation and preventing spoilage. Before storage, seeds are carefully dried and cleaned to maintain their quality, prevent premature germination, and extend their viability. They are stored in cool, dry, and dark locations, such as lofts or designated rooms, to protect them from humidity, temperature fluctuations, and mildew. Moreover, traditional methods like applying ash or herbal repellents are used to safeguard the seeds from pests and rodents, ensuring a secure and sustainable storage system <sup>[21]</sup>.

### 22. Impact of Agricultural Changes

Kinship ties play a significant role in the agricultural

activities of the Santal tribe in the Mayurbhanj district, fostering a strong sense of cooperation and mutual support. Historically, they depended on kin members for agricultural work, as they primarily cultivated their land for domestic consumption. Hiring labour from outsiders is often challenging due to financial constraints and trust factors, so they rely on their own kin network within the village for assistance in farming activities, ensuring the sustainability of their traditional agricultural practices <sup>[22]</sup>.

### 23. Adoption of Modern Technology

In recent years, some Santal farmers in the Mayurbhanj district of Odisha have begun adopting modern agricultural methods to improve productivity. They are using tractors for ploughing, chemical fertilizers to enhance soil fertility, and pesticides to protect crops from pests and diseases. However, the adoption of these technologies remains limited due to high costs, lack of access to resources, and limited awareness of modern farming techniques. As a result, many Santals continue to rely on traditional farming practices, using tools like the *Datram* (sickle) for harvesting and manual labour for fieldwork, preserving their age-old agricultural heritage <sup>[23]</sup>.

### 24. Signification of the study

The role of Santal women in agriculture in Mayurbhanj district in Odisha, highlights their significant contributions and the various challenges they face. This discussion synthesizes the key findings from the case study, examining the impact of their agricultural activities, the effectiveness of government policies and interventions, and the broader implications for their socio-economic empowerment.

### 25. Find of the study

A study of Santal women in agriculture in Mayurbhanj district in Odisha, highlights their critical contributions, the challenges they face, and the mixed impact of government policies. It emphasizes their vital role in agricultural production while revealing systemic barriers, calling for targeted policy improvements to address their unique needs and enhance their socio-economic well-being.

### 26. Conclusion

The present study aims to assess the development process driving the modernization of the agricultural system within the Santal community of the Mayurbhanj district in Odisha. The implementation of modern and innovative agricultural methods, along with proper monitoring and support, is essential for the sustainable advancement of tribal agriculture. To ensure effective modernization, transparency in the execution of various agricultural programs at the grassroots level is crucial. Currently, the level of technology adoption among the majority of the Santal community in Mayurbhanj remains low. This disparity in technology adoption between tribal and non-tribal farmers in the same region can be attributed to several socio-economic and traditional factors, as well as differing interests, awareness levels, and attitudes toward new agricultural practices. Limited access to agricultural training programs, financial constraints, and inadequate infrastructural support further hinder the widespread adoption of modern farming techniques. Additionally, cultural preferences and a deep-rooted reliance on traditional knowledge systems play a crucial role in shaping the agricultural choices of the Santal

farmers. The findings of this study suggest that factors such as the age of tribal farmers, literacy levels, land ownership size, and access to credit significantly influence the adoption of innovative agricultural practices among the tribal farmers of Mayurbhanj. Strengthening institutional support, enhancing agricultural extension services, and introducing farmer-friendly policies could help accelerate the transition toward modernized agriculture in the region. Overall, the agricultural structure of the Santal community in Mayurbhanj presents a compelling case for understanding the traditional agricultural system of Odisha in Eastern India. Further research and policy interventions are needed to bridge the technological gap and promote sustainable agricultural growth within the community. Encouraging participatory approaches that involve local farmers in decision-making processes and fostering collaborations between governmental and non-governmental organizations can contribute to a more inclusive and effective agricultural development strategy.

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