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Tutelage of Traditional Forest Management in Public Policy: Excerpts from a Case of Dhurwa in Bastar

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Abstract

Agriculture becomes the major source of livelihood for the majority of the forest-dwelling communities in India. Traditional livelihoods such as hunting and gathering, fishing, and shifting cultivation have come down due to shrinking forest coverage and reservation for commercial purposes in the name of scientific forestry. Most of the forest dwellers are displaced for the cause of mining, big dams, and other multi-purpose developmental projects. It made them to depend on agriculture to a great extent. However, the lack of irrigation facilities, modern farming methods, low technology, and undulating landholdings led to low yields for *Adivasi* and hence they rely on forests for alternative livelihood. Thus, forests play an important role not only in employment but the supply of timber and non-timber forest produce for domestic use, nutritional supplements, medicinal herbs, etc. Due to its significance, *Adivasi* communities maintain a symbiotic relationship with their surrounding forest ecology and conserve them through the worship of sacred groves. Collection of seasonal fruits, Bamboo, *Mahuwa*, and *Tendu* leaves are initiated only after appeasing the presiding deities in the form of first fruit ceremonies. However, the entry of commercialization and comodification of forests led to its ruthless exploitation and forced forest dwellers to migrate to urban centers for wage labor. More than fifteen policies were made during colonial and post-colonial people that curtailed the rights of forest dwellers in many ways. However, the recently made amendment to the Forest Conservation Act 1980 is detrimental to the interests of these forest dwellers by putting forest lands to non-forest uses for economic gains. With this backdrop, the present paper highlights the traditional management of Dhurwa for its tutelage in policy formulation. The study found that traditional management of forest resources has resorted to an adaptive strategy in difficult times. The present study is a micro-level one that employed traditional anthropological methods i.e., observation, key informant interviews, group discussions, and questionnaires to collect empirical data

Keywords: Forest resources, conservation, management, coping mechanism, afforestation, forest department

Introduction

Forests play not only an important means for the state exchequer but are also crucial for the livelihoods of the millions of forest-dwelling communities in India. Even though agriculture and its related activities procure major livelihoods in the present context, forests still provide alternative options in case of droughts, crop failure, and low yields, to earn instant subsistence to fulfill the daily needs of its fringe communities. Due to this reason, forest dwellers maintain a symbiotic relationship with the forests and worship natural resources in the form of their totems, gods and goddesses. But with the entry of colonial rulers, the symbiotic relationship was affected by the introduction of scientific forestry which aimed to exploit the forests for commercial purposes. Thus, scientific management has become a debatable issue in the post-independent era and reiterated many alternatives for forest conservation. Even after Independence, the thick forest vegetation is cleared for development and encouraging the plantation of mono-varieties for commercial interests. As a result, deforestation was intensified at the cost of the development of human society at large. Eventually, the degeneration of forest resources has not only affected climate change but also made serious dents in the livelihoods of the dependent communities. The frequent natural disasters in the form of landslides, flash floods, cloud bursts, cyclones, etc., led to the initiation of measures for enhancing forest coverage which is essential for requisite green coverage and sustainable development.

As per the India State of Forest Report (2021) survey, 23.58% of the total geographical area consists of forest coverage in India against the ideal coverage of 33%. As such government was making serious efforts to increase forest coverage by creating Forest Protection Groups (FPGs) under Joint Forest Management through the New Forest Policy 1988. However, the conservation dictum is already enshrined in the cultural ethos of *Adivasi* since they depended on forests for livelihood for generations. The use of forests for commercial purposes was realized by the colonialists and hence introduced scientific forest management. Historically, the first forest policy was implemented in 1855 wherein the British government restricted the rights of forest dwellers in their surrounding forests. To implement this policy, the British established the Forest Department and administrative mechanism to restrict the supply of wood for private purposes and protection of biodiversity. The main objective was to treat the forests as state property and restrict the rights of forest dwellers in the name of scientific conservation.

In 1865, the first Forest Act was passed under British rule for the management and conservation of forests. Under this act, the government was empowered to make legislation relating to forest conservation i.e., the administration was empowered to punish if anyone breaches the provisions of the act. As such the common property of forests comes under authority and control of the government. This act was revised and reformulated as the first Indian Forest Act of 1878 which categorizes forests into three types such as reserve, protected, and village forests. It notifies forest dwellers to prefer

their claims over land and forest produce in the proposed reserve forests. However, certain acts like trespass and pasturing of cattle were continued.

The first National Forest Policy (NFP) was formulated in India in 1894 with the motive of the conservation of forests as a priority and public benefits as the secondary objective of the forest administration. This policy treated revenue generation from forests as secondary as the 1854 Forest Policy was exploited for commercial purposes. However, it clearly stated that the government could impose restrictions on the rights of the forest dwellers because the state was the sole administering authority over the forests. In this policy, tribals and rural landless could easily be deprived of their source of livelihood. Due to this, they suffered from malnutrition, impoverishment, and indebtedness. However, this could not save the forest as it led to over-exploitation of forests. As such scientific forestry was initiated in the first quarter of the 20th century and received great attention among social scientists and environmentalists. To protect the forest, the government made attempts to restrict the felling of trees in the forest and encouraged the regeneration of forests and *silvi* cultural systems in different forests.

The New Forest Act was formulated in 1927 with new codified rules on people's rights over forest land and produce. However, this act also strengthened the provisions of the 1894 forest policy with its main objective to increase the revenue for the government. In post-independent India, a National Forest Policy was formulated in 1952 to cater to the needs of the forest dwellers as well as the conservation. Unlike the 1894 policy, it categorized the forests into protected, national, and village forests along with a new category of tree lands. This policy also clearly stated that the local interests are subservient to the national interest in terms of its usage. Further, this policy clearly stated that village communities in the neighborhood of forests will naturally make greater use of its products for the satisfaction of their domestic and agricultural needs. Such use should be curtailed at the cost of national needs.

The social forestry program was launched in 1976 to manage and protect the forests for social and rural development. The main objective of social forestry is to encourage a mixed production system including fruits, fodder, grass, fuel wood, fiber, and small timber, involvement of locals in the planning, etc. Later, it did not reach up to the expectations as people have undertaken mono-varieties such as *eucalyptus* to supply wood for industrial purposes. To get rid of all the loopholes in earlier policies, a historic move was made by the central government in the form of the National Forest Policy, 1988. The main goal of this policy is to maintain at least one-third of the total land area under forests or tree cover whereas in the hills and mountains, it is a two-thirds area of the land. Thus, the 1988 forest policy understood the significance of the symbiotic relationship between the *Adivasi* and forests and hence made them partners in conservation efforts through the creation of Forest Protection Committees (FPCs). It was also stated that the primary task of all agencies and forest development corporations is to associate the fringe communities in the protection, regeneration, and development of forests. The policy intended that shifting cultivation has been affecting the forests adversely and hence to discourage this age-old customary practice, it envisaged a shift

from shifting cultivation to profit-oriented agriculture. But there is planned sabotage taking place in forest areas by squashing the indigenous way of living as superstitious and healing with medicinal herbs as barbarous. Despite this modernistic view, *Adivasi* still depends on forests for their survival in terms of timber for the creation of shelter, non-timber produces for the cash economy, roots and tubers, vegetable leaves, fruits, nuts for nutrition, herbs for treatment, etc. Its significance in daily life has also been studied by many scholars from time to time and demonstrated its role in rural and tribal economies.

Bahuguna (2000) assessed the benefits that accrue from the forests for the welfare of society. To determine the contribution of the rural economy, the scholar studied the socio-economic conditions of the people living in and around forest areas of 26 villages of Madhya Pradesh, Orissa, and Gujarat. The analysis of income for villages in Madhya Pradesh and Gujarat revealed that 48.7% of the total income of people derived from forests whereas the average dependence of people on forests for their income is 53.3%. The study pinpoints the need for adequate investments to enhance the productivity of forests to reduce the pressure from unsustainable harvesting.

Minoo Parabia (2007) revealed that in India tribal people use more than 6000 species in their healing as indigenous healing systems. But modern development led to over-exploitation of the forest environment resulting loss of these species or plants. Amit Mitra (2007) argued that the forest environment in Jharkhand has deteriorated to such an extent that no healing herbs are available as it is evident from the approach of Santhal to some private medical practitioners in Dumka district and least i.e., 2% dependence on their traditional healers.

Nandini Sundar and others (1996) revealed that forest management is dependent on historical factors rather than recent legal mechanisms. Land revenue records of the *Dalki* forest area of Lapanga, management was undertaken by villagers through the common contribution of paddy to its caretaker. The stakeholders are classified into three categories i.e., *Praja A*, *Praja B*, and *Sukhvasis*, and procure timber on concessional rates as per their contribution in terms of forest protection. Traditional forest protection committees not only manage the *Dalki* forest but also contribute generously to the village development as well as the organization of festivals. Studies conducted by Warner (2000), Dubois (2003), Pandey (2009), Phondhani et al (2010), Saha and Sundriyal (2013) and so on also delineated how forest resources are complimenting the livelihoods of the poor during exigencies.

To conserve forests, many environmental movements led by dependent or fringe communities have become a matter of concern in the discourse of ecological anthropology. The above studies also focus on social and cultural institutions in the conservation and preservation of natural forests for sustainable development. Increasing deforestation and usurpation of natural resources have kindled a debate over the livelihoods/subsistence options available for tribal communities in the present context. These debates contributed to the understanding of the dynamics of resource use patterns and their adaptive methods. As such, there is a growing concern for the inclusion of such ingenious traditional institutions and methods for the sustainable use of forests. Under

these circumstances, the case of Dhurwa in the Bastar region is a living example of understanding the traditional resource management methods for environmental conservation and sustainable development of forest dwellers.

In terms of the concentration of tribal population, Chhattisgarh has 6.62 million (30.6%) against the all-India Scheduled Tribe population i.e., 84.33 million in the country. It is the highest percentage of the tribal population after Madhya Pradesh. Of which, Bastar (57.36%), Sarguja (53.66%), Raigad (47.70%), Rajnandgaon (25.16%), Bilaspur (23.03%), Raipur (18.27%) Durg (13.56%) are the tribal-dominated districts. The state is covered with rich natural mineral resources like iron, coal, bauxite, tin, and dolomite. Out of 1,35,192 sq. kilometers of geographical area, Chhattisgarh consists of 59,816 sq. kilometers i.e., 44.25% forest coverage. Thus, Bastar is predominantly occupied by *Adivasi* communities like Dhurwa, Bison Horn Maria, Halba, Bhatra, Gadba, Dorla, Abujhmaria, and Muria. Despite their linguistic and physical similarity, they possess unique socio-cultural identities and survive on the natural resources of the *Dandakaranya* forest followed by cultivation, animal husbandry, and wage labor. Some of them are experts in *dokra* art, basketry, terracotta figurines, etc. They are also dependent on minor forest produce as an alternative livelihood. Every year, they organize seasonal festivals according to their traditional calendar for utilization of resources.

Traditionally Dhurwa depended on *Dandakaranya* forests for generations and maintained symbiotic relationships with them as their survival is solely dependent on the forests. They are worse affected by colonial forest policies and victims of exploitation in the hands of non-tribal contractors, merchants, revenue, and forest officials for generations. They fought against colonial rulers to protect their rights over forests through various movements. During colonial rule, in 1910 *Bhumkal* movement led by Gunda Dhur from the Dhurwa community forced the British to reduce the reserve forest coverage from its original plan. In post-Independence also same practice of keeping forest dwellers away from the forest and reserving them for industrial use was continued. In the 1970s, the World Bank proposed to convert the 4,600 hectares of natural *Sal* Forest to tropical pine coverage to supply pulp to paper mills. With the protests of environmentalists and people, the project was stopped. With the tremendous pressure of the Forest Department, they abandoned the age-old practice of shifting cultivation and adopted the neolithic form of primitive agriculture. Recent amendments to the Forest Conservation Act, of 1980 allow forests for non-forest purposes was a concern for academia. Despite all enforceable legislative provisions to encroach on the rights of forest dwellers, Dhurwa manages the surrounding forests with their traditional wisdom and ensures their conservation. With this backdrop, the present paper documents the ingenious forest management skills of the Dhurwa and the institutional frameworks in access, utilization, conservation, and preservation of forest resources.

Objective and Methodology

The main objective of the present paper is to document the collection and management of forest resources by Dhurwa of Bastar and the role of institutions in the optimum utilization of forest resources. Further, an effort is also made to understand the dynamics

of institutional frameworks in the organization of people's participation in the conservation of forests.

The present study is a micro-level study aimed at understanding the forest resource utilization pattern of the Dhurwa and the role of the institutional framework in forest management and its relation with socio-cultural practices. To meet the above-mentioned objective, primary data was collected through intensive fieldwork in Chhindawada *Gram Panchayat* in 2019. To fulfil the objectives of the study, qualitative anthropological techniques were conceived as important for the study. These are mainly observation, key informant interviews, focus group discussions, and formal and informal interviews using a detailed checklist. Further secondary data was collected through books, journals, census reports, etc.

The Study Area

For the present study, the Dhurwa-dominated Chhindawada in Darbha Block of Bastar district, Chhattisgarh were selected and studied intensively from an anthropological perspective. The total population of Darbha block is 79,360 consisting of 38,971 males and 38971 females.

Table 1: Population Details of Study Blocks, 2011

Sl.No.	Name of the Tehsil	No. of living villages	Male population	Female population	Total population
01	Bastanar	44	23,704	25,630	49,334
02	Darbha	68	38,971	38,971	79,360

Source: Census of India, 2011

In Darbha Block, Dhurwa inhabits many villages such as Mamadpal, Chandragiri, Bispur, Kelaur, Katekalyan, Teerathgarh, Kamanar, Neganar, Chhindpal, Maulipadar, Kesapur, Chhindabhar, Tapawada, Karkapal, Kotlipal, Saautana, Ukanar, Okawada, Koleng, Chingur, Darbha, Dilimili, Chitapur etc. Chhindawada is one such village in Darbha block which is dominated by Dhurwa situated at a distance of 40 kilometres in the Southern direction of Jagadapur. They used to live in small hamlets known as *Paras*. The purpose of the selection of Chhindawada village is that the highest number of the Dhurwa population is surrounded by forests and mountains.

Chhindawada mainly consists of 16 *Paras* such as Mundapara, Junapara, Rampal, Kawaras, Padarpara, Mendabhata, Gonchapura, Peramaras, Kokarras, Litipal, Koynapara, Manjhigudapara, Uparras, Dhurraas, Jamgudapara and Dhapnipara.

Table 2: Hamlet wise Demography Details of Chhindawada, 2019

Sl. No	Hamlet	Household	Male	%	Female	%	Total	%
1	Kawaras	130	312	15.68	338	15.96	650	15.83
2	Mundapara	62	132	6.63	155	7.32	287	6.98
3	Padarpara	39	93	4.67	107	5.05	200	4.87
4	Manjhigudapara	28	68	3.41	61	2.88	129	3.14
5	Litipal	20	43	2.16	45	2.12	88	2.14
6	Dhapnipara	23	67	3.36	64	3.02	131	3.19

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7	Mendabhata	60	152	7.64	166	7.84	318	7.74
8	Gonchapura	35	104	5.22	110	5.19	214	5.21
9	Permaras	63	155	7.79	158	7.46	313	7.62
10	Kokarras	63	151	7.59	155	7.32	306	7.45
11	Jamguda	30	71	3.56	70	3.30	141	3.43
12	Rampal	85	167	8.39	197	9.30	364	8.86
13	Dhurras	59	150	7.54	162	7.65	312	7.59
14	Junapura	73	127	6.38	138	6.51	265	6.45
15	Uparras	43	116	5.83	105	4.95	221	5.38
16	Koyanapura	34	81	4.07	86	4.06	167	4.06
Total		847	1989	99.92	2117	99.93	4106	99.94

Source: Bindu Sahu, 2019

According to the 2019 household census, the total population of Chhindawada village comes to 4,106 of which, the male population was 1,989 (48.44 percent) and the female population was 2,117 (51.55 percent). From this census, it is known that the numbers of women are outnumbering the men who contribute a major portion of family income. The majority of the population of the study village Chhindawada belongs to Dhurwa (3,144) followed by Mahara, Maria, Rout, Brahmin, Kalar, Sundi, Kumhar, Dhakad, Halba, and Lohar. Except for Mahara, other community members are very less. The population details of the Dhurwa tribe are mentioned below to understand the demography of the study village.

The total area of Chhindawada is 3,006.6 hectares consisting of agricultural cropland, forests, *Banjar*, grazing, etc. The table provides the details of both government and non-governmental land details of Chhindawada villages.

Table 3: Geographical Area of Chhindawada Village

Sl.No.	Non-Government Land	1691.655 Hectares	Government Land	1315.018 Hectares
1.	Non-workable land	30.680	Forest	74.130
2.	Arable land	43.770	Non-functional land	43.610
3.	Cropland	1400.660	Non-possessed land	236.600
4.	Bifocal land	103.600	Pasture area	169.520
5.	-	-	Agricultural land	774.558
6.	-	-	Cropland	16.600
7.	Other	112.945	-	-

Source: Jagadapur Forest Department, 2019

Though agriculture is the mainstay in this region, dependence on minor and major forests is more. The sale of different varieties of forest produce in frequent weekly markets of Bastar is testimony to this fact. Hence, the present study focuses on available forest resources in this region and their management.

Forest Management by Dhurwa

The *Dandakaranya* forest region of Chhindawada receives the highest rainfall which facilitates the availability of different varieties of timber and non-timber forest produce. It is the chief source of livelihood for Dhurwa in many ways. During the rainy season, *Jharnas* (water springs) and waterfalls overflow in the forest, and the run-off water is stored at different places through dug-outs in low-lying areas. Thus, water flown from the top hill or uplands is channeled through *Nallahs* (small water streams) to make *Munda* (pond) which is used for irrigation as well as for drinking purposes. Dhurwa ventures into the forest whenever they find leisure for hunting small game, trapping birds, honey collection, and timber and non-timber forest produce. Bamboo is one among them which is crucial not only for the manufacture of household articles but a source of food subsistence.

Vendri or Baas (Bamboo)

In the study area, altogether twelve varieties of bamboo are available. They are mainly *Dongarbaas*, *Junglebaas*, *Barhabaas*, *Kaandabaas*, *Paanibaas*, *Silikbaas*, *Kodobaas*, *Baawaribaas*, *Bendrabaas*, *Sundarkoyabaas*, *Bansuribaas*, *Baalebaas*. They are available in different seasons and subjected to use as vegetables, making household articles, hunting and fishing implements, house making, etc. The *Dongarbaas* (stout bamboo) is used for making *Gaapa* (grain baskets), *Tati* (mat), *Sohli* (bag filter), *Dhakari* (baggage bag), *Koraguda* (poultry shelter), bow and arrow, *Supa* (winnowing fan), *Chhirnikadi* (instrument), *Chepa* (fish drying material) and *Gari* (fish picking equipment), etc. At first instance, the collected bamboo is split into elongated pieces and dried in the hot sun. Later, the split bundles are soaked in water for about two to three hours. Further, it is also used for house making, musical instruments, fencing around the homestead, cattle sheds, and shelter for other livestock, and agricultural implements such as *Rapa* (Shovel or *Phavda*), *Hasia* (sickle), *Gadari* (big knife) and wall of the house, etc. *Dongarbaas* is treated as a sacred one which is used to forecast the availability of rainfall by Dhurwa. Generally, it bears no flowers in normal conditions. It is believed that if the flowering occurs on the plant and then dries, it is an indication of drought in the forthcoming days. A knowledgeable person also uses this bamboo to know the availability of groundwater sources. To identify the exact source, the land owner keeps a piece of stout bamboo on his palm and moves around the field. Wherever groundwater is available, the bamboo will erect a standing position automatically. There they earmark the place and start digging the place for making a well.

Baasta (Tender Bamboo Shoots)

Tender bamboo shoots are available during *Sawan* (July-August) and are used as a vegetable. Dhurwa refers to it as *Kaarul* in their local parlance. During this season, tender shoots are dug out near the parent bamboo carefully and peeled off the outer layer, and prepare *Sabji* (curry). Dhurwa children also consume raw ones as a snack. The excess collection is dried in the hot sun and stored for consumption in the lean season as well as

for sale in the weekly market. Both the *Kutchra* (tender) and *Sukka* (dried) varieties of *Baasta* are sold in local *Bazaar* (weekly markets) during its season. It is believed that the delivered mothers are given *Baasta* as a staple food to recover from postpartum weakness.

Need (Hardwood)

In the study area, people collect different varieties of wood for fuelwood, house making, pens for livestock, furniture, etc. The dried twigs of *Sargi*, *Vedama*, *Kusum*, *Magnum*, *Mango*, *Tendu*, *Paalod*, *Kirsa*, *Chhind*, *Kumu*, *Karanji*, *Mahuwa*, *Aaden*, *Hirla*, *Karla* and *Siwna* are collected as a part of fuelwood. Further, *Sargi* and *Sivana* are also used for making houses and cattle sheds. The wood of *Sargi*, *Siwna*, and *Jamun* is also collected for making roof structures.

Kurdhel (Roots and Tubers)

During the lean period, Dhurwa collected roots and tubers from the forest with simple hoes and digging sticks. They use it as a substitute for their regular food sources of different seasons. Further some varieties of roots and tubers are praised by non-tribes and hence it is sold during the weekly market. Due to its commercial value, some varieties are cultivated in kitchen gardens nowadays. Whenever they collect *Kurdhel*, some portion is left for its rejuvenation. They used to collect *Saronda*, *Duben*, *Kadjil*, *Taada*, *Pitey*, *Khidni*, *Targariya*, and *Kevur* varieties from the forest throughout the year. Of which, the collection of *Targaariya* in rainy and *Kadjil* in winter are subjected to the availability of good rainfall. In autumn, the availability of *Saronda*, *Duben*, *Taada*, *Peetey*, *Kidni*, and *Kevur* is higher and its availability is subjected to good moisture. In case of scanty rainfall, the availability of these roots and tubers is uncertain.

Generally, they do not collect tubers in the rainy season as the dampness of heavy rains prevents them from entering the forest. Further, some of the tubers were rotten inside the pit. Except for this season, they collect tubers from time to time and dry the excess collection for storage.

Pihiri (Mushrooms) and Bodel (Truffle)

Dhurwa ventures into the forest soon after heavy thunders, followed by rains to collect mushrooms. In the study area, Dhurwa gathers different varieties of mushrooms at different locations. Due to its demand, the collection is sold instantly on its way to the weekly market. The excess collection is also dried in the hot sun and stored for a lien period. Whenever they feel to consume, a handful of dried ones are soaked in hot water and prepared as a curry. Besides mushrooms, a small and round-shaped white and black colored *Bodel* is also gathered by Dhurwa in the first monsoon period. Both are having high demand in the weekly market and are sold at the rate of Rs.250/- per kilogram.

Kuchchaor Baaji (Wild Vegetable Leaves)

Many varieties of wild vegetable leaves are collected by the Dhurwa from the agricultural fields and nearby forests. They are mainly *Koiliari*, *Korkuti*, *Aavali*, *Korvel*, *Bhenda (Khattabaaji)*, *Boar*, *Charota*, *Peepal*, and *Meechi*, etc. Thus, collected vegetable leaves are used as additives in making curry by mixing them with other vegetables, meat, and fish. Some of the vegetable leaves are also consumed for medicinal purposes.

Aevor Dona (Receptacles)

The leaves of *Sargi*, *Siyyadi*, *Tendu*, *Kumu*, *Paalod*, *Mahuwa* and *Kirich* are collected by Dhurwa. Before the collection of *Kirisi* and *Paalod* leaves, Dhurwa offers worship first at their family temple with rice and *Dal* on the leaves of *Paalod*. They use these leaves for socio-cultural, economic, and religious purposes. They prepare *Dona* (leaf cups) and plates with these leaves for self-consumption as well as for sale in the open market.

The leaves of *Sargi*, *Siyyadi*, and *Mahuwa* leaves are collected in plenty from the nearby forest and are used for making receptacles. They use them during ceremonial feastings, liquor consumption, religious offerings, carrying minor forest produce, hunted meat, etc. These receptacles are hand-knit with splits of *Silak* bamboo. *Sargi* plays an important role in the life of the tribes of Bastar as it is known as *Charungi* by Dhurwa. Different varieties of receptacles are made with this leaf known as *Dobla* (bowl), *Mundi Doni* (small bowl), *Pattal* (plate), and *Chokni* (cup). They offer *Landa*, *Mahuwa*, and *Sulfi* in *such* cups whereas ceremonial feast food is served in *Sargi* bowls and plates. These leaves are also used during life cycle rituals such as birth, marriage, and death. During childbirth, the newborn child tastes *Mahuwa* in a *Chokni* to the child, during marriage water pots are covered with *Sargi* leaves to avoid contact with an evil eye, during worship, they offer rice, turmeric powder or pieces, eggs, and even chicks in *Chokni* to the deity, etc. During the funeral, the last food is served on a *Sargi* leaf plate to the deceased. During rituals, it is customary to bring rice, *Hazari* flowers, incense sticks and coconut to the deity by the heads of all the households in leaf cups.

Dobla (leaf bowl) made with *Sargi* is used in daily life as well as for sale in the open market by packing fifty pieces bunch costs around 100/-. Whereas thirty pieces of *Chokni* are sold at the rate of Rs. 50/- to Rs. 60/-. The *Siyyadi* leaves are exclusively used for religious purposes to keep water, sacrificial blood, food, etc. *Mahuwa* leaves are also used during festive occasions to offer *Mahuwamand*, *Haldi*, *puja* material, and even sacrificial chicks and eggs. The leaves are manually knit and no tools are used for making these plates. During ceremonial occasions, they prepare hand-woven receptacles in bulk and consume the food in them.

Paak (Fruits) and Bitkel (Nuts)

Locally available *Kaatakuli*, *Tenduphal*, *Chichondh*, *Aavla*, *Keerich*, *Siyyadi*, *Phulodi*, *Seethe phal*, *Beloti (Jamun)*, *Kusum*, *Chaar*, *Id* or *Chhind*, *Imli*, *Aam* (mango), and *Guava*

fruits are collected by Dhurwa through-out the year in the forest. The fruits, nuts, and berries are supplementing the nutrients and minerals of their children. Some of the fruits are sold in weekly markets and thus earn a good amount of money.

Besides, they also collect seeds and nuts of *Sargi*, *Siyyadi*, *Keerich*, *Mahuwa*, *Kusum*, *Aam*, *Karla*, *Kirisa* and *Imli* for self-use as well as for market. *Sargi* nuts are used in soap making, mango nuts for medicinal purposes, and the remaining *Mahuwa*, *Keerich*, *Kusum*, and *Kirisa* nuts for the extraction of oil which is used for vegetable purposes.

Perkal or Dhatun (Chew stick)

It is a teeth-cleaning chew stick collected throughout the year for self-use as well as for sale since it has great demand in Bastar. Generally, the sticks of *Sargi*, *Sivana*, and *Sal* are collected as *Dhatun* by Dhurwa.

Vedde (Medicinal Herbs)

Barks of *Jhaal*, *Hazari*, *Neelgiri*, *Imli*, *Beeja*, mango, *Reni*, and yam; roots of *Laajpurin*, *Kukudichendi*, *Kaachari*; tubers of *Chivur*, *Kuramasala*, *Matiya*, *Maalachi*; leaves of *Aanapadum*, *Repa*, *Kuraamsala*, *Matiya*, fruits of *Belwa* and *Kakadama* are collected from the forest for medicinal purpose. The existence of indigenous ethnomedicinal as well as veterinary practices is testimony to the fact that *Dandakaranya* is the abode of many varieties of medicinal herbs.

Kenil or Chapda (Red Ants)

In Bastar, red ants are available throughout the year on *Mahuwa* trees. *Chutney* is made with this *Chapda* by grinding on stone along with ginger, garlic, salt, and red *chili*. Further, they also made a kind of recipe by adding curd, brinjal, *Channa*, *Semi*, *Koliyaaribaaji*, and *Chapda* which is known as *Aamat*. It is relished very much by the people of the study area who prepare curry by mixing it with brinjal, beans, and potato as they believe that consumption of *Chapda* is healthy and prevents malaria.

Pochcha (Wild Grass)

In the forest, a wide variety of wild grass is available in different seasons. Mainly, women folk collect the wild grass while returning from the forest on head loads and drying in the hot sun. *Daab*, *Sukul*, *Karkari*, *Ukada*, *Chind*, and *Khaar* are the major varieties of wild grass available in the nearby forest area. Thus, dried grass is stored in the *attic* of their house and used during rope making after soaking in water. A fine thread is prepared for knitting the cots and sitting chairs. *Sukul* and *Khaar* grass are used to make broomsticks of different sizes. It is also used for religious purposes like cleaning the *Devgudi* (temple), and sacred places. *Daab* is used for roofing the *Kutch* house. Further, rampant growth of this grass prevents soil erosion during heavy rains and protects them from the extremely cold winters. *Khaar* grass is exclusively used for roofing the *Devgudi* (temple).

Tumari or Tumeer (Beedi Leaves)

Collection of *Tumari* or *Tumeer* is a seasonal household activity of Dhurwa. The collection starts in April and continues up to the mid of June month. The season completes before the onset of the monsoon. The collection is a household activity and all members participate irrespective of age and sex. During the season, they proceed early in the morning and return around 10 a.m. Again, in the evening hours, they leave for collection. To avoid tiresomeness, they rest in between. Thus, collected leaves are tied in bunches. Each bunch consists of fifty leaves. Every day, the tied bunches are dumped in *Gunny* bags and brought to the authorized collection center known as

Fadis meant for two to three *Panchayat*, one collection center was arranged by a government agency. Every year government fixes the price based on the market situation. The rate at the time of fieldwork for *Beedi* leaves was Rs. 40/- per 100 *Gaddis* (one hundred). Each individual or family earns a handsome amount during its season and thus collected money is spent on the purchase of essential commodities, clearing of old loans, and purchase of new clothes, utensils, etc., from the weekly markets. Apart from this, the government also provides incentives for the collection of *Tendu Patta*. In case of accidents, the government gives compensation of about one or two lakhs in case of natural death and fifty thousand for broken limbs.

Kutch leaves are brought in bundles to the *Fad* centre and handed over to agents who engaged in drying, storing, and transport to nearby district headquarter. A *Tendu Patta* card is also given to each family and regular entries of the collection are made in it by the agent. The individuals who possess cards earn a bonus after one or two years in the presence of the *Sarpanch* and other ward members. *Fad* organizers also get commissions ranging from two to three percent from the whole collection of *Tendu Patta* during the season.

Fad (Tendu Collection Centre)

In Darbha block, Primary Forest Produce Cooperative Samithi (PFPCS) is operating twenty-two *Tendu* collection centers to collect *Tendu* leaves during the season. Of these, three *Fads* are represented by Chhindawada such as Kawaras, Rampal, and Mundapara. The charge of these *Fads* are known as *Munshi* who collect the leaves and maintain the *Fad* records, entry of collection in customer books, etc.

Out of twenty-two centers, only six centers are being run by Dhurwa, and the remaining centers are operated by the Dhakad, Bison Horn Maria, Mahara, etc. Even the study village centers are also run by other communities than Dhurwa. During collection season, these centers procure the *Tendu* leaves from the tribes. Generally, they do not accept tender leaves, excess thickness, torn ones, etc. The leaves collected from *Maroom* lands are considered good quality and hence they take a lot of care during their collection. From 15th February to 15th March, Dhurwa prunes the roots of the *Tendu* plant in a triangular manner. It is known as *Puming*. After 45 days of *Puming*, they get fresh leaves suitable for *Beedi* making, otherwise, they will become thick. In case the root of the

Tendu plant is thick, it is cut with an axe so that new leaves come out from it. While collecting, Dhurwa makes fifty bunches with *Siyyadi* fiber to make it easier to count. These bunches are collected at the first village *Fad* and entered in the register as well as the passbook of the villagers and mediate between villagers and the cooperative society.

During fieldwork, the collection of *Tendu* leaves started on 25th April and continued up to 10th May in Chhindawada. For one *Senkhada* (consisting of 100 bundles), the cooperative gives Rs.400/-, and accordingly, one bunch (50 leaves) costs around Rs.4/-. Soon after collection, the leaves are sun-dried for seven days. Later, 2,000 bundles are kept in a row, and sprinkle 20 liters of water over it to keep the moisture of the leaves. If more water sprinkles, it will take many days to dry or sometimes it causes spots on the leaves.

Some of the Dhurwa possess *Tendu* collection cards in the study area. Earlier, the validity of this card was for two years but now it is made for five years. After the expiry of its validity, they approach cooperative society for its renewal. The majority of the cards are issued in the name of women as they can save money otherwise money is spent by men on drinking liquor. According to the household survey, it is found that Chhindawada possesses 303 cards. Of which Dhurwa has 170 followed by Bison Horn Maria (65), Mahara (50), and others (18).

Table4: List of *Tendu Patta* Collection Cards in Chhindawada, 2019

Sl. No	Hamlet	Dhurwa	Bison Horn Maria	Mahara	Other	Total Card
1	Kawaras	60	25	25	10	120
2	Rampal	50	20	20	08	98
3	Mundapara	60	20	05	-	85
	Total	170	65	50	18	303

Source: Bindu Sahu, 2019

To maintain the *Fad*, *Munshi* used to pay Rs. 40/- to labor daily to keep the bundles systematically, fetch water from the *Nallah*, a sprinkling of water, pack in gunny bags, loading, etc.

Institutional Framework in Conservation

In the study area, the forest department engaged in the conservation of water resources through the construction of check dams, dugouts, soil and moisture conservation works, etc. To enhance the forest coverage, they are encouraging the tribal farmers to undertake the plantation of bamboo and *Neelgiri* (*Eucalyptus*) on the banks of cultivating fields and in barren lands. But plantation of mono-varieties is environmentally detrimental as it is useful for timber purposes only. To counter this, recently they have taken up massive plantations for the protection of foreste by providing different varieties of saplings such as bamboo, *Khamhar*, *Neelgiri*, *Sagon*, *Sirsa*, *Shisam*, *Amla*, jackfruit, drumstick, mango, custard apple, etc., to the farmers. But this mixed afforestation drive yields less progress as it takes a lot of time to grow. For the sake of time-bound income, Dhurwa was

encouraged to take up bamboo and *Neelgiri* since they take less time i.e., three years for bamboo and five years for *Neelgiri*. With this plantation, the Forest Department is trying to stop soil erosion and the conservation of water resources from run-off. Further, the department has also undertaken diverse measures to control soil erosion and water conservation through control drainage, boulder check-dam, brushwood check-dam, etc.

Van Prabandha Samithi (Forest Protection Committee)

In 2000-2001, with the initiation of the Forest Department Dhurwa formed a forest protection committee to protect the forest beat which comes under the respective *Gram Panchayat*. It consists of a working president, vice-president, secretary, and eleven other members. The functions discharged by the committee are conservation of groundwater levels, prevention of cutting trees and land, forest fires, enhancing the green coverage, etc. The Bastar Forest is famous for *Sal* trees and the official of the Forest Department has taken up its plantation in a massive way. Hence, the forest protection committee is trying to protect the *Sal* plantation by removing the growth of wild grass in the new plantation. Further, they are also providing awareness of the ill effects of deforestation due to shifting cultivation, hunting, and cutting of *Baasta*.

The committees have been effectively working for the last ten to twelve years in the study area as forest protection ensures their access to a collection of seasonal forest produce. Besides afforestation activities, the committees also took up works such as control trenches and boulder check dams at different places in the forests on a contract basis for the conservation of water, soil and moisture control. The *Samithi* is also discharging the functions of forest protection in the form of strict vigil. If anyone is found cutting trees without the approval of the *Gram Panchayat* are caught and imposed fines through the *Panchayat*. Generally, these fines are imposed subject to the type of tree which is cut by the trespasser i.e., if they cut *Sargi*, they impose a fine from Rs. 5000/- to Rs.6,000/- as it is highly valuable in the open market. In other cases, the fine will be ranging from Rs.1,000/- to Rs.2,000/-. The *Samithi* members take an interest in the protection of forests through its classification of forests into orange, product, and reserve forests. In the Orange area, minor forests are grown with afforestation of small plants. In product forests, minor forest growth is converted into major ones and the villagers including forest protection committees are allowed to collect the minor forest produce. In 18 villages dense forests are earmarked as reserved forests. The FPC assumes the duty of conservation in collaboration with the forest department through the prevention of forest fires, thefts, soil erosion, etc., taken up in the reserve forest area. In return, they collect minor forest produce (MFP) including *tendu* leaves in this region.

Dhurwa's Symbiosis with Forests

Forests ensure the continuous supply of subsistence in the manifold. Hence, they maintain a symbiotic relationship with it in the form of appeasement on various ceremonial occasions by Dhurwa. Bastar Dusserah is one such event that starts with the worship of the *Sal* (*Shorea robusta*) tree for the construction of popular wooden chariots

to be used for the procession of mother goddess *Danteswari* which is known as *Patjatra*. It marks the beginning of *the Amus* festival. On this occasion, one pit is dug out at the center of the *Sirhasar Bhavan* of Raja. A man who belongs to the Halba community sits in this pit and observes fast for nine days for the safety of the people of Bastar. It is known as *Jogi Bithai*. After completion of this task, *Raja* installs an idol at *Jiyaderah* which is known as the elder sister of the goddess *Danteshwari*. She is venerated by different clans of Bastar. Besides this, Dhurwa also performs *Rathmai Jatara* once in twelve years at the sacred place of *Bhimsen Padai* in the month of November-December a dense forest at midnight. The main objective of this *Jatara* is ensuring continuous rainfall, protection of cattle and people from the wild animals, peace, and prosperity.

The chief forest deities *Sonekuvar* and *Vanakuvar* are worshipped by villagers of Chhindawada every year. The symbols of *Sonekuvar* and *Vanakuvar* are stones erected amid the forest considered to be sacred groves of the Dhurwa community. The habitation of *Sonekuvar-Vanakuvar* is called *Vatakul*. The worship of *Sonekuvar* is undertaken to protect the cow-oxen and the forest. Therefore, every year in the *Baishakh* (April-May), the worship is organized on Monday. On this day, the *Mati Pujari* (soil priest) of the village worships forest deities with *Sindhur*, rice, incense, *Hajari* flowers, and eggs. Then they sacrifice a black chick and a black goat and offer *Mahuwamand* (country liquor). Then the *Mati Pujari* wished for protection of their livestock and the forest. Apart from this, they worship these gods on different occasions such as during the *Amus* festival. The main reason behind this worship is that their livestock roaming in the forest are vulnerable to wild beasts and hence pray for a safe return to home. Further, the continuous availability of root and tubers, honey, wild vegetable leaves, *Chapada* (red ant), *Boda* (truffle), *Basta* (tender bamboo), *Pihiri* (mushroom), *Kumdah* (bottle guard), *Mahuwa* (*Madhuca longifolia*), *Tendu* (*Diospyros melanoxylon*), Mango, *Chhind* (Date palm or *Phoenix sylvestris*), *Chaar* (*Buchanania alazan*), *Sargi* and Jackfruit, etc., also wished while worshiping as they play significant role in creation of seasonal livelihoods. The deity also ensures the availability of hunting game such as *Kodri* (deer), *Geedad* (Jackal), *Lava* (monitor lizard), *Pandaki* (wild bird), *Kumat*, Wild Buffalo, Rabbit, etc., in the forest and conserve them for future. They also observe taboos in connection with the extraction of resources and hunting of game in *Vatakul*.

Traditional Knowledge in Forest Conservation

Dhurwa's ability to identify and classify varieties of roots and tuber, wild herbs, vegetable leaves, fruits, nuts, and berries, bamboo, mushrooms, truffle, wild grass, testify to their indigenous wisdom. Their concern for environmental conservation is evident while bamboo cutting by leaving a portion of the bamboo inside the soil for regeneration in due course of time for future consumption. Seasonal collection of edible forest produce is subjected to consumption only after offering the first harvest to the presiding deities in the form of first fruit ceremonies. Collective participation in elaborate ritual processes during these festivals facilitates the proper resource utilization in times of exigencies. Over-exploitation and consumption of forest resources attract the wrath of the deity in the

form of troubles at the family or village level. Besides these cultural factors, social institutions such as family, kinship, marriage, and traditional council also play a pivotal role in the access, distribution, and conservation of forest resources in Dhurwa. The disputes relating to common resources in forests are dealt with by their traditional *Panchayat* which imposes fines on the trespassers who indulge in its over-exploitation. The elements of social organization such as lineage and clan are crucial in the mobilization of community cooperation in the arrangement of water percolation pits, bunds, stone boulders check dams, ponds, etc., to check soil and moisture runoff from the forest. Religious beliefs and restrictions play a crucial role in reducing competition in over exploitation of forest resources among Dhurwa.

Conclusion

Thus, forests play an important role in the socio-economic development of Dhurwa in the form of a continuous supply of roots and tubers, bamboo, wild leaves, grass, fruits, and nuts, and a collection of *Beedi* leaves. Since their livelihood is intrinsically related to forests, Dhurwa maintains a symbiotic relationship with the forest in the form of worshipping *Danteswari*, *Sonekuvar*, *Vanakuvar*, and *Bhimasen*. The sacred abode of these deities is venerated as sacred groves which is popular as *Vatakul* among Dhurwa. Cooperation and participation in forest conservation through *Van Prabandhan Samithi*, ensure a continuous supply of livelihoods from the forest in the form of timber and non-timber forest produce such as bamboo, roots and tubers, mushrooms, leafy vegetables, different varieties of fruits, nuts, berries, and *tendu* leave the collection. Besides the protection of forests from smuggling and illegal activities, they also engaged in afforestation in *Banjar* lands with the help of the Forest Department. However, the pressure for the conversion of forest land for agriculture to meet the increasing needs of the settled population was increasing day by day in the area. Since 1865 to 2023 more than fifteen forest acts and policies were made. But there is little recognition of the rights of forest dwellers in all these acts who are the rightful inhabitants of forest land. In 2016-17 Forest Conservation Act (1980) was amended to take prior consent from *Gram Sabha* for any alterations of forests for non-forest purposes. But the present amendment made to this act in 2023 made it clear that forest law will now apply exclusively to areas categorized under the 1927 forest act and those designated on or after 1980. The act will not apply to forests that were converted for non-forest use on or after December 12, 1996 and land which falls under 100 km from the China and Pakistan border where the central government can build linear projects. New initiatives like ecotourism, safari tourism, and environmental entertainment were planned in these areas to improve the livelihoods of forest dwellers. If it is implemented, Dhurwa's livelihoods fall in jeopardy and they face difficulties in grazing their cattle, collecting forest produce, fuel wood, and timber as is evident from already mining areas of other vulnerable tribal communities in Central India. Hence, it is the need of the hour to ensure the traditional livelihoods of the Dhurwa and their rights over the common property forest resources. Further, Dhurwa may be equipped with dairy technology, modern animal husbandry, and bamboo and cane

handicrafts to adapt to the changing livelihood scenario. Otherwise, the mega projects that allow the forests for non-forest purposes intensify environmental destruction, displacement, and loss of their sustainable livelihoods of Dhurwa in particular and other vulnerable forest dwellers in general.

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