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Contract farming, ecological change and the transformations of reciprocal gendered social relations in Eastern India

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ABSTRACT



Debates on gender and the commodification of land highlight the loss of land rights, intensification of demands on women's labour, and decline in their decision-making control. Supported by 'extra-economic forces' of religious nationalism (Hindutva), such neoliberal interventions are producing new gender ideologies involving a subtle shift from relations of reciprocity to those of subordination. Using data from fine-grained fieldwork in Koraput district, Odisha, we analyse the tensions and transformations created jointly by corporate interventions (contract farming of eucalyptus by the paper industry) and religious nationalism in the local landscape. We examine how these phenomena are reshaping relations of asymmetric mutuality between nature and society, and between men and women.

KEYWORDS

Gender; contract farming; religious nationalism; land; labour; asymmetric mutuality

1. Introduction

Debates on gender and the commodification and privatisation of land, whether through 'agricultural improvement' projects, like plantations, contract farming or commercial farming, or the conversion of land to non-agricultural uses, point to the negative implications for women through loss of land rights, intensification of demands on labour, alongside a loss in decision-making control over land use and cropping patterns (Behrman, Meinzen-Dick, and Quisumbing 2012; Levien 2012, 2017; Daley and Pallas 2014; Doss, Summerfield, and Tsikata 2014; Hall, Scoones, and Tsikata 2017). For India, Shrimali (2014) demonstrates that while small farmers retain their land and enter into contracts with industry to sell their output at pre-determined prices, social inequalities of class, caste/ethnicity and gender are reinforced through contract farming (c.f. Li 2011). The skewed power relations between firms and farmers make the latter 'vulnerable to indebtedness and loss of autonomy over land and livelihood decisions' (Vicol 2017, 157). In this paper, focusing particularly on the post-2000 period, we explore the tensions and transformations created jointly by corporate interventions (eucalyptus contract farming) and

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religious nationalism (Hindutva) in the local natural and social landscape (Gopalakrishnan 2006, 2805; Mansfield 2007).

Examining the specificities of land and its classifications, and the nature of crops under contract farming is important. Introducing plantation crops like eucalyptus on the uplands (*dongar*), in this case, de-facto the domain of women and used for the cultivation of millets and pulses, have far-reaching consequences for the 'agrarian environment' (Agrawal and Sivaramakrishnan 2000, 5). Legally the land is individually owned, yet these lands were viewed as collective 'ecological spaces', with land use collectively regulated to meet common interests. Eucalyptus planting is essentially privatising the land-use, subjugating it to individual interests instead of collective needs. Alongside an erosion of 'ecological capital' (Van der Ploeg 2010, 4), including water recharge and water flows downstream, soil fertility and the possibility of cultivating food crops, a decline in reciprocal and cooperative relations between classes and genders occurs. While benefiting some eucalyptus planters, others not cultivating eucalyptus in surrounding farms are pauperised. Gendered relations of power too shift, with women losing control over land, labour, income and decision-making.

The ensuing processes of transformation are not just economic. Rather they are 'fundamentally a political process in which states – or other coercion wielding entities – use extra-economic force to help capitalists overcome barriers to accumulation' (Levien 2012, 940). These extra-economic forces vary substantially across contexts and time. This paper examines how religious nationalism (Hindutva) works as an 'extra-economic force', to produce new gender ideologies that mark a subtle shift from relations of reciprocity to those of subordination. We argue that eucalyptus contract farming, along with the penetration of Hindutva forces, both backed implicitly or explicitly by the state, though not changing land ownership patterns per se, contributes to both material and social transformations: first, in the nature of interactions between local 'adivasi'¹ cultivators and their ecological/farming context (Van der Ploeg 2010); and second, in the 'asymmetric mutuality' of gender relations (Nelson 2016). Both these processes need to be considered jointly, as in the former instance while Hindutva plays a functional role for capital, it goes beyond this in contributing to a reformulation of gendered power relations on the ground. A functionalist approach does not fully explain structural inequalities and the processes of ideological transformation. The complexity of the relationship between Hindutva and capital is compounded by the adivasis not being a homogenous group (Mishra and Pradhan 2011), but with internal hierarchies and exclusionary boundaries, different social and land histories and experiences of religious transformation. While unpacking all the complexities is beyond the scope of this paper, we focus on the broader patterns of transformation driven by forces of privatisation, commodification and ecological change.

Using data from fine-grained field work in seven villages of Koraput district, Odisha, we analyse how the paper industry, by entering into deals with male farmers to cultivate eucalyptus on particular land-types in a predominantly adivasi region, is changing the ecosystem, with implications for environmental sustainability, food and livelihood security and gender equity. The paper draws on quantitative and qualitative data from the

¹The Scheduled Tribe (ST) communities, recognised as historically marginalised by the Indian Constitution, and hence eligible for affirmative action as well as self-determination, self-identify as 'adivasis' or 'original inhabitants' (Rao 2008).

LANSAs (Leveraging Agriculture for Nutrition in South Asia) research. The paper has six sections. Section 2 sets out the conceptual starting points. Section 3 discusses the methodology and study context. Section 4 describes the historical shifts in the agrarian environment. We analyse the changes in gender relations due to: (a) market mechanisms, particularly the role of the corporate sector in promoting eucalyptus; and (b) Hindutva ideologies, in Section 5, focusing on the growing ‘asymmetric mutuality’ in the nature-human relationship. Section 6 concludes with a summary of the main arguments, especially the interlinkages between the commodification of land and religious nationalism in deepening asymmetries within the rural socio-economic fabric.

2. Conceptual starting points

The present context of agricultural modernisation including contract farming, through the commodification of land, is refocusing debates around land use and ownership. Particularly, the tensions between viewing land as a private commodity versus one embedded within the larger social, political, legal and ecological context, has come to the fore (Li 2011; Levien 2012, 935; Shrimali 2016; Hall, Scoones, and Tsikata 2017; Park and White 2017; Vicol 2017). For contract farming, examining the location-specific qualities and multiple valuations and meanings of the land chosen becomes important (Rao 2008). Though the landowner might earn money and not be legally alienated from the land, the entire ecosystem and the social and gender relations, including labour relations, built around it change inalterably. This necessitates going beyond agricultural land ownership ‘to identify who holds different types of use and decision-making rights’ (Behrman, Meinzen-Dick, and Quisumbing 2012, 52) and how forms of ‘co-production’ (Van der Ploeg 2010) are likely to change. Agriculture (and land) need to be seen as relational (Borras 2009; Rao 2017), as practices specific to different social and historical conditions (Harriss 1992) and not just a pathway for enhancing productivity and incomes.

Similarly, gendered divisions of labour, access, use and control of resources, and agricultural and environmental knowledge, rights and responsibilities, are located in the socio-cultural construction of gender relations within societies (Agarwal 1992). The complementarities and conflicts therein, shift in response to contextual changes in the larger political economy and agrarian environments (Jackson 1993; Leach and Green 1997; Nightingale 2006; Razavi 2009), with implications for gender equality and wellbeing outcomes.

Engagement with neoliberal markets, somewhat inevitable, potentially enhances opportunities available to women (Nelson 2011), and the poor, with Sen (1993) referring to markets as sources of both freedom and unfreedom. They provide opportunities for enhancing incomes and some people, usually those with resources, do benefit (Mosse et al. 2002). It is important therefore to examine who gains and who loses. Empirical work examining power relations embedded within markets, points to the increasing exclusion of women, who often lack the money, time or language to negotiate access in such markets (Agarwal 2000; Peters 2004). Under neoliberal regimes, natural resources are increasingly privatised, commoditized and responsibilities for their management devolved to individuals or groups, usually men of some influence, within communities (Harris 2009). Each institutional arrangement, including neoliberalism, has an internal gender regime, shaped by differential gender interests and cultures (Connell 2014). Feminist scholars,

building on Engels thesis (1972) that women's subordination is linked to the: (a) introduction of private property that shapes the resources with which people enter the economy/markets; and (b) structures of reproduction that are fundamental to all human activity, argue that with resource privatisation, be it formalising land titles in men's names, or privatising common property for capitalist accumulation, women lose control over the use of land, while labour demands on their time for both production and reproduction increase (Sen 1996; Mansfield 2007; Harris 2009; Rao and Raju 2019).

Households are sites of both cooperation and conflict, and while exploiting women's caring labour (Sen 1990), don't preclude the possibility of sharing and reciprocity (Kandiyoti 1998; Jackson 2007). Nelson (2016) challenges the gender stereotypes of men as 'purely "individual"', and women as purely "relational". She points out that all human beings are *individuals-in-relation*, and proposes the possibility of *asymmetric mutuality*, that

the relationship between a caregiver and a living being in need of his or her care is *not* one of symmetry in power, nor is it one of melding together. Yet it does not have to be one of domination. (Nelson 2016, 4)

Reciprocity in conjugal relations, including divisions of labour, was certainly expected, and secured somewhat within the pre-existing agrarian system, evidencing 'asymmetric mutuality'.

This mutuality in the social relations and obligations of property and labour becomes more opaque when market actors like corporates acquiring land, or controlling its use enter the frame. It is further undermined by religious nationalism, in this case Hindu nationalism (Hindutva), which is obsessed with 'female sexual purity, and the need to guard women from sexual danger', whether from Muslims ('the dangerous other') or Western promiscuity (Nussbaum 2007, 69). The female body symbolises the nation; sexuality becomes acceptable only within marriage, with control over women's bodies (and indeed the nation) firmly in the hands of men (Sarkar 2001; Federici 2004). In calling for female submission and dependence, Hindutva reshapes gender relations, constructing masculinity as dominant and aggressive; moving from the syncretic substance of Hinduism, which provided both women and men space for self-expression, within its multiple, often contradictory, practices and beliefs (Nandy 1991; Nussbaum 2007). Women's traditional roles as mothers and home-makers are valorised, and with a growing insistence on fasting and observing rituals for the wellbeing of their families (long life of husband, children's health and prosperity), Hindutva entrenches women within the domestic sphere, denying them the freedom of choice or self-determination (Poonacha 1993).

The Hindutva literature has focused mostly on the urban middle classes (cf. Jaffrelot 1998), and less on the rural, in particular, *adivasi* communities, seen as lying outside the Hindu caste hierarchy. Since the early 1990s, attempting to consolidate a 'Hindu nation', organisations like the Rashtriya Swayamsevak Sangh (RSS) and the Vishwa Hindu Parishad (VHP), have been focusing on building a rural base to mitigate the 'backwardness' of these communities (Baviskar 2005). Their cosmology, forms of worship and consumption patterns are critiqued, as is women's mobility, and sought to be replaced by 'mainstream' (Hindutva) norms and practices, seen as central to development and wellbeing (Froerer 2007). In the context studied, the upwardly mobile *adivasis*, the Bhumias, not dependent on wage labour for their livelihoods, have been the first target, their ritual, political and class dominance claimed as an outcome of adopting Hindutva ideologies. Religious

nationalism here becomes an 'extra-economic force' that plays both a functionalist role for capital, linked to the success of the paper industry in pushing eucalyptus, and an ideological role, in reshaping relations with nature, but equally reshaping gender relations, increasingly alienating women from their land, labour, and larger ecological environment (c.f. Levien 2012).

3. Methodology and study context

The data for this paper was collected in three phases from seven villages of Koraput district, Odisha. Baseline socio-economic data was collected from 658 households, over 75 per cent of whom were landless, small and marginal farmers, in November–December 2013 (Table 1). While the survey data is used to establish the context, the paper relies more on qualitative methods, particularly in-depth life histories collected between April and July 2015, to understand ecological and economic transformation processes, including in agricultural practices and livelihood choices, and consequent changes in social and gender relations. 30 households, to represent the different castes/tribes, were selected from the baseline. A time-use survey was conducted with these households (see Rao and Raju 2019). For this paper, we focus on 15 households, five each from the three tribes in the study context. However, given some internal variations, rather than focusing on a few life histories in their entirety, we have selected relevant illustrations from them.

Men and women were interviewed separately by the authors, helped by local investigators/translators. The questions included the changes respondents had seen in their life-time regarding land and water use, cropping patterns and diets, labour exchanges and mobility, politics and religion, education and jobs, and the role of eucalyptus in their lives. Subsequently, key informants including village-level workers, both state and non-state, village elders, traditional healers, youth members of the VHP and RSS, traders, agents and company officials were interviewed in 2016 and 2017. The authors and translators took interview notes separately but compared them to ensure accuracy. Interviews were not recorded, given the sensitivity of the issues. Despite this, company agents and officials in particular were hesitant to talk or share any details related to prices, procurement or other conditions associated with the eucalyptus plantations. All village and respondent names have been changed to protect identities.

Koraput is primarily a rural district, with the Scheduled Tribes (STs) comprising half its population (1.4 million in 2011). Literacy rates are low (60 per cent male, 38.55 per cent for

Table 1. Distribution of households by social group and land held.

Land class	SC		ST		OBC		Others*		Total	
	N	%	N	%	N	%	N	%	N	%
No Land	10	16.1	59	21.6	36	11.9	4	20.0	109	16.6
<1 Acres	19	30.6	48	17.6	67	22.1	3	15.0	137	20.8
1 to <2.5 Acres	27	43.5	100	36.6	142	46.9	7	35.0	276	41.9
2.5–5 Acres	5	8.1	40	14.7	48	15.8	2	10.0	95	14.4
5 Acres and Above	1	1.6	26	9.5	10	3.3	4	20.0	41	6.2
Total	62	100	273	100	303	100	20	100	658	100

*Brahmin, Karana and Benayata Odiya.

Table 2. Quality of land held by ethnicity, in acres.

Caste/Ethnicity	Lowland (khalbeda)	Midland (bhattabeda)	Upland (dongar)	Total
<i>Bhumia: (n = 5)</i>				
1460	1.2	3.3	1	5.5
1240	0.9	0	0.2	1.1
1171	1.5	0.5	1.0	3.0
1186	2.0	0	2.5	4.5
1209	1.2	1.5	2.5	5.2
Total	6.8	5.3	7.2	19.3
Mean	1.36	1.06	1.44	3.86
<i>Paroja: (n = 5)</i>				
1043	1.0	0	0.5	1.5
1375	0.25	0	0.5	0.75
1047	0	1	0.5	1.5
1044	0	1	0	1.0
1383	1.5	1.5	0	3.0
Total	2.75	3.5	1.5	7.75
Mean	0.55	0.70	0.30	1.55
<i>Gadaba: (n = 5)</i>				
1379	1	1	0	2 (leased in)
1008	1	0.30	0	1.3 (leased in 1)
1002	5	0	5	10
1381	2	0	5	7
1005	0	0	0	0
Total (n = 15)	9	1.3	10	20.3
Mean	1.8	0.26	2	4.06

Note: Sub-sample used for time use study.

women) (<http://www.census2011.co.in/census/district/422-koraput.html>). The adult and child sex ratios of 1032 and 979 females per 1000 males respectively, reflect relative gender equality in terms of female survival, compared to the rest of the country.

In the villages studied, the STs comprised the Bhumias, Gadabas and Parojas. The Bhumias, with access to different qualities and types of land, are settled agriculturists, economically and socially better off than the rest, and the first to be influenced by the joint effects of Hindutva and privatisation of resources. The Gadabas, agriculturists, cattle-rearers, and forest produce collectors, still retain community-level sharing norms, especially relating to cattle grazing in the uplands. The Parojas, considered 'primitive', are also the poorest, with the smallest land-holdings. Once involved in *podu* (shifting) cultivation, they now engage in a range of labouring tasks and some upland (*dongar*) cultivation (Mohanti, Mohapatra, and Samal 2006). Even though these three groups live in separate hamlets, their lands are physically interspersed and not in distinct locations, hence the cropping choices of one group affects the others. Further, they all have some plots of the different qualities of land; it is not that the Bhumias have only lowlands, and the Parojas uplands (Table 2). About one-third households were classified as Other Backward Castes (OBC) and included the Malis, traditionally vegetable cultivators and the Ranas (agriculturists). At the bottom of the social hierarchy are the Scheduled Caste (SC) Dombs, mainly landless agricultural labour. This paper primarily focusses on the adivasis.

Baseline nutritional data reveals that nearly 50 per cent of the adult population is undernourished amongst both the SCs and STs. Only the general castes – the large landowners or public sector employees – do better (Table 3). This finding is confirmed by the National Nutrition Monitoring Bureau (NNMB), which while noting a marginal decline in Chronic

Table 3. Distribution of individuals based on social group and BMI (all households baseline data).

BMI status	Caste									
	SC		ST		OBC		Others		Total	
	N	%	N	%	N	%	N	%	N	%
CED III	9	6.4	48	7.8	54	7.4	2	3.4	113	7.3
CED II	11	7.8	70	11.3	70	9.7	3	5.2	154	10.0
CED I	56	39.7	180	29.1	167	23.0	6	10.3	409	26.5
Normal	63	44.7	309	49.9	405	55.9	28	48.3	805	52.2
Overweight	2	1.4	10	1.6	27	3.7	12	20.7	51	3.3
Obesity	0	0.0	2	0.3	2	0.3	7	12.1	11	0.7
Total	141	100	619	100	725	100	58	100	1543	100

Energy Deficiency (CED) amongst the STs between 1985 and 2008, found a secular decline in the consumption of roots, tubers and vegetables (NNMB 2009, 65).²

The Bhumias consider themselves as Brahmins of some kind, with a few taking the sacred thread in ceremonies attended by non-tribal (upper caste) political functionaries. Though they don't want to relinquish their ST status because of the state given privileges, many have stopped eating at wedding/puberty/death rituals of the other tribes lower in the hierarchy. This is partly due to the influence of Hindutva. Interestingly, in nutritional terms, the Bhumias seem to do worse than the Gadabas and even the poorer Parojas, especially in adulthood (Table 4).

4. Historical shifts in the agrarian environment

A central question for 'sustainability' relates to the capacity of the ecosystem or agrarian environment to absorb the impact of human activities and regenerate itself continuously.³ Damodar Paroja, 55, a *Dishari* (an indigenous healer), said

We are *adivasis*. Some say we are *junglis* (forest-dwellers or 'wild' people). But we are a part of *prakriti* (nature) and *prakriti* is a part of us. *Prakriti* loves us and we love *prakriti* and that is how we both survive. But all that is changing.

To Damodar, and within local imaginaries, people and nature are not separate entities, but parts of a single ecosystem that embraces both natural and social environments. They are jointly involved in giving meaning to their world through the enactment of specific practices (Barad 2003). Most contemporary accounts of *adivasis*, however, portray them either as 'primitive' (Mishra and Pradhan 2011, 17), or romanticise them as 'simple' and 'innocent' (Savyasacchi 2005, ix). Such labelling has antecedents in the colonial enterprise that sought to control nature and deny the rights of the people living in it (Hildyard 2010, 155). Being a part of nature (cf. Damodar's quote) does not necessarily imply isolation or simplicity. Rather the power relations embedded in the complex dealings with the markets and the state are constantly renegotiated.

The local landscape comprises hills and forests interspersed with numerous streams and rivers. Over centuries the *adivasis* transformed the landscape into productive systems for their food and housing needs. From the mid-nineteenth century, the colonial state and its

²Three rounds of survey were conducted in 1985–87, 1998–99 and 2007–8.

³The Sustainable Development Agenda, 2030, calls for concerted efforts to build an inclusive, sustainable and resilient future for people and the planet (United Nations, n.d.).

Table 4. Nutritional status of households by ethnicity (Baseline data).

Ethnicity	Nutritional status		Age group (years)				Total
			0 to 5	6 to 11	12 to 17	more than 18	
BHUMIA	Normal	<i>n</i>	23	58	44	165	290
		%	41.10	61.10	71.00	49.80	53.30
	underweight	<i>n</i>	33	37	18	166	254
GADABA	Normal	%	58.90	38.90	29.00	50.20	46.70
		<i>n</i>	20	17	11	65	113
	underweight	%	62.50	63.00	68.80	54.60	58.20
PAROJA	Normal	<i>n</i>	12	10	5	54	81
		%	37.50	37.00	31.20	45.40	41.80
	underweight	<i>n</i>	18	24	22	90	154
Total	Normal	%	46.20	58.50	71.00	52.90	54.80
		<i>n</i>	21	17	9	80	127
	underweight	%	53.80	41.50	29.00	47.10	45.20
Total	Normal	<i>n</i>	61	99	77	320	557
		%	48.00	60.70	70.60	51.60	54.70
	underweight	<i>n</i>	66	64	32	300	462
		%	52.00	39.30	29.40	48.40	45.30

forest department actively tapped the forests. The Madras Forest Act was extended to Jeypore state in 1891 and reservations began in 1900. Protected forests were initiated in 1916,⁴ though the locals were granted some concessions (timber for housing was sold at two-thirds the market price and grazing was allowed on payment per head of cattle) (Bell 1945, 101). The main justification for reservations was the supposed destruction of the forests by the adivasis through *podu* cultivation, though economic extraction by the Jeypore kings and their contractors was perhaps more responsible (Behuria 1966).

With the enforcement of the Forest Conservation Act (1980) or the Wildlife Protection Act (1972), *podu* cultivation has almost ceased. But local perceptions of the forests differ. Khudiram, 60, a Bhumia elder of Kolpur spoke about the *bon* and *jangal*, roughly corresponding to the protected and reserved forests:

Fuel, roots, tubers, leaf-litter for the fields came from the *bon*. Cattle are also grazed there. *Bon* is the place just outside the village habitat, upslope of it, and provides a buffer against flooding during heavy rains. Above the *bon* lies the *jangal*, full of heavy timber and fruit trees. We eat the fruits but don't cut the trees. It is Gangamma's⁵ jungle. But the forest department has tried to fell trees in both the *bon* and the *jangal*.

The undulating land between and along the forests and the settlement, accommodates four types of croplands: uplands (*dongar*), midlands (*bhettabeda*), lowlands (*khalbeda*), and terraces (*Jholas*, that start from the *dongar* and go down to the stream below). Their use is governed by several inter-related factors – household consumption needs, maintenance of soil fertility, sustainable use of water, and safeguarding against the vagaries of nature – with decisions driven not just by the individual household's material needs, but a collective concern for longer-term sustainability.

With conservation-exclusions and agricultural expansion (cf. Deb et al. 2014), and the resultant decline in access to uncultivated foods, cultivation forms the mainstay of the local economy and diets. The lowlands provide rice, the main staple; fruits like jackfruit

⁴Hunting, grazing and other activities aimed at sustaining local livelihoods are banned in Reserved forests, but allowed in Protected Forests (Ministry of Environment and Forests, Government of India, official website).

⁵Gangamma is a female deity personifying water.

and berries, honey and arums, are collected from the *bon*, millets and pulses are grown in the *dongar*, and vegetables in lands with water availability. Communities harvest rain-water, divert river flows during the monsoons into farm ponds, cultivate varieties of wet paddy (Mishra 2009), avoid using chemical fertilisers in the *dongar*, which might pollute ground water aquifers – the purpose is to nurture and conserve water, an exhaustible resource. Food that is collected or cultivated, is considered sacred, the first harvest always offered to a *Hundi Devta* (deity) before consumption.

While the regulations did not consider the interconnections and distinctions between different types of land and their contributions to food and consumption needs, cultivation practices and the crops grown, as seen in Table 5, remain sensitive to the local landscape. Two points are striking here. First, the *dongar* are used to grow millets, pulses and oilseeds, high in nutrient content, and not water-intense, primarily for domestic consumption. Men support the processes of land preparation and transportation of the harvest, but the cultivation is mainly managed by women. In fact, *dongar* lands are often considered women's plots, wherein they control decisions around crop choices and use, including income from sales, if any (c.f. Rao 2008).

Second, *Bhattabeda* (midlands) and *Khalbeda* (lowlands) – used for paddy cultivation and if water is available, a second winter crop of pulses or vegetables – are seen as

Table 5. Land types, crops and labour inputs.

Land	Kharif crops	Rabi crops	Men's work	Women's work
High land/ Upland (Dongar)	Finger millet, Little millet, Pop sorghum, Black gram Horse gram Red gram Niger Maize (Except horse gram all other crops are grown in mix cropping)	Nil	Land preparation: bush cutting, ploughing, levelling, broad casting (sowing), transporting harvest (higher quantities transported by men on their shoulders). Threshing is usually done by men using bullocks.	Clearing the bushes, preparing the seed mixtures before sowing, carrying manure to the field, weeding, harvesting, transporting small quantities in headloads, preparing the threshing yard, threshing, winnowing, cleaning, and storage.
Mid land (Bhatta Beda)	Rice (short/ medium duration)	1. Vegetables (if irrigated) 2. Pulses like green gram and black gram if residual moisture is available.	Rice: Land and nursery preparation, transportation of seedlings from nursery to fields, water management, application of fertiliser and pesticides, harvesting, bundling, transportation from field to threshing yard, threshing by bullock/ tractor/thresher, winnowing, packing in bags In vegetable cultivation: land preparation, sowing, and nursery raising, transplanting and water management, tr to local markets. Pulses: ploughing, sowing, application of pesticides, transportation, threshing.	Rice: Uprooting of seedlings, transplanting Weeding, harvesting, loading of bundles on tractor, cleaning of threshing yard, cleaning of seed, sun drying and storing. In vegetable cultivation: transplanting, inter cultural operation, weeding, harvesting, and transporting surplus and selling in local markets. Pulses: harvesting, transporting to threshing yard, threshing, cleaning, drying and storing.
Low land (Khal beda)	Rice (medium/ long duration)	Vegetables Pulses (as above)	Same as medium land	Same as medium land

household plots, under male control. This is similar to the Gambian context, where Carney (1988) points to the social recognition of land as including both individual and household plots, irrespective of titles. Both men and women are obliged to contribute labour to the cultivation of the basic 'household' staple in one season, but are free to cultivate their own 'individual' crops in the second season to fulfil their shared and separate responsibilities towards household provisioning. In Koraput district, only 8 per cent of land titles are in women's names, another 20 per cent are joint, most of these small plots of homestead land (Choudhary et al. 2016). In practice, however, social legitimacy and acceptance appear more important in shaping divisions of work and responsibility than legal titles.

Local worldviews on the sustainable use of the landscape, which involved preserving soil nutrients through *podu*, the ridgeline forests through their sanctification as sacred groves, and using a mix of crop varieties to facilitate sustainable water use, entailed sensitivity to climate variability. Over the last 20 years, the frequency of extreme events like cyclones, and the variability in rainfall patterns have increased (MSSRF 2016). Such changes impact cropping strategies, outputs, and diets,⁶ and in turn resilience to climate change, worsened by deteriorating soil quality due to denuded slopes, and plantation forestry, including eucalyptus, discussed in the next section.

Though the activities performed are different, the gender divisions of labour in cultivation processes across these land-types reflect a degree of mutuality. To gauge this, we conducted a time use survey with adult men and women in 30 households of different caste/ethnic groups, across the planting, harvesting and lean seasons (Figure 1). We used the classifications of the Indian Time Use Study to include: (a) economic work captured by the System of National Accounts (SNA), which includes household, subsistence production and paid domestic services, in addition to market-based work; (b) the extended SNA (ESNA), which seeks to measure and value unpaid domestic and voluntary work; and (c) leisure or non-productive (NSNA) activities (CSO 2000).

Across seasons, most men spent 8–10 h daily on SNA activities, roughly two hours more than women. Amongst the vegetable growing Malis in the planting season and the Parojas during the harvest, men and women spent the same amount of time. Women additionally have the primary responsibility for domestic chores and caring for the family (ESNA), though not surprisingly, the time available for this was squeezed, especially for the Parojas and the Malis (Table 6). In fact, across all caste/ethnic groups, women's engagement with ESNA is least during the planting season and highest in the lean season. Adding the time spent on SNA and ESNA, women worked two hours more than men each day, and had less of rest and sleep, yet the data reveals greater mutuality than expected (c.f. Nelson 2016; Rao and Raju 2019), especially amongst the Gadabas, who have not taken to eucalyptus. Interestingly, while male contributions to domestic work (ESNA) decline with upward mobility, being least amongst the OBCs and highest amongst the SCs and STs, the reverse holds for women – they are confined to caring roles in and around the home (Rao 2012).

Reciprocal labour arrangements, especially amongst the slightly better off Bhumias and Malis are gradually declining. While hired wage labour is unavoidable, the Parojas and Gadabas have been resisting this, still continuing the Palli (exchange) system for certain

⁶Millets are now planted in July instead of May, and not weeded; and horsegram no longer planted.

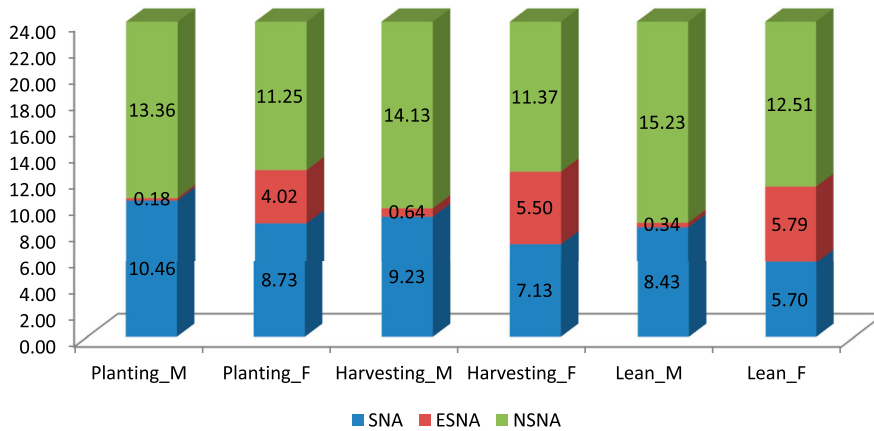


Figure 1. Average hours spent daily on SNA, ESNA and NSNA (male & female) by season.

activities. There are two kinds of Palli: *gram motari palli* and *adla badli palli*. In the former, the entire hamlet takes up an activity, like thatching roofs, one house after the other. The day ends with a collective feast. Communal grazing arrangements, earlier the norm, are collapsing, but amongst the Gadabas, one or two men in turn take the cattle to the *bon* to graze, the dung providing manure for the regeneration of the forest and the *dongar* slopes. *Adla badli*, mostly now performed by women, involves households helping each other to harvest/thresh the paddy crop. Hari, 22, a Paroja, was looking after his four month old daughter, as his wife and mother had gone to harvest their neighbour's paddy. He said, 'I will go to fetch the harvested paddy. Yesterday, our neighbour's field was harvested. Tomorrow it is our turn'.

We turn next to the rise in corporate eucalyptus plantations, and right-wing Hindutva ideologies, that are transforming the everyday practices and interactions involved in maintaining relations of mutuality, albeit asymmetric (c.f. Nelson 2016), between the agrarian

Table 6. Average hours spent daily on SNA, ESNA and NSNA by gender, season and caste/ethnicity.

Caste	Sub Caste	Households	Season	SNA_M	ESNA_M	NSNA_M	SNA_F	ESNA_F	NSNA_F
SC	Harijan	4	Planting	10.69	0.69	12.63	9.25	3.67	11.08
			Harvesting	8.88	1.25	13.88	5.40	7.06	11.54
			Lean	8.83	0.56	14.60	4.81	6.69	12.50
ST	Bhumia	6	Planting	10.64	0.32	13.04	9.25	3.67	11.08
			Harvesting	9.42	0.86	13.72	7.74	5.54	10.72
			Lean	8.86	0.04	15.10	7.19	5.36	11.44
	Gadaba	5	Planting	10.55	0.00	13.45	6.35	5.68	11.97
			Harvesting	9.35	0.90	13.75	5.90	6.03	12.07
			Lean	8.70	0.07	15.23	4.80	6.72	12.48
Paroja	5	Planting	11.53	0.00	12.47	9.05	3.75	11.20	
		Harvesting	8.87	0.25	14.88	8.98	4.07	10.95	
		Lean	8.72	0.10	15.18	7.77	4.30	11.93	
OBC	Mali	5	Planting	9.50	0.10	14.40	9.25	3.67	11.08
			Harvesting	9.25	0.10	14.65	8.30	4.83	10.87
			Lean	7.80	0.83	15.37	5.37	5.52	13.12
	Rana	5	Planting	9.87	0.05	14.08	9.25	3.67	11.08
			Harvesting	9.50	0.58	13.92	6.00	5.75	12.25
			Lean	7.67	0.55	15.78	3.78	6.45	13.77

environment and the community, and in gender divisions of labour, notions of property rights and control over income and decision-making.

5. Transformations and disruptions in the nature – human relationships nexus

5.1. Market mechanisms: inroads of corporate enterprise

Markets in land, labour and commodities are not new, nor are exchange relationships. However, their character has changed, with contemporary markets in neoliberal states valuing and recognising these in purely materialistic and individualistic terms, ignoring the co-existence of collective, reciprocal and informal arrangements (Rao 2017). The transformations began in the early twentieth century, when the land revenue settlements initiated the processes of commercialisation of agriculture and the commodification of land. The changes intensified post 1990 with the introduction of HYV crops and chemical fertilisers into the region. Our analysis in this section relates to the post-2000 period, when eucalyptus plantations were introduced in the study villages.

Eucalyptus got a spurt in 1990 with the JK Paper Mills initiating a farm forestry programme. On average it added 7000 hectares annually by distributing over 40 million saplings to farmers (<https://jkplantation.wordpress.com/about-jk-paper-ltd/jaykay-paper-mills-ltd-rayagada/>). In 2003, through a Corporate Social Responsibility scheme, mediated by a non-governmental front organisation, the industry secured consent from the adivasis to plant eucalyptus on their uplands with assured buyback and lumpsum payments at each successive harvest (in the 4th, 8th and 12th year after planting). No money needs to be invested upfront, advances are provided by the company. A study of 2004 households who planted eucalyptus on 3360 acres in an adjacent block showed farmers' gross earnings per acre to be Rs 86,000, Rs 150,000 and Rs 82,500 (at the rate of Rs 4500/MT) for the three successive harvests (Mahana 2014). Not all this money reached the landowners, due to deductions for inputs and other investments, yet people did get a lump sum that could be used for large expenses including housing repair or educational costs.

Dhara Naik, 65, a Bhumia of Kolpur, who pioneered eucalyptus planting on one acre of land in 2004 said:

With the decline of the *jangal* above our *dongar* lands the yield of *mandya* (finger millets) was falling. I asked my wife what could be done and suggested planting eucalyptus. She agreed saying with the money we could buy *mandya* from the market.

He claims that if they had continued growing *mandya*, they would have to use chemical fertilisers, which apart from being expensive, would pollute the water sources and affect the fields downstream. According to Dhara, men hand over all cash inflows to the women, asking for small amounts to drink alcohol.

While we could not speak to Naik's wife, Chandrama, a Paroja woman noted,

I grew *mandya* in two small plots of *dongar*, half an acre in total. We consume *mandya* daily. A company agent convinced my husband of the profitability of planting eucalyptus. He agreed, and now I have only one plot left for *mandya*. Only if there is food from our land, is there happiness. But, of my three children, two sons are away, one studies in college and the other in

high school in town. The youngest girl is in the village school. We need money to pay their fees, but also there is no family labour for cultivation.

Chandrama's statement reflects some ambiguity around the eucalyptus plantations, pointing to the differences in perceptions around resource use emerging in the locality. While sad about the loss of land used for the cultivation of a nutritious food crop under her control, with her children in school, the lack of labour, her growing work burden, and the need for cash, made her give in. Women here invested labour in, and controlled the output of the *dongar*, often selling small quantities when they needed cash. This is no longer the case. Chanchala, a Bhumia, said, 'My husband received the first payment on our eucalyptus plantation. With the money we replaced the tiles on the roof of our house'. Though the eucalyptus contributed to a major expenditure, house repair, she lost a source of income for regular household expenses. An upper caste local agent gave a different rationale, saying,

Growing millets is wasting the land. Due to lack of water rice cannot be grown in the uplands. Why not eucalyptus? There is so much money in it and everyone, starting from the farmers to the educated unemployed boys benefit from it, from those who supply fertilisers, to the paper mills that can employ these youth. Eucalyptus also does not require the *mehnat* (labour) that paddy requires.

Not surprisingly, his brother runs a fertiliser business, and eucalyptus plantations contribute to increasing his business. An official of the company confirmed this perspective, *the land has to be utilised properly; it is not suited to paddy cultivation. Planting eucalyptus is the best, but it is difficult to explain this to the adivasis. Fortunately, they are now beginning to see reason.* A second official went so far as to link the cultivation of eucalyptus with a sense of nationalism.

These fellows just drink and hang around; they become lazy. In any case what can you grow in these lands? Planting trees reduces global warming and generates income, with which they can buy food. By planting eucalyptus, paper mills thrive. Can you imagine a nation without paper?

Statistics on land under eucalyptus could not be accessed but observation confirmed that much of the *dongar* (upland) has been converted to plantations. This has meant a loss of food, especially protein and micronutrients (from millets and pulses). Soil humus and fertility is likely to decline, as are the water flows, given the displacement of traditional systems of fuel, fodder and water management (NABARD, n.d; Stanturf et al. 2013). Gurubari Paroja, 45, rued, *it is unlikely that this land can ever be reconverted to cultivate mandya. We have to buy it in the weekly market, but soon there will be no mandya to buy as everyone is going for eucalyptus.* Komala Bhumia, 70, pointed to the environmental damage due to eucalyptus in some detail. She said:

I was against eucalyptus. But over time, in the *dongar* lands above and around my fields, everyone started planting eucalyptus. Perhaps the attraction of the money or the persuasion of the agent was irresistible. This impacted the cultivation of indigenous rice varieties in my plots. Large amounts of chemical fertilizers are used in the eucalyptus plots. These leach into the soil or simply run-off into the fields below during the rains. Moreover, the leaf-litter of the eucalyptus is 'poisonous' and impacts the yields. Grass doesn't grow in the plantations, nor do birds nest there, so pests have increased. The plantations suck the water; so the water table has gone down, the small streams and wells have become dry. So finally I switched to

eucalyptus. I had no choice, but am not happy. We got many things from the dongar, all that has stopped now. Look at the children, they are so unhealthy.

While the Gadabas have not taken to eucalyptus themselves, Lakshmi, 55, explained how their livelihoods have been affected.

We are basically cattle breeders. Now with the surrounding villages shifting to eucalyptus, even the forest department planting it, the pastures are reducing. Water for the cattle is a problem as the streams have dried up. In our village some of the wells have dried up. Those who have cattle are trying to sell them off as they have to go long distances to graze them. This has affected our food and livelihoods. The cattle gave rich manure that was used as fertilizer in our fields as well as the dongar; with reducing numbers of cattle, soil fertility is going down and our yields. But also, eucalyptus doesn't allow anything else to grow, so we don't get roots and tubers either. Shortage of pastures, lack of water and the reduction in livestock makes many go for agricultural labour. Some of the boys have started going to Koraput to work as construction labour.

While land has always been in private names, its use was earlier collectively regulated to ensure adequate water and soil health, but also food and nutrition security. So, those with dongar, for instance, allowed those without to graze their cattle on these lands in return for the manure. At present, with a shift to eucalyptus, such collective systems have broken down, reflecting a transition to a society based on individualism, viewing land as an economic commodity, rather than as an element of reciprocal social relations. Cereals, provided at a nominal cost of Rs 2 per kg under The National Food Security Act 2013, are now the lifeline for a majority of households. Despite cereal adequacy, reduced dietary diversity has contributed to a worsening of both nutritional and health status (NMMB 2009).

Apart from the effects on the larger ecosystem and food security, eucalyptus also has implications for gendered property relations. While land or property was never perceived to be an individual resource, jointness was emphasised in both production and reproduction, with the coming of eucalyptus plantations, company functionaries prefer to deal with men, emphasising male status as land-holders. This is similar to the oil palm expansion in west Kalimantan, Indonesia, where apart from abolishing customary rights (including use rights) to both private and forest land, the plantation administration registered private small-holder land in the names of 'male family heads' (Julia and White 2012). Both in respect of land and labour, the oil palm dispensation triggered a process of devaluing women's work and worth – from an equal conjugal partnership to one of subsidiary earners, responsible primarily for household reproduction, and with little control over customarily recognised assets. While in the case of Dhara Naik, Chanchala, or Lakshmi, husband and wife still consult each other, Chandrama and Gurubari are fast losing control over their rights. Neither was consulted when part of the *dongar* was converted to eucalyptus. Komala, a widow, living with her son, expressed a lack of choice, perhaps giving in to her son's persuasions to move to eucalyptus. These are signs of new forms of gender inequality, reflecting upper caste norms of patriarchal control of property, wealth and indeed women (c.f. Agarwal 1994; Julia and White 2012).

Men and women have differential stakes in protecting their land and environment, with women more resistant to change, perhaps conservationist, in this context (Agarwal 2000). Responsible for feeding the household, they find themselves losing the resources – land and income – for doing so. Men have accepted both the commodification of their land,

seen in the rapid shift to eucalyptus (as noted by the official), and labour, pushed perhaps by the growing needs for cash in a market-driven economy, where even accessing good quality education or health care has a cost. Migration, earlier rare, and still the case amongst the Gadabas, is now rising amongst the Bhumias, Parojas and Dombs. Rajesh, a 35-year-old Paroja man, opted for eucalyptus on their small dongar plot and now migrates to Vishakhapatnam in search of work to meet their everyday consumption needs. But equally, people like Shankar, a poor Bhumia, who didn't have sufficient land to plant eucalyptus himself, also migrates due to a decline in his yields, consequent to the neighbouring fields being converted to eucalyptus. While very few reported migration as their primary source of livelihood in the survey, roughly 15 per cent migrate seasonally, especially in summer (baseline survey). In Khiching, several houses were locked, entire families having migrated to Vishakhapatnam to work as construction labour. Samari Paroja's husband worked there for two years, but returned due to ill-health. She said, 'When he went out of the village, he was sending Rs.5000–6000 home every month. However, he came back ill'. Migrant work is effort intensive, with little rest and restricted diets, hence men often returned home soon due to ill-health. Male migration, declines in reciprocal labour arrangements, and the growing aspirations to educate their children, have meant that women's work burdens have not declined, despite the loss of land under food crops, yet this is now not adequately recognised or valued.

5.2. From sacred groves to Hindutva

The indigenous method of protecting nature and its genetic diversity was by sanctifying and dedicating such spaces to ancestral spirits or deities (Murali 1996). Sacred groves, consisting of multi-species, multi-tier primary forests or clusters of trees, represent the symbiotic relationship of human beings with nature. Serving as food banks during droughts and scarcity, all the adivasi groups have elaborate rules, customary taboos and sanctions that prohibit destruction of certain plants and trees and regulate the collection of specific usufructs during particular seasons, with cultural and ecological implications for ensuring sustainability (Mitra and Pal 1994). Gangamma, the female deity of Kolpur's sacred grove, for instance, prohibits the collection and consumption of bamboo shoots and hunting, a strategy perhaps to protect the increasingly fragile watershed. Speaking about the annual spring festival (*Chait Parab*), Dhanpati, a Paroja, said:

Today is *Parab*. We share rice with our friends and those who belong to our community. After two days the *dishari* has instructed us to go in groups to hunt small birds and animals. This is shared amongst all members of the community.

This ritual highlights the regulation of the natural environment and emphasises the need to share nature's bounty. Although women don't hunt, being dedicated to a female deity, they can enter and use this space, except during menstruation. This grove also contains a sacred lake that recharges many small streams. While indigenous religions sanctified and protected the ecosystem, recent inroads of Hindutva are changing the interdependent relationships between people and their 'ecological capital' (Van der Ploeg 2010, 4). Many Bhumias no longer join the hunt, nor do they partake of the 'sacred food' cooked as part of the ritual. Some like Shankar have recently installed statues of Hanuman in their homes.

Hinduisation of the adivasis is not a new process, and termed by Srinivas (1952) as 'Sanskritisation' or the adoption of upper class and caste rituals and practices as ways of marking social mobility, dates back to the early twentieth century (Behuria 1966). While this concept denotes a process of 'cultural change' (Munshi 1979, 302), it is important to note that during the twentieth century, Adivasi Gods continued to coexist with 'modern Hindu gods'. The temple in Kolpur has the goddess Kali painted on the outer gate, but many local gods and goddesses inside. Since the early 2000s, the VHP established itself in the area and gradually introduced not just a hierarchy amongst the gods, but also amongst people. An upper caste Brahmin from outside the locality now performs the daily rituals in the temple. Further, next to the forest shrine of Birukhamba, described by Bell (1945, 162) as the most powerful deity in the region, a colossal statue of Hanuman, the monkey-god in Hindu mythology, has come up, carrying connotations of the 'primitive tribal'.

In Kotra, a Hindu temple was constructed a few years ago. Seema, a Bhumia woman, noted:

The land had become barren. Forest guru (forest guard) told us to worship Hanuman. He owns the Universe and will bring prosperity. Many people who came from outside wearing saffron clothes also told us this.

While earlier opposed to eucalyptus, like Komala, Seema seemed to have changed her mind, saying, 'What could I do? Eucalyptus has been planted in the neighbouring lands. Forest Guru convinced me as it brings rain and cools the air. The profits are high and hardly any labour is needed'. She had not yet harvested the first crop of eucalyptus, but her son apparently has got employment through the 'hanuman party' (the local term for the Hindutva groups) as a sub-agent for a paper mill. While we could not get numbers, it is perhaps not just a coincidence that many of the agents and sub-agents of the paper mills promoting eucalyptus in the region are affiliated to the VHP. It is not religion per se, but a political philosophy that is at work, an 'extra-economic force' that supports the capitalist enterprise in overcoming the ideological barriers it faces on the ground, especially those emerging from alternate worldviews of the land and larger ecosystem.

In order to achieve this, Hindutva forces systematically seek to rigidify caste and ethnic hierarchies by prioritising the upper caste Brahmin over the traditional Dishari, establishing commensal and dietary taboos, including fasting, and encouraging the restriction of women to the domestic domain, rather than enabling the marginalised to adopt upper caste practices to change their position in the social hierarchy. Several women commented that they did not consume non-vegetarian food on Mondays, Thursdays and Saturdays, seen as auspicious days. While most households cannot afford to purchase meat from the market, snails, shrimps and fish from their paddy lands, and small game, when available, formed a major source of protein. These local sources of protein are now being given up. Even pregnant and lactating mothers are not exempted. Said Krishna, a Paroja Dishari,

For the last 20 years we Parojas have been worshipping Hanuman and Shiva. We do not eat non-vegetarian food on these auspicious days. It is *paap* (sin) to do so. Even sex is forbidden on these days, but many young men do it. They fall ill and then come to me for remedies. Nowadays we even observe the *Kartik* month (mid-October to mid-November) as sacred and no one is supposed to eat non-vegetarian food for the whole month [this practice is widely prevalent amongst the caste Hindus all over Odisha].

Krishna has started worshipping the *tulsi* (sacred basil) plant at home. For Shivratri (the annual festival of Shiva), he gets a Brahmin priest to perform the rituals. The priest does not go to other's homes, so Disharis like him use them to retain an element of power over the people. Men get more freedom not to observe the rituals. Says Mangala Dishari, a Bhumia,

Men have to work a lot, going to many places for work. They cannot observe the taboos on non-vegetarian food all the time, but beef and rats are strictly prohibited. In the month of *Kartik*, they need not follow the rituals for the whole month, but only the last five days.

While the rules are flexible for men, cast as 'productive workers', Hindutva constructs women primarily as home-makers, dependent on and subservient to their husbands, rather than situated in relations of mutuality and interdependence (Sarkar 2001; Dyahadroy 2009). All women in this locality are engaged in productive work, their working hours in fact slightly more than that of their men as demonstrated earlier (c.f. Rao and Raju 2019). The upwardly mobile Bhumias have been the first targets of the Hindutva forces, with promises of a better life if they observe various rituals and fasts. Even though struggling to survive and migrating for work, Shankar no longer allows his wife to work as a labourer. While it is too soon to say what effect this will have on their health and wellbeing, findings from our diet survey indicate that over 50 per cent of adult Bhumia women were undernourished, more than the other ST groups (Table 4), while Bhumia men, 29 per cent of whom were undernourished, were on par with the others.

6. Conclusions

This paper started with the premise that communities living in harmony with their 'ecological capital', while not necessarily gender equitable, reveal a stronger ethic of mutuality, conceptualised as a complex mosaic of individuals-in-relation to each other and the environment across different domains of life and work. Central to the negotiation of these relationships are alternate worldviews of people living 'in' or 'on' nature. Our contention was that the commodification and privatisation of land, in this case, through contract farming, represents world-views that see people as outside nature. This is distinct from indigenous views that consider themselves part of the ecosystem. This ideological shift leads to individualistic values replacing those of gendered reciprocity and mutuality, albeit asymmetric. The consequence can be resource degradation, alienation from the local ecology (despite retaining land), and the resultant unsustainability of the entire agrarian environment.

Gender divisions of work do exist, but rather than establishing relations of domination or subordination, men and women did their part, to survive, earn and support one another. Market forces, however, don't operate on this principle; by commoditising food, alongside land and labour, through the introduction of contract-based eucalyptus plantations, they delink the food system from the ecological and social systems. Men have more easily given into processes of commoditisation than women, perhaps because they have more to gain from market systems that uphold male advantage in wages and income control. The decline in male caring roles, partly linked to the need for male migration in order to fulfil their provisioning responsibilities, have been reinforced by 'extra-economic forces', as seen in the spread of Hindutva ideologies over the past decade, emphasising women's primary responsibility for reproductive work.

While Hindutva plays a functional role for capital, linking the conversion of land to eucalyptus to broader narratives of development and even nationalism, it also plays an ideological role in reshaping reciprocal relations at two levels – with nature and between genders. While reshaping the ideological construction of nature as a commodity is critical to the needs of capital, here the paper industry, reinforcing patriarchal domination within gender relations helps appropriate both women's labour and land claims to support the capitalist enterprise. First, upholding a rigid division of gender roles, with women responsible for 'domestic' work, ensures that women's unpaid labour subsidises capital. Second, reinforcing notions of male privilege, in particular, land ownership, mutes women's resistances to shifts in land use from millets to eucalyptus, and their attempts to prioritise food and nutrition in household decision-making.

It is important to note that the 'domestic' is extended to include the fields and forests that continue to be essential for survival (Rao 2012), but are devalued in relation to male work that brings in cash incomes. The endless and non-stop nature of women's work, as evidenced by the time use patterns, yet the denial of opportunities for furthering their own choices, was mentioned by several women and adolescent girls. This ideological separation of reproduction from production, and its allocation to women, is contributing to their growing subordination (Edholm, Harris, and Young 1977) and negatively affecting wellbeing outcomes. The patterns of change are however not uniform across groups. Amongst the STs, while the Bhumias appear to have given in to these processes, Paroja women are trying to negotiate the incursion of eucalyptus, as they see themselves losing control over property, income, and household decision-making. The Gadabas so far have retained collective norms of sharing at household and community levels.

While this study remains exploratory in attributing the patterns of change in the ecology-work-gender nexus to the combined effects of neoliberal markets that encourage the commodification of land, and religious nationalism that supports the domestication of women, it is clear that for women in marginalised social groups and locations, as in the study context, the scope for negotiation and resource control declines. Additionally, both these forces establish formal and informal activities, not adequately valued and remunerated by markets, as exclusively women's work. With both markets and religion contributing to rigidifying divisions of labour, and normalising processes of privatisation and commoditisation of 'ecological capital', new social inequalities including of gender are visible in everyday transactions across social institutions. A first step in harmonising economic gains with social and gender equity and environmental sustainability is to give visibility to the continuum of the agrarian environment in both policy and research. Secondly, a better understanding of the forces leading to an alienation of people from their ecological context, both economic – the introduction of eucalyptus in the uplands, and extra-economic – the rapid advances of Hindutva ideologies in the context under study, can contribute to the development of interventions to strengthen and rebuild relationships of interdependence and mutuality on the ground.

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