

International Journal of Advanced Multidisciplinary Research

ISSN: 2393-8870

www.ijarm.com

(A Peer Reviewed, Referred, Indexed and Open Access Journal)

DOI: 10.22192/ijamr

Volume 8, Issue 12 -2021

Research Article

DOI: <http://dx.doi.org/10.22192/ijamr.2021.08.12.009>

Role of Tribal Women in Sustainable Forest Management in South Odisha

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Abstract

Keywords

Tribal Women,
sustainable forest
management,
Eco-feminist theory,
Forest protection,
Forest Conservation,
Forest-based
livelihood,
Forest Policies

Forest plays a significant role in the economic growth and bringing ecological security of a nation. It is the home to indigenous people across the world. There are 750 Adivasi communities in India, consisting of 9% of the total population. In Odisha, 62 tribal groups comprise 22% of the total population and live in and around the forest. Their life and economy are entirely connected with the forest, which plays a vital role in the socio-economic and cultural life of these people. Hence, looking at the perspective of environmental management and livelihood of these communities act as the first stakeholder in bringing ecological and economic security.

The current paper highlights the need for local people to participate in forest management activities. Further, the authors aim to narrate a few case studies related to forest management in South Odisha. The authors also map out the forest products through the seasonal calendar of the villages. They have critically analyzed the policies that help the tribal women to participate in forest management activities.

Introduction

Sustainable forest management is viewed as the sustainable use and conservation of forests to maintain and enhance multiple forest values through human interventions. United Nations defines sustainable forest management as a dynamic concept aims to maintain and improve the economic, social, and environmental values of

all types of forests for the benefit of present and future generations. For centuries, the tribal communities lived in the forest and shared a close relationship with the forest. The life of tribal people entirely revolves around the forest, and they depend upon the forest for their social, cultural, economic, and daily needs. They have better understanding of the forest and its resources. They are the primary stakeholders as

they depend upon forests daily. The perspective of livelihood and environmental management of these communities leads them to be the first stakeholder of forest in bringing ecological and economic security. The women are the major stakeholder of the forest due to the nature of their work and household responsibilities. So, their participation in forest management activities is required for better forest management.

The United Conference on Human Environment of 1972 highlighted environmental conservation and the need for local people's participation in conservation activities. Considering the coexistence with nature, environmental policies must focus on grassroots peoples' participation to manage resources. But, ironically, Indian forest policies in the past excluded them from their access to forest resources and participation in forest management activities. The National Forest Policy of 1988 and its provision of Joint Forest Management (JFM) made the first step towards community participation in forest management activities. This showed the government's concern for the first time towards the participation of these communities in forest management activities. But there were some limitations found in the Act. Again, the Forest Rights Act of 2006 has tried to undo the historical injustice towards tribal and gave the right to the people to conserve, protect, manage and use the forest and its products. But unfortunately, it wasn't seen as rightly implemented in exercising their ownership, participation, and becoming right conscious. At the same time, few national, state, and local NGOs have shouldered to provide the possible support to these communities in accessing their rights and resources.

Forest and tribal community

Tribals in India constitute about 8.6 percent of the country's total population. According to the 2011 census, the total population of tribals in India is 104.3 million, of which 94.1 million live in remote rural areas. Above 50 percent of the tribal population lives in forests and derives their livelihoods from land and forest resources (Haque, 2020). Tribal communities of Scheduled V and VI

Areas depend on forest resources for subsistence and income needs. This is because they do not have many livelihoods opportunities because of the absence of quality education and skills. Their life and economy are connected with the forest, which plays a vital role in their socio-economic and cultural lives (Haque, 2020). For self-consumption and economic purposes, they collect forest products like fruits, fuelwood, fodder, and other NTFP. About 300 million people in India depend upon forests for their subsistence and livelihood, and around 70% of people depend upon the forest for energy needs. For 100 million people, forests are the primary source of livelihood (Biswass, 2003). Forest Provides food security to the forest dwellers and acts as a safety net during the crisis. There has been an everlasting association of tribes with the forest for social, cultural, or livelihood, resulting in more participation of the tribes in managing the forest than other population groups.

Tribal Community and forest management in Odisha

Odisha stands apart from other states for providing numerous examples of community-based and self-initiated institutional arrangements for the protection and management of forest, popularly known as Community Forest Management (CFM). The state has the unique privilege to have many local self-initiated forest protection committees. According to the available estimates, more than twelve thousand community-based forest protection committees are actively involved in forest conservation in the state (S. & Mishra, ND). The CFM practices are mainly done by the marginalized and poor section of the society whose lives and livelihood revolves around the forest. Besides livelihood, the ecological effects of forest degradation like irregular rainfall, loss of soil fertility at the foothill, and drying of rivers and streams made the community people protect the forest. These forest protection activities by the villages also influenced the non-protecting nearby communities in protecting and regenerating the degraded forest areas (M.Singh & K. Singh, 1993) which has also been observed in the villages.

Tribal communities of Odisha

There are 750 Adivasi communities in India, consisting of 9% of the country's total population. Odisha has the third-largest tribal state in India, with Sixty-two tribal groups comprised of 22.8% of the entire state population in Odisha. They are home to 62 Scheduled Tribe communities and 13 particularly vulnerable tribal groups that make up nearly 22% of the state's population (SCSTRTI, 2018). 44% of the total area was declared as Scheduled V area of the state. The southern part of the state constitutes ten districts, mainly concentrated by the tribal population known as the schedule v area. Orissa has 61204 Sq. Km of forest area is 39% of the state's geographical area (FSI, 2019).

The tribal economy in Odisha is subsistence-oriented. They depend upon agriculture, labour work, and majorly upon the forest for their livelihood. Thus their lives are mainly linked with the forests. Forest nurtures their life, and forest ecology's biotic and abiotic components fulfill their socio- social, economic, religious, and cultural needs. They collect their basic amenities from the forest, and their economic life is interwoven with the forest ecosystem.

Theoretical framework:

Eco-feminist approach:

Generally, women can be closer to nature because of their position as mothers and homemakers. The organic relationship between women and nature projects women as both the primary victim of environmental degradation and the most appropriate participants in environmental conservation (Shiva 1988). Chipko movement of Uttaranchal in India is an example of women's collective action towards environment protection. The eco-feminist approach in the present study highlights the discrimination and challenges that tribal women face in forest management activities.

Ecofeminism as a theory is a combination of ideas supporting the fight for women's empowerment and a viable, sustainable environment. According to eco-feminists, nature is a feminist issue. Like the Chipko movement in the Himalayas, women embraced trees to save the forest from the sports good company. This grassroots, nonviolent, women-initiated movement also gave visibility to two primary complaints of local women: commercial felling by contractors damages a large number of unfelled trees, and the teak and eucalyptus monoculture plantations are replacing valuable indigenous forests (Warren , 2018). Similarly, the tribal women in the study area have been protecting the forest from its destruction through their management activities like protecting the trees from its illegal cutting, extinguishing fire collectively and sometimes individually, plantation of indigenous plants, and denying monoculture plantation and so on direct a relationship between nature and women.

Strength-based approach: It focuses on the different ways of looking at the individuals, groups, or communities, and they are to be seen in the light of talents and capabilities. The tribal women already possess local indigenous knowledge of forest management. They know of local resources, which are a strength for the local governance and management over the forest. The tribal women own their forest as they spend most of their time collecting fuelwood, fodder, food, and other NTFP products for their domestic consumption and livelihood. Also, they have developed their mechanisms to protect the forest from external sources. The tribal women's current approaches to forest management like protecting the forest from external affairs, extinguishing forest fire, involvement in regeneration, and conservation activities leading to sustainable forest management in the Kandhamal district of Odisha.

Methodology of the study

The current paper is based on qualitative data. The study is undertaken in two tribal districts of south Odisha, i.e., Koraput and Kandhamal. These two districts are tribal-dominated districts listed under Scheduled V areas of the state. The primary data has been collected using case study and seasonal calendar as a participatory research tool. To understand the participation of tribal women in aspects related to their current forest management approaches like monitoring, protection against fire and external threats, regeneration of the forest, community rules and regulations, etc., has been collected through the case study method. Also, seasonal calendar has been used to understand the collection and use of forest products in the study area.

Study Locale:

Odisha is located in the eastern part of India, surrounded by Jharkhand and West Bengal to the north and north-east, Chhattisgarh in the west, the Bay of Bengal in the east Andhra Pradesh in the south. 85% of the population belongs to the rural area of the state. 22% of the state's people belong to the Scheduled Tribe population (Census, 2011). 37.46% of the state's total geographical area belongs to the forest area (FSI, 2019). There are twelve tribal districts in the state. Kandhamal and Koraput districts, the study area of the present study, are the Scheduled districts of the state with above 50% of the ST population.

Kandhamal district:

Kandhamal district is situated in the southern part of Odisha. High mountains, dense forests cover the district. Kandhamal has 65% of its total land is under forest cover (FSI, 2019). The forest cover of Kandhamal is the highest in the state. The district is dominated by the Scheduled Tribe (ST) population, with 53.8 percent (census, 2011). 90.14% of the population resides in rural areas, and 9.86% lives in the urban area of the district. The district's name 'Kandhamal' is derived from its major inhabitants Kandhas (a Scheduled Tribe

community). 'Kandhas' is a hill tribe, and 'Mala' in Odia means hilly terrain. The district has two subdivisions (Baliguda and Phulbani), twelve community development blocks, 171 Grampanchayats, and 2515 villages. It is among the most backward district of the state. The Scheduled Tribe population living in the districts depends highly upon the forest for their daily life and livelihood.

Koraput district:

The district is bounded by Malkangiri District in the south, Rayagada in the east, and Bastar District of Chhattisgarh in the west. The district has 23.8 % of the total geographical land under forest cover (FSI, 2019). The name Koraput derives its name from its headquarters, the present town of Koraput. Koraput has been declared as a Scheduled Area. The district spreads over a geographical area of 8379 Sq. Km. It is divided into two revenue sub-divisions: Koraput and Jeypore, 14 Tahasils, and 14 community Development Blocks. There are 226 G.P.s, 1985 Revenue villages in the district. Out of the total Koraput population for the 2011 census, 83.61 percent lives in rural regions of the district.

Case study-1: Participation of Rural Tribal Women in Management of Village Forest

Village Name: Pandrimati

District: Koraput, Odisha

Pandrimati is a small forest village in Kundra block of the Koraput district of Odisha. The village consists of 41 houses of Scheduled Tribe population. The village population consists of 64 males and 62 females, totaling 126 numbers of people in the village. The Scheduled Tribe population of the village depends upon the forest for their daily life and economic purposes. The women of the community collect different forest products from the nearby forests and use them daily and sell them in the nearby market for their living. Besides it, they have a forest protection committee in their village. It is the responsibility

of the women to patrol the forest with help from the male members of the community. The community people, especially women, engaged in the forest's protection, conservation, and regeneration.

Protection of forest: In November 2018, like every day when the women group were patrolling the forest, they heard the sound of trees cutting in the forest, then they heard it, they immediately rushed to the place. After reaching there, they realized that a few people from nearby villages were cutting the trees from the forest they had been protecting for a few years. They debarred them from cutting the trees and took away all the tools like axe and other things they used to cut the trees. The village women took them to their village and held a committee meeting. The committee had a discussion, and the tree cutters were told not to cut the trees from their village forest and told they would be penalized if they find for the second time. The women deposited all the wood cutting tools to the committee, and now it is in the committee's hands. From that day, other villagers are not cutting trees from the forest.

Conservation/Regeneration activities: The community people, especially women, engaged in conservation and planted trees in the forest for its regeneration. In 2016 they planted trees like mango, jackfruit, and other fruit-bearing saplings in the forest. Rajani said, 'These trees will give us fruits in the near future, and we shall not allow monoculture plantation which has adverse impact for us and our environment.' In 2018, they opposed the plantation of trees given by the Forest department as the plants are mainly monoculture like eucalyptus, teak, which has several environmental threats. Further, these plants will not benefit the tribal communities as the fruit-bearing trees do. So, the women were planting the saplings, which will give fruits and other benefits to these forest-dwelling communities in their own effort in the forest.

Collection and use of forest resources: Pandrimati village is surrounded by forest. They collect forest products from the forest, such as Mahua, Harada (haritaki), Baheda, Amla (Indian Gooseberry), mushrooms, fruits, leaves, etc. They keep the products for **self-use**, and the rest they sell in the nearby market that acts as an **economical source** for the family. They depend upon the forest for **medicine**. They know a few roots in the forest they collect and use during the crisis. They depend upon the forest for their socio-cultural life. They worship the God and Goddess in the forest *Dam Raja, Damuni Raja*. But still, they have not received the IFR of the land they have cultivated for years.

Case study-2: Role of Tribal Women in Sustainable Forest Management

Village: Sariaput

Dist: Koraput, Odisha

Sariaput is a small forest village in the Nadapur block of the Koraput district of Odisha. Most of the tribals belong to the *Kondh* community. They have a self-initiated forest management group in their village. Before twenty years, when they saw the impact of forest degradation, such as irregular rainfall, increase in temperature, the community members under the leadership of Guntha started managing the forest. They made *Sandhi* (Demarcation) in between the neighboring villages and demarked their specific area in which they didn't allow other villagers to enter into their demarcated forest area. They unanimously decided not to cut the trees and collect the dry leaves and branches for fuelwood for daily use.

A few years back, the forest near the village was destroyed. When the people faced various difficulties such as; accessing resources from the forest like they didn't get anything for the forest and the women of the community had to go far

for collecting fuelwood for the family. Seeing the adversity of the problem, few community members realized the need for forest and developed different techniques of protection, conservation, regeneration, and management of the forest. According to Bimala Ganda, "When we started worshipping in the forest, the amount of forest destruction has been decreasing, and there is a huge difference between forest what was before 25 years and now." Two decades before, they planted trees by worshipping the goddess of the forest. She also added that if we obey the forest God, the forest will fulfill our needs.

According to her, "Having a committee is quite effective in managing the forest; women are organized and can take the initiative to fight against any incident. She added that when the forest officials came to their village for the plantation of commercial plants, the villagers, including the women, protested and didn't allow them for plantation as they were aware of the adversity of the consequences of monoculture plantation.

Forest protection: Few years before, they decided to patrol the forest to save it from external threats. Each day, Five women from the community go to the forest for patrolling. They go there from the morning and return in the evening. They move in the entire forest with an axe, and if they see any person outside of their village, they bring them to the community, then call a community meeting and teach them not to cut down the trees.

Forest conservation: The community people developed their own rules and regulations. They have their mandate like they will not cut the Middle age green trees, fruit-bearing trees, and collect the dry leaves for fuel wood. In case of violation of the rule and regulation of the village, they first aware them of their effort to save the forest; then, if again it repeats, they go for fine. They have collected RS.1000 and Rs.500 as fines from the tree cutters several times. Once forest guards threatened them to plant the commercial plants, they were united and restricted their entry to the community not to grow the commercial plants in their village.

Regeneration of forest: In 1992, when they planned to start the forest management activities, they planted mango, jackfruit, and other trees based on their use and need and took care of the trees. In July 2018, they planted jackfruit, mango, tamarind, cashew trees in their forest.

Case study-3: Role of Rural Tribal Women in Sustainable Forest Management

Village name: Ratumaska

District: Kandhamal

Ratumaska is a small village in the Kandhamal district of Odisha, surrounded by forest from all the corners. It is approximately 40 K.M. away from the district headquarter; a narrow Kakccha road of 3 K.M. leads to the village from Jamjheri, which is the Gram Panchayat of the village. The village consists of fifteen houses and everyone depends upon the forest for their daily, economic, social, and cultural life. The primary source of income derives from agriculture, forest, and labour work. No one in the community is a service holder. There is no Anganwadi in the village, and the children have to walk for 3 K.M. by crossing the forest to reach the nearby Anganwadi. The community women generally go to the forest to collect minor forest produce, fuel wood, and many things that they use in their daily lives.

Forest protection: As forest protectors, they have often protected the forest from fire. Every year there are incidents of forest fire in their forest. They have protected the forest from fire several times. Every year, from 2017 to now, whenever they see fire in the forest, they go there to extinguish it. In April 2021, Pratima Kanhar protected the forest, i.e., 4 K.M. away from their village. Pratima Kanhar said, "she, along with four other community people, including two women, went to extinguish the forest fire. On 16th April 2021, just a week before data collection, Heeramaa Kanhar, aged 50, and her husband went to the forest to control the forest fire at night around 11 PM. Both of them were there up to 3 AM. They don't have any equipment

to manage the forest fire nor received any training. Heerama Kanhar also said, "we don't have any tools to extinguish the fire. To control the forest fire, we collected green branches of trees and beat the fire areas keeping a distance from us." It was impossible to take water to that place as the forest was far from the village. And again, the next day, there was fire in another day when she went along with her son to control it. She had managed the forest fire since she came to the village after her marriage. She also added that she goes to the forest to control the fire with her neighbors and children, whether day or night, whenever they see the fire in the forest. She said the forest department sometimes comes to their village but not always. This year the officials didn't come to control the fire. She added they needed a fire machine to extinguish the fire.

Protection from external threats: In 2017, there was an incident of woodcutting in the forest. When they knew about the incident, they immediately rushed to the forest along with village men to restrain the outsiders from wood cutting. When they reached the place, the woodcutters went from the area. They have never received any handholding support from the government for tree plantation. But as *Pratima Kanhar* said, they help the plants to grow by saving them from the forest fire.

Forest conservation: As a **planner and decision-makers**, the community women attend meetings in their village whenever there is a meeting. They are also allowed to make decisions in the meeting. They also said their opinion matters in the village meeting. The village men also viewed they were allowed to make decisions in the meeting.

As implementers, they carry out all the activities related to forest management assigned to them in the meeting. The women of the committee think women membership in the committee is must for effective forest management. They also added that women couldn't do all the activities related to the forest, so both men and women should be a part of the committee for forest management. They never attended any training programme pertaining to forest management given by the government.

In contrast, 2-3 years back, one NGO is working on the forest issues and the area of their rights.

Their role in **monitoring** is very crucial for forest management. They randomly patrol the forest, while collecting the essential things, if they see forest fire or any external threats, they immediately go to the area and exchange words with the woodcutters to get rid of tree cutting from their area. They also protect the tiny plants from the forest fire, considering their growth and future benefits. Thus, help in the regeneration of the forest. They also mentioned that the government or forest department never gave handholding support in the plantation of forests.

Case study-4: Tribal women in Participatory Forest Management

Village: Tudubali

District: Kandhamal

Tudubali village is located in Tikabali Tehsil of Kandhamal district in Odisha. It is situated 8km away from the block Tikabali and 45km away from district headquarter Phulbani. The total geographical area of the Tudubali village is 209 hectares. Tudubali has a total population of 291 people. There are about 85 houses in Tudubali village. G. Udayagiri is the nearest town to Tudubali, approximately 25km away. Out of this, 128 are males, while the females count 163 here. The total S.T. population is 229, out of which 104 are male and 125 are females. 41% of S.C. people reside in the village out of the 15 are male, and 26 are female. Tudubali village has a lower literacy rate compared to Orissa. As per 2011 census, the literacy rate of Tudubali village was 56.64 % compared to 72.87 % of Orissa. In Tudubali, Male literacy stands at 72.03 %, while the female literacy rate is 43.48 %.

They collect different things from the forest. Season wise they collect other products from the forest. For 80 leaflets that they tie, they get 15 rupees. They spent the in family daily expenses that they receive the money from. Oil, grocery, and for their kid's food, they mainly spent money.

Most of the community females have bank linkages. Very few community members received land entitlement as per the FRA of 2006. They said they don't have Amla, bahada trees in their forest and could give them more employment opportunities.

Forest protection: The protection of forests is the responsibility of the whole community. The community women are majorly engaged in forest protection activities as they spend their maximum time in the forest. There is much evidence that the community women protected the forest from fire and external threats.

In 2019, few community women witnessed forest fire in the reserved forest; within very short notice, all the village women gathered and went to the forest to extinguish the fire. It also needs to mention that they cannot access the reserve forest for their daily use. Still, when they witnessed the fire, they called the forest department, but they didn't come. Then they went to the forest to control the forest fire without waiting further. It was night when they saw the fire in the reserved forest. "We make round and divide patches of forests, creating fire lines and clear out the dry leaves from the ground so that it does not spread the other areas by crossing the line," said *Mrs. Pradhan* of Tudubali village. They were in the forest at night and came home only after forest fire control. It took them four hours to extinguish it.

After a few days, again, they observed forest fire in the forest, and this time it was in their village forest which they protected it which they named *Makudanda* Jungle. Similarly, like before, they assembled in one place, climbed the forest together, and made a fire line by cleaning the dry leaves on one side and keeping a distance in between so that it would not spread further. Along with a few young men, the women went there to control the fire. The indigenous women fire fighters suppressed the forest fire by facing extreme heat and hazardous smoke. As they remarked, the community women are more actively engaged in forest protection activities than male members. They patrol the forest and

report to other female members if they see any wood cutting activities. Then in a group, they go there and debar them from cutting trees.

Regeneration of forest: The community women planted bamboo ten years before. The traditional way of cutting trees helps the forest for its generation. They do not cut the small trees. They don't cut the trees from their roots; instead, they cut the trees above the stem that helps to grow further in a few years.

Forest conservation: In Tudubali, the community owns three forests: *Makudanda* forest, reserved forest, and a village forest. The community people started managing the forest from 1960-70s. They decided to conserve one forest where the wood cutting was not allowed, and another forest was used for their daily needs like fuel wood or other things. Till now, they have been doing the same thing. They don't cut trees from the village forest they have been protecting for years. They call it 'village forest' or '*Gramya Jungle*.' The other forest they use for their daily purposes like; firewood, small timber, and other household purposes. They inform the committee members in case they need wood for house construction otherwise, they don't cut from the protected forest. The women of the community protect the forest from external threats. They continuously visit the forest and prevent them from cutting down trees. Before two days of data collection, the community's women noticed the neighboring village people were cutting the trees. They strongly protested that led the outsiders to leave the place.

Collection and use of forest: The community people depend upon the forest for fulfilling their daily needs. Their social, economic, and cultural life depends upon the forest. They collect different forest products for their self-use and for economic purposes. They sell the products in their village shop individually since they don't have any groups that deal with forest products.

Tribal Women's Livelihood in Forest-Based Industries in South Odisha:

The community women formed an SHG, and they deal with the forest-based livelihood through the group. They collect the forest products and keep them in groups to sell. They sell their own collected forest products and go to other nearby villages and buy the products from them as per the market price. They weight the products in front of them and give the actual price to them. They return to their village and send the male community members to bring the forest products as they can't carry the heavy loads, and the villages are 10-15km away from their place.

They mainly deal with the forest products like; Mahua, *bhalia*, and tamarind available in their forest and nearby forest areas. They keep these products in one's home, and after all the products collected and the prices are high, they sell it. They verify the prices in many places and then sell it at an increased price that they brought from other villages. After they sell it at an increased price, they distribute the profit among them and deposit the rest amount in the bank.

Seasonal Calendar of Forest Products:

A seasonal calendar of forest products describes the dependency and gathering of forest products by the tribal women of a community in a year. This is to map out an entire year's forest produce that they collect for their household consumption and for their livelihood purposes. It is evident from the seasonal calendar that the women access forest throughout the year. A significant part of their income comes from selling forest products. At the same time, the forest acts as a storehouse of food when they need it the most (Padhi & Patel, 2021). They collect various kinds of fruits, roots, green leaves, mushrooms, etc., from the forest that acts as a means of food security during times of crisis.

Seasonal calendar of forest products: I

The below seasonal calendar is of Sariaput village of Nandpur block of Koraput district. Most of the

community people belong to the Kondh tribe, i.e., one of the major tribes of Odisha. The primary source of income is agriculture, labour, and forestry. The women help their husbands in agriculture and collect forest products to make a living. Apart from this they also do labour work. The community women spend 4-5 hours in the forest to collect the forest products like firewood, Sal leaves and spends most of their time harvesting mahua, mango, and other NTFP. They generally go in a group for the collection of the forest products. They use the forest products for their daily consumption and sell in the nearby market to meet their household expenses. The indigenous women also spent the money on their children's education by selling forest products.

In 2019, the community women collected approximately 90 quintals of *Mahua* flower, out of which 70 quintals they sold in the market and 20 quintals kept for household purposes. The tribals are nature worshippers, and they use local liquor (made of Mahua) to worship God and supernatural powers. They sell the Mahua flowers at Rs. 8-10 in the market. Approximately per family, they sell 50-100 kg of it depending upon the collection of mahua and their family size. The more the family size, the more they collect. Their significant income from the forest products comes from selling Mahua flowers.

One of the research participants, Sunadei Pangi, expressed she sold mahua flowers of 5000 at Rs. 10 per Kg of 5 quintals. Similarly, the community women collected Mahua seed locally known as *Gara*, around 60 quintals. Out of which, they kept 20 quintals for self-use and 40 quintals they sold in the market. Similarly, Bimala Ganda collected 70 Kgs of mahua seeds, out of which she kept 30 Kgs for household use and 40 kgs she sold in the market. They keep the quantity depending upon the family size. They get a very little Indian gooseberry (*Amla*) and Hariaki (*Harad*), approximately 80 kgs and 50 kgs, respectively. These products use it for medicinal purposes, and few community women sell *Amla* and *Harida* in the market. Everyone in the community are not collecting it. This is based on own interest in collecting and selling it. The

community women collect Sal and *siali* leaves and make leaflets from the leaves they use as self-consumption and sell. They keep the leaf plates for any celebration, family functions, and winter for the whole year. Other products such as

Mushrooms, roots, leafy vegetables, wild fruits are mainly used for family consumption. Firewood is also an important thing that they collect from forests throughout the year.

Fig. No.-1: Seasonal Calender-1

Product Name	Month												Quantity they collect	
	January	February	March	April	May	June	July	August	September	October	November	December	For Self (in Kg)	For sell (in Kg)
Mahua flower			■	■	■								20 quintals	70 quintals
Gara (Mahua seed)					■	■	■	■					20 quintals	40 quintals
Indian gooseberry									■	■	■		20 Kg	30 Kg
Hariaki(Harad)									■	■	■		20Kg	50Kg
Sal Leaves	■	■	■	■	■	■							*1000 Bundle	*4000 Bundle
Siali leaves	■			■	■	■	■					■	400 Bundle	1000 Bundle
Mushroom							■	■	■				400 Kg	100 Kg
Greenies	■					■	■	■	■		■	■		
Roots	■	■	■			■	■	■	■	■	■	■	800 kg	N.A.

*1 bundle= 80 leaf plates

Seasonal calendar of forest products: II

The following calendar represents the collection and use of forest products of Ratumaska village in Phulbani block of Kandhamal district. The community women sell the forest products in the group. They also collect forest products from nearby villages according to the market price. They keep the products for a few days, and when the market goes up, they sell at a high rate. The community women collected around 250 quintals of *Mahua* flower. They sold the *Mahua* seeds at 25 per Kg. of 50 quintals and got Rs. 125000 by

selling it. They did not get much Indian gooseberry (Amla) or Harikari (Harad) from their area, so very few community women collect it. They sold 1000 bundles of Sal leaf plates and 500 bundles of Siali leaf plates in a year. The leaf plate's price is insufficient, as she mentioned they sold it for Rs. 12 to15 per bundle. They collected the forest foods like mushrooms, roots, and green leaves that they use for cooking that act as a significant part of their daily food. Forest products like; leafy vegetables, fruits, mushrooms, roots, etc., help them during the time of crisis.

Fig. No.-2: Seasonal Calender-2

Product Name	Month												Quantity they collect	
	January	February	March	April	May	June	July	August	September	October	November	December	For Self (in Kg)	For sell (in Kg)
Mahua flower			■	■	■								50 quintal	200 quintals
Gara (Mahua seed)					■	■	■	■					100 Kg	50 quintal
Indian gooseberry										■	■	■	50 Kg	1 quintal
Hariaki(Harad)										■	■	■	20 Kg	50 Kg
Sal Leaves	■	■	■	■	■	■							*300 Bundle	*1000 Bundle
Siali leaves	■			■	■	■	■					■	100 Bundle	500 Bundle
Mushroom							■	■	■				7 Kg	50 Kg
Greenies	■					■	■	■	■		■	■	For daily	N.A.
Roots	■	■	■	■			■	■	■	■	■	■	10 Kg	N.A.

*One bundle = 80 leaf plates

Discussion:

The women's involvement in forest management is more significant from the case studies. The essential activities like gathering, processing, selling women's participation are dominant. At the same time, their participation in forest management activities likes conservation, protection, extinguishing forest fire, safeguarding from external threats through random patrolling especially collecting firewood and other products, signifies the women-nature relationship. This indicates that women are closer to nature because of their household responsibility and also save the forest whenever needed. Similarly (Sarker & Das, 2002) analyses the special relationship between women and the environment or women's 'closeness' to nature based on the material role of women and the natural and spiritual content of women's 'closeness' with nature. Women's involvement in forestry is more significant than

men from the survey report executed by the Forest Department, Govt. of West Bengal.

The seasonal calendars also reflect the dependency of tribal women upon the forest. It has been observed from the seasonal calendars that the rural tribal women depend upon the forest throughout the year for their household use and their economic purposes. A significant part, around 30-50% of their income, comes from selling forest products. However, they get very little money compared to the efforts they put into it for the collection and making it marketable. They walk far, up to 10-15 km in a day in the forest to collect forest products and spend most of their time collecting the forest products but derive less money from it.

It is also observed from the fields that the merchants from the outside of the state go to their village and bring the forest products in significantly less in amount. They make value addition to the products using modern technology and get a huge amount of money out of it. The tribal women should be given training and technical knowledge, including financial help for value addition and marketing of their products. This will help the tribal women for their sustainable livelihood and economic development.

Suggestions of Community Women for Better Forest Management:

Bimla, a woman of Pandrimati village, suggested that the meeting needs to be continued, and awareness to be created among the villagers regarding the importance of forests. Government should provide plantations of trees like; mango, jackfruit, Cashew, and other fruit-bearing trees that will help their daily life and livelihood purposes rather than the monoculture plants. The community women from *Sariaput* of Koraput district suggested that the plantation of black pepper and coffee needs the support of big trees available in their nearby forest. Through this way, the villagers will also benefit, which will also help in forest protection. Coffee will, in return, help their livelihood and forest protection. They will also take care of the coffee scrub, pepper, and supporting trees to manage their forest health. *Heerama Kanhar* suggested to provide some equipment and training to handle the equipment for fire management of their village forest. They could be able to protect the forest fire more efficiently. The committee should be strengthened with the guidance from govt./NGO and continuation of the meeting must be held in every village for better management of forest and its resources. Further, increasing environmental literacy and engagement of stakeholders could benefit in sustainable forest management.

On the other side, community-based organizations should be more proactive in creating awareness among beneficiaries on forest management, including men and women. Community forest

management plans should be undertaken in every village in the forest area. The community rights over the forest and its resources must be recognized as per the FRA, 2006. Inter-departmental coordination must be created between the line departments for better implementation of the grassroots-level policies. Also, forest-based livelihood should be promoted in every village by giving them proper training, and marketing of these products must be ensured.

Govt. Policies and People's Participation:

International initiatives such as; United Nations Conference on Human Environment of 197 and the World Commission on Environment and Development in 1987 highlighted the role of decentralization of governance and community participation in natural resource management. As a result of the international pressure, India constituted the national forest policy of 1988. The provisions involve the local community in forestry activities, and the Forest Rights Act, 2006 recognizes the local community rights over forestry and involves the community in forest management activities.

National Forest Policy of 1988 and its provision of JFM:

For the first time, the National Forest Policy of 1988 recognized the need for people's participation in India. In 1990 it made the Provision of Joint Forest Management (JFM) to participate in forestry activities that were denied earlier. Odisha made its rules and implemented the program in 1993. JFM represented a significant policy shift in forest management. The forest department works with the NGOs for service delivery. As of now, 27 states in India have adopted JFM, and over 62,800 forest protection committees (FPCs) are protecting about 14.4 million ha (Mha) of forest in the country (Murali, et al., 2002). Local people living in and around forests were alleged to be encroachers in the past were invited to be a stakeholder in the protection of forests. (Kumari & Philip, 2020).

JFM and the state of Odisha

No. of committees	Forest covered by JFM(%)	Families (in number)
12,494	19.76	6,45,741

Source: Forest Research Institute, 2011

Challenges of JFM:

1. The problem of coordination:

There are three different committees in the village for the management of forests; one is the forest protection committee by the people, VSS constituted by the Forest department (F.D.), and FRC as per Forest Right Act.

2. Forest department's attitude towards people:

The antipathy of the forest department towards the people for the protection of forests and the involvement of local people in forest management often pose a challenge for the success of JFM in the state (Rout, n.d.).

3. The problem of forest boundaries among the communities:

The major drawback of the policy is that inter-village boundary issues arise in JFM. The protecting community usually never allows other communities to the forest and its resources.

4. Decision-making in the hands of the Forest Department:

The matters related to the community forest are with the forest department. The committee has forest department representatives. Thus, the community people can't make their own decision and can't utilize the funds without prior intimation to the department.

The Schedules Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, FRA, 2006:

The Act readdresses the 'historical injustice' committed against the country's scheduled tribe and other forest dwellers in previous laws. The law concerns the rights of the forest-dwelling communities to land and other resources that have been denied to them over decades because of the continuance of colonial forest laws in India. It seeks to transform the structure and nature of forest governance by allowing legal recognition of forest lands to the communities. It recognizes two kinds of rights of the forest dwellers, i.e., Individual Forest Rights (IFR) over forest lands and Community Forest Rights (CFR) to protect and access to community resources. Lack of awareness among the beneficiaries,

The main provision of the Act:

-) The right to hold and live in the forest area for habitation and cultivation by ST and OTFD.
-) The right of ownership and access to collect, use and dispose of minor forest products.
-) The right to protect, regenerate, conserve or manage any community forest resource.
-) Right to access to biodiversity and community right to traditional knowledge related to biodiversity and cultural diversity.

Conclusion

Community involvement in matters related to forest management is a critical aspect of fighting against livelihood issues and climate change that the world is facing today. Adivasis have their own indigenous knowledge related to forest conservation. The Adivasi women, through their current approaches like monitoring through random patrolling, regeneration through planting new plants and taking care of them, protection through extinguishing forest fire, conservation through village rules and regulations, manage the forest. The case studies signify the theoretical line of eco-feminists that describes the women and nature relationship and their involvement in protecting the forest whenever they need. Ecofeminism emerged as a response to the large-scale destruction of the environment and the subsequent impact on women. And the impact of forest destruction led the women to manage the forest and the environment. The community women are not the mere beneficiaries of the forest rather, they also protect and manage the forest. They play a significant role in conserving the ecosystem, protecting nature, and mitigating climate change. The community survival also depends upon forest and vice versa. The policy that fosters community and women's participation in forest activities needs to be worked in true letter and spirit. Lack of awareness among the beneficiaries, IFR and CFR claims has not been recognized by the concerned authority, Lack of coordination among the line departments are few significant shortfalls of the Act. The village-level institutions like forest management committees should genuinely involve women at the ground level and recognize their efforts in protecting and managing the forest.

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	Website: www.ijarm.com
	Subject: Women in Forest management
Quick Response Code	
DOI: 10.22192/ijamr.2021.08.12.009	

How to cite this article:

Sasmita Padhi & Sasmita Patel. (2021). Role of Tribal Women in Sustainable Forest Management in South Odisha. *Int. J. Adv. Multidiscip. Res.* 8(12): 80-94.
DOI: <http://dx.doi.org/10.22192/ijamr.2021.08.12.009>