

Implications of trends in Access, Benefits and Status of Common Lands in Karnataka¹

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ABSTRACT

We define Common Property Land Resources (CPLRs) as all common land resources to which the public or some communities have *de facto* access to, irrespective of the rights of exclusion, management or alienation. The wider academic literature contains debates about the usefulness of CPLRs, with advocates pointing to CPLRs as social safety nets, and critics favouring privatisation and individual land grant as being more efficient, especially in light of increasing developmental pressures and consequent markets for land. How the the problem is framed (CPLRs for what?) and how institutional arrangements are taken into account in evaluating economic outcomes of current and alternative models of CPLR governance will critically influence the outcome of this debate. We examine this debate in the context of Karnataka state in India. There is enormous diversity and complexity in tenure regimes under the broad category of CPLRs, and wide variation in their spatial distribution. Temporally, one sees consistent declines in certain CPLRs due to state giveaways, and some evidence for declining CPLR dependence as well, although this is sometimes a consequence of privatization. Nevertheless, there is ample evidence of **The historical endowment of CPLRs varies geographically and temporally, they generate significant use and non-use values at local and global scales. We then look at the drivers of change in CPLR area and condition, as well as the ecological and distributional impacts of these changes, using a clear normative framework. When we examine these debates in the context of Karnataka's CPLRs, we find an undiminished need to have well-managed rural CPLRs. The paper then looks at the governance reforms that may be necessary to manage and prevent conversion of CPLRs as well as to revive stakeholder interest.**

1. Introduction

Over the past several decades, researchers have argued that common property land resources (CPLRs) are important because of the high dependence of rural households on them, the particularly high dependence of the poor among them and the role of CPLRs as safety nets, the scarcity of fuelwood and fodder in rural areas and hence the importance of CPLRs as sources of these products as well as environmental services to the local and global economy. At the global level, the literature on these questions of CPLR dependence, its variation, and the more recent literature on product and service flows from CPLR is vast and well known. Some of the pioneering studies on dependence and effects of CPLR loss have come from Jodha's work across several states in India (Jodha, 1990; Jodha, 1987; Jodha, 1986). These have been followed by more studies at state or regional scales (Iyengar, 1989; Nadkarni, 1990; Beck and Nesmith, 2001; Beck and Ghosh, 2000), and more recently again at

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the national scale using NSSO data (Chopra and Dasgupta, 2008; Menon and Vadivelu, 2006). Most of these studies focus on the question of economic dependence, within the framework of poverty alleviation: viz., that if CPLRs turn out to be economically important for the poor, then they should be maintained as such.

There was perhaps some receptivity to this perspective at the national policy level in the 1990s, including the Joint Forest Management programme for forested areas, and the watershed development programmes for semi-arid areas that included significant support for ‘treating’ and regenerating CPLRs. At the same time, state level policies have generally been quite divorced from this perspective, and have treated CPLRs as land banks. While central intervention by the Forest Conservation Act 1980 stopped the trend of wholesale handing out of forest lands, CPLRs are still thought of as land banks at the disposal of the state, sometimes for the poor but increasingly for mining, wind farms, garbage landfills, or real estate and industrial development. With the introduction of the concept of paying Net Present Value for conversion of forests, there is a possibility that forest conversion will also be dictated by economic calculations. And it is hard to argue against the economic logic of converting uncultivated CPLRs to development projects, as the ‘net’ economic benefits of conversion may often be higher, although the distributional impacts may be quite regressive. There is also the concern, voiced occasionally in some studies, that dependence on CPLRs (even of the rural poor) may in fact be diminishing (Menon and Lobo, 2008; Kiran Kumar *et al.*, 2008). It appears therefore that there is a need for clarity on at least three points. Firstly, what is the normative frame through which one views the question of CPLRs and their conversion—is the concern about economic welfare, environmental concerns, equity, or about the process of decision-making? Second, how appropriate is it to use economic analysis and the calculus of opportunity costs to even estimate benefits and costs when the institutional context is not conducive to standard valuation? And are there ways forward to better governance?

In this context, we analyse the debates around CPLRs in Karnataka. We begin the paper by clarifying the normative frame(s) through which CPLRs may be looked at (section 2). We then provide an overview of the types of CPLRs in Karnataka (section 3), their spatio-temporal distribution (section 4) and current condition (section 5). We then summarize the empirical evidence as to the trends in CPLR dependence, particularly the arguments about declining dependence that undermine a role for local governance and lead to a liberal conversion policy. We conclude with observations on alternative approaches to CPLR governance.

2. Potential stakes (and stakeholders) in CPLRs

Granted that CPLRs exist in many areas as historically inherited property regimes, *whether* there should be any public policy on CPLRs and from what perspective is a question for which the answer cannot be taken for granted. Historical motivations (such as appropriation of the forests by the British in order to control timber and generate revenue) may no longer be valid. Unless the motivation for management (and hence for state policy-making) is clearly identified, most debates would be infructuous. In particular, it is important to clarify what is at stake and who are the stakeholders when talking about managing CPLRs.

For ease of exposition, one may categorize the benefits/beneficiaries of CPLRs into local and non-local benefits/beneficiaries. At one level, CPLRs have the potential to provide both product and service benefits to **local** households in several ways:

- a. Resources complementing household production and reproduction activities
 1. the provision of organic material like leaf manure and new soil for agriculture,
 2. fodder and grazing material for livestock held by farmers
 3. fuel-wood for domestic purposes and cottage/small scale industries.
- b. Resources directly providing income-generating livelihoods
 4. NTFPs and other minor forest produces
 5. Grazing for livestock held by pastoralists
 6. Timber
- c. Local social-ecological services
 7. Places of cultural and religious significance, and recreation
 8. Soil conservation and hydrological services
 9. Habitat for wildlife and biodiversity that are locally valued

At another level, CPLRs are also vital in meeting **regional and global** ecological and economic needs. These include:

1. wildlife/biodiversity habitat
2. watershed services (including hydrological regulation and soil conservation)
3. carbon sequestration

Under the current dispensation, CPLRs are also often a source of meeting the regional mineral, timber and pulpwood demands of the government and private industries.

The extent of CPLRs and the nature and distribution of benefits they provide between local and non-local stakeholders vary significantly across Karnataka. For instance,

- a. Western Ghats forests may in general have more biodiversity value, thus the global stake in Western Ghat CPLRs may be more than in the plains; but even dry areas have several endemic species and valued by regional and global communities. This is reflected in the recent pronouncement by Karnataka Biodiversity Board of 13 protected areas in the dry zones of the state.

- b. Forested regions may also have higher timber and firewood value, but again there are exceptions: Species like *Prosopis* may spread rapidly in dry areas and provide substantial fuel, and some fast-growing species such as eucalyptus may have high commercial value.
- c. Fodder is typically in greater demand and availability in drier regions, but also in great demand high livestock areas of the northern Western Ghats (Belgaum as against say Kodagu or Dakshina Kannada), and hence the fodder stakes are high in the drier regions and pockets of the Ghats, both for local landless and smallholders, and also for migratory pastoralists.
- d. Watershed services may depend critically upon slope, soil type and rainfall, and hence the significance of CPLRs that have the potential to provide such benefits is also dependent on the local geo-physical characteristics. Generally, the Western Ghats are seen as the recharge zones for the groundwater in the larger region, but even within the dry region, the hillocks and upstream CPLRs provide recharge for downstream groundwater users.
- e. The dependence of households on CPLRs varies based on the household's ownership and productivity of private agricultural lands, as we shall see later. In the current context, where local households do not have timber rights in most CPLRs, the absolute benefit gained is often positively the agricultural land owned, although relative incremental benefit may be higher for landless households.

In short, it is evident that CPLRs have the *potential* to provide substantial product and service benefits to a range of local and non-local stakeholders. In terms of public policy, one concern then is to maximise these product and service benefits. But in doing so, the state must also look at the opportunity cost of leaving the CPLR in its current state vis-à-vis converting it into a non-CPLR, which means (given our terminology) either cultivation or other non-vegetative uses (mining, quarrying, dams, roads, real estate). And here it is important to note that even the product and service benefits from these alternative land uses may not be zero. Converting CPLRs to cultivation in particular may generate significant product and service benefits.

There may be at least two other public concerns: sustainability and equity. Firstly, the actual stakeholders include both the current generation of users and the future generations of users. And given the nature of the ecosystem functioning (e.g., slow re-growth of forests), sustainability over time becomes an important concern, including adaptability to future environmental shocks like climate change. Second, there is a question of equity in the distribution of benefits, both *within* what we have loosely defined as 'local stakeholders' and between local and global stakeholders. If landless and marginal landowning households depend more heavily on CPLRs for subsistence needs, then social justice norms require that their needs be given priority. Similarly, the rights of nomadic pastoralists are often unrecorded but strongly supported by custom and tradition. In decisions about management and/or conversion of CPLRs, rights of these communities who are often not part of the resident (and voting) population need special treatment. Similarly, there is the question of a fair balance between local and regional/global stakeholders. CPLR management cannot be entirely dominated by local needs and priorities.

In practice, the major debate in CPLR policy has been over the two groups of stakeholders: local versus global. The colonial and post-colonial state took control of most CPLRs to meet its own

narrow interests of resource control and revenue generation. Subsequently, although local needs have been recognized, the idea of the 'environmental role' of CPLRs (especially forests) continues to have an overbearing influence on policy. In practice, the forest bureaucracies do not want to give up control, especially over valuable timber resources, even if they cannot limit access fully. On the other hand, the revenue department that controls non-forest lands, exercises its power in the form of permission for conversion to private/developmental uses. Thus, in one case the global stake is emphasized and full state control is recommended, and in the other case the absence of any significant stakes is emphasized, and state controlled conversion is recommended. The argument is increasingly being made that locally used CPLRs are a vestige of the past. We now consider these arguments in the context of Karnataka state.

3. Definition of CPLRs and their diverse forms in Karnataka

We use the term CPLR to mean all land resources to which the public or part of the public have legitimate stakes or have *de facto* access, regardless of legal status. Thus resources that are managed by the community itself as well as resources owned either by the state or by private persons with *de facto* open access to multiple people are considered to be CPLRs. This would include forest and grazing lands, mineral resources, privately owned but openly accessed fallows, irrigation tanks, rivers, tank and river beds, urban public lands, and so on. However, in the context of land resources and for the purposes of this paper, we confine ourselves to rural uncultivated lands owned by the state.² These lands may be exclusively managed by the state (as in the case of Reserve Forests), might be *de facto* open access (as in the case of Protected Forests and many other lands) and may occasionally be under (most informal) community management. In effect, we are saying that the "CP" in "CPLR" may refer to common access³, not common property.

The reason for such an inclusive (or permissive) definition is as follows. Admittedly, if one follows the hierarchical classification of regimes as 'authorized users', 'authorized claimants', 'proprietors' and 'owners' (Schlager and Ostrom, 1992; Agrawal and Ostrom, 2001)⁴, then including all situations where there are authorized users, regardless of their management and exclusion rights would be tantamount to equating CPLRs with simple easements. But one must recognize that present property rights regime is an artefact of the colonial period, in which the higher level rights (of management and exclusion) of local communities were by and large obliterated, and that this trend continued in the post-independence era. Therefore, it is better to include all commonly accessed

² We do not include 'commonly held or managed' agricultural lands, as there are almost no examples of this left in Karnataka state today. We also do not include seasonally open access resources, such as post-harvest agricultural lands, which may be important in some states and for some communities (Beck and Ghosh, 2000), but seem still a smaller part of the issue of CPLR management and conversion. Finally, we do not focus on urban parks or other urban commons, and also do not include underground mineral resources from any direct discussions.

³ Or common-pool, which makes exclusion difficult and *de facto* access easy.

⁴ Which corresponds to whether the user has only 'rights of withdrawal', or also 'of management', 'of exclusion', and of 'alienation'.

resources, keeping in mind the possibility that communities may actually lay exclusive managerial claims to them, given a chance.⁵

In Karnataka, CPLRs are spread across diverse administrative categories, with diverse local nomenclatures and forms, and controlled by various arms of the state, including the Forest Department (FD), Revenue Department (RD) and to some extent, the local Gram Panchayats (village councils created under the 1992 constitutional amendment). This diversity in nomenclature and administration of various categories of lands probably exists in most other states of India, but is perhaps extreme in Karnataka because the state was formed by aggregating regions from five different pre-independence administrations (British provinces and princely states). Although unified legislations were passed after the formation of Karnataka state (in particular the Karnataka Land Revenue Act and the Karnataka Forest Act), no real attempt was made to rationalise these categories. For example, within the Western Ghats forested region, where most public lands are or were covered by forests, there is a wide range of individually controlled regimes with different names in each district (*soppinabettas* in Uttara Kannada (UK), Shimoga (SHM) and parts of Chickmagalur (CHM), *Sagu* and *Jamma baanés* in Kodagu, *haadis*, *kumkis* and *kaané-baanés* in Dakshina Kannada (DK)/Udupi districts) with different rights, allocation rules and administrative responsibilities (see Srinidhi & Lele, 2001 for details). Other common lands are again under different categories, with Minor Forests dominating in Uttara Kannada, *Gomaals* in Shimoga, Assessed Waste Lands in Dakshina Kannada and *Paisaris* in Kodagu). Different categories dominate in the eastern plains (Maidan) region, particularly *Gomaals*, Amurth Mahal Kavals and Reserve Forests in the southern Maidan and Hullu-banni and Reserve Forests in the northern Maidan regions.

Along with this diversity of regimes, there is enormous diversity in the physical condition of the CPLRs: they range from dense semi-natural forests to managed tree savannas to pure grassland to barren hillocks. Today, many CPLRs are also covered with monocultural plantations taken up under Social Forestry programmes or subsequent Joint Forest Management. The use of CPLRs also ranges from firewood collection, leaf collection, grazing, and fodder collection to NTFP collection, timber harvesting and water harvesting.

Nevertheless, one may broadly group the rural CPLRs into three categories:

- a) Forest-related CPLRs: The different legal forest categories which local communities typically have access to and would therefore be characterised as CPLRs in our definition, including Reserve Forests, Minor Forests, Protected Forests, Village Forests, individual or group access forest lands like *Soppinabettas*, *Kumkis* and *Baanés*, and (in cases where there is villager access) even parts of Wild Life Sanctuaries and National Parks.
- b) Major non-forest CPLRs: The legal categories of revenue lands coming under CPLRs, including *Gomaal* (grazing lands), *Amruth Mahal Kavals* (grazing lands reserved for state use), *Hullu-banni*, *Paisaris*, and Assessed Waste Lands ('waste' because they do not generate revenue).

⁵ As is now beginning to happen under the Forest Rights Act 2006.

- c) 'Minor' non-forest CPLRs: *These include Parambog (permanently open for public use—rivers and roads), Gundu-thopu (small plantations), , and smaller and functionally specific common lands like Gramthaans (settlement areas), Kere-angala (lake foreshore), Smashaana (graveyards), Daari (road) that are typically under the control of the Gram Panchayat. (See Nadkarni, 1990; Krishna Murthy, 1989; Srinidhi and Lélé, 2001 for details).*

The first two categories hold the major amount of land, and shall be the main focus our discussion hereafter.

It might appear that there is a good correlation between a CPLR being 'forest-related' (some form of forest vegetation) and being managed by the forest department or being legally declared as forest land, and others being declared as revenue lands and managed by the revenue department. But there are significant deviations and complexities. Firstly, departmental control may vary quite a bit—with some legal forest lands managed by the revenue department, and the forest departments may be managing revenue lands. Secondly, the physical status also varies significantly within each category: legal forest lands may be grasslands or in various stages of degradation or modified vegetation and some revenue lands may actually be physically forested. It is difficult to provide rigorous estimates of resource condition disaggregated by legal type, because the condition of land records is enormously confusing and spatially referenced ownership boundaries (even for the broad category of 'state-owned lands') are not available. Individual studies have managed to provide information at the village-level or multi-village level (Lélé *et al.*, 1998; Lélé, 2001; Nagendra and Gokhale, 2008), using which we present some broad observations on tenurial category, location, the categorization in government statistics, the manner of state control and local rights, and the physical condition for the forest-related CPLR categories in Table 1.

Table 1. Different tenure regimes of CPLRs in Western Ghat districts (based on Srinidhi & Lélé 2001)

Tenure & location	Land use type (DES 9 fold)	Access	Control-ling dept.	Rights	<i>De facto</i> situation
Minor Forests (UK district)	Forests (RF)	Largely open	FD	Fuel wood, fodder for self. cons. MFP , timber etc (FD/Contractors)	Physical status is mixed, Rights curtailed some times, govt. allots housing sites
Assessed Waste Lands of DK & Udupi districts	Misc.Trees & Groves, Pastures, Barren?	Largely open	RD	Fuel wood, fodder for self. cons. MFP (RD)	Significant fractions encroached for cultivation, otherwise degraded
Soppina Bettas of UK district	Forests (PF)	Private or groups of households	FD+RD	Fuel wood, fodder for self. cons. MFP (FD). Pepper cultivation allowed	Varies from dense trees to tree savanna to pure grassland.
Soppina Bettas of CM, SHM districts	Pastures, Forests, misc.trees and groves	Private or groups of households	RD	Fuel wood, fodder for self. cons. MFP (FD), but sold privately too. Pepper cultivation allowed	Vegetation varies. Some joint patches have been divided
Haadis of DK, Udupi district	Misc trees & groves, forests,	Private or groups of households	RD+FD	Fuelwood, fodder, leaves, timber, MFP	Significant tree cover, but some are cashew plantations
Gomaals (Most districts)	Pastures, Barren?, Misc.Trees and groves	Largely open	RD	Fuelwood, fodder	Barren except if brought under Social Forestry; often allotted for developmental projects, housing or land distribution

Note: Acronyms refer to different districts and departments of Karnataka: see text.

4. Spatio-temporal distribution of CPLRs in Karnataka and their current condition

The CPLRs and their categories described in the previous section vary in their location and extent across Karnataka. Exact data on the village-wise, taluka-wise or even district-wise extent of each of the above mentioned legal categories are absent.⁶ We have to make do with the nine-fold landuse data compiled by the Directorate of Economics and Statistics, and end up with two categories of

⁶ Some data have been compiled for just the Western Ghats districts by researchers ((Srinidhi and Lélé, 2001; ISEC and NST, 1998). Unfortunately, the recent award-winning programme for Land Record computerisation (called Bhoomi) failed to record these diverse categories.

public lands (forests and pastures) and one category of mixed public and private land (fallow/cultivated waste). The spatio-temporal trends in these statistics are given in Table **Error! Reference source not found.** We have used the four major agroclimatic zones of Karnataka: the coastal and mountainous high rainfall zone, the transitional zone of medium rainfall (900-1500mm) and the northern and southern dry (<900mm) plains (*maidan*).

Table 2. Percentage of various land use/land tenure categories in different regions of Karnataka

Particulars		Regions				State Total
		Coastal and Ghat	Mixed/Transitional	Northern Maidan	Southern Maidan	
TGA	2004	20.15	19.32	36.83	23.69	100.00
Permanent Pastures	1986	9.39	4.38	1.79	11.10	5.94
	1996	8.58	3.49	1.72	9.66	5.27
	2004	8.53	3.79	1.70	7.96	5.00
Forests	1986	42.16	15.09	5.49	7.56	16.09
	1996	42.14	15.08	5.54	7.56	16.08
	2004	43.09	16.92	5.77	8.61	16.12
Permanent Fallows and Cultivable Wastes	1986	5.44	3.40	3.31	7.09	4.56
	1996	5.06	3.79	3.35	5.98	4.39
	2004	5.03	4.73	3.02	6.29	4.70
Cultivated Area and Current Fallows	1986	28.08	67.07	80.88	57.93	60.94
	1996	28.36	67.19	80.54	59.76	62.26
	2004	27.34	62.99	80.93	59.81	61.17

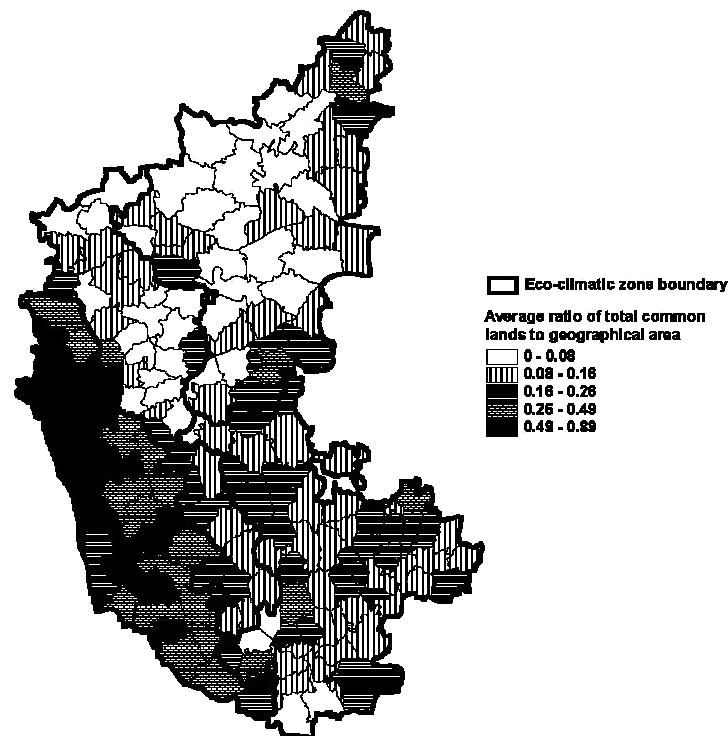
Source: Based on land utilisation data from Dept. of Economics and Statistics, GOK
Table design based on Nadakarni (1990)

We see that CPLR endowment varies significantly across different eco-historical regions of Karnataka. For example, the Southern Maidan regions have traditionally had more Permanent pastures as well as permanent fallows and Cultivable wastes than other regions. The Northern Maidan region has had the least amount of CPLR endowment. Note that these official figures do not correct for lands which have actually been encroached for cultivation or other private activities. Thus, the actual extent of CPLRs, especially in the pasture and cultivable waste category, is smaller than reported here (Nadkarni, 1990; Damodaran, 1987).

In understanding the inter-regional variation in the extent of CPLRs, two factors, namely physiography and history, emerge as important. The local physiography often decides whether agriculture is able to spread into inaccessible or steep areas which earlier constituted CPLRs. This

kind of terrain is a natural deterrent for cultivation, except in the case of crops like Coffee or Tea which require sloping lands. On the other hand, even between eco-climatically similar regions such as the northern and southern Maidans, there is a big difference, which has to be largely explained by history. The Southern Maidan has had a long history of princely state policies that have fostered the existence of Gomaals and Amruth Mahal Kavals.⁷ On the other hand, the Nizam's regime that previously held much of the northern maidan region appears to have favoured the expansion of cultivation, so as to increase land revenues. This variation comes out sharply when village-level data are used to depict average CPLR endowment as a fraction of the total area of the village (Figure 1).

Figure 1. Fraction of total common lands to TGA (: (Source: Lélé *et al.*, 2005)



One can see from Figure 1 that, even within the same region, there is significant variation in the endowment of CPLRs across villages. This reflects micro-level differences in physiography, but also that the use of village-level data masks the fact of shared use of the commons by multiple villages. This has important implications when one discusses the question of assigning use rights or management rights across communities.

In spite of the problems with the data, it is indisputable that, all over Karnataka, the CPLR area has gradually declined. This 'officially recorded' decline in CPLRs is mostly due to implementation of land

⁷ Although there is some debate about whether the Kavals ever served as commons in the true sense is debatable, given that they were set up to meet the needs of the king's special livestock (Nadkarni, 1990). It has been argued, however, that the specially bred livestock served as a public resource (for breeding) and that some grazing was permitted in these lands (Krishna Murthy, 1989; Bandyopadhyay *et al.*, 1988).

grant programmes (Nadkarni, 1990) as well as conversion of CPR lands for purposes like mining, dams, wind farming and other industries (Nadkarni *et al.*, 1989). Permanent pastures, which are administratively the easiest to 'give away' because they do not come under central regulations such as the Forest Conservation Act 1980, show an rapid decrease in area in all the four regions of Karnataka.

Similarly, all studies and discussions with officials indicate that the extent of encroachment of CPLRs is quite significant. Encroachment for cultivation is possibly the single biggest cause for declining extent of CPLRs, although the beneficiaries in most cases (excepting big encroachments for coffee cultivation in the forested Western Ghats) are equally likely to be large or small farmers or landless (Robinson, 2008). A recent trend has been the encroachment of CPLRs for illegal mining and quarrying (Anonymous, 2010). Encroachment has been so widespread and persistent, and driven partly by poverty, that some government officials suggest that other than periodic regularization and legalization of such encroachments, there is no other effective way to actually prevent encroachments. Pessimistic estimates often mention that all *useful* CPLRs have already been fully encroached. While we could not gather extensive data ourselves, our field work in each of the regions is that this is true only if a) one treats 'useful' as equivalent to 'cultivable', b) one excludes forested areas from CPLRs, and c) one assumes that all encroachments are being productively used. In other words, although encroachment is a major issue, we believe there are still tens of thousands of villages in the 30,000-odd villages in Karnataka where *de facto* CPLRs are significant in extent.

5. Current condition of CPLRs

If data on the extent itself are inaccurate, the data on condition are even fuzzier mainly due to a lack of bench marks or reference points. But more importantly, before one gets into any assessment, one has to recognise that the assessment of 'condition' is closely tied to the use or benefit that one has mind and the potential benefit possible in a particular ecological context (Lélé, 1994). For example, a gomaal (grazing land) with zero canopy cover will look 'degraded' in the eyes of the forester, and will register low on most measures of forest cover in satellite images (such as NDVI), but in fact this gomaal may be fully meeting local grazing/fodder needs through good grass growth. Not surprisingly, grasslands and tree savannas routinely get mis-classified with 'degraded scrub' in official maps (Lélé *et al.*, 1998). Similarly, the scrub thorn 'forests' of the dry regions may look 'poor' compared to the lush evergreen forests of the Western Ghats. Thus, we cannot use uni-dimensional 'forest cover assessments' of the type put out by the Forest Survey of India (FSI, 2007) to arrive at a simplistic ranking of CPLR status.

If one uses field level data, and takes 'meeting local needs' as the primary objective, one may still conclude that many of the CPLRs are in various stages of degradation, i.e., they are unable to provide the material (esp. fuel and fodder) needs of the local community at the level that they potentially could (Bhagavan and Giriappa, 1987). In the forested regions, the main reason for this is *de facto* open access, leading to unregulated extraction, and consequent decline in the productivity of the vegetation.

Degradation may also take other forms. Many of the drier regions in Karnataka are witnessing widespread invasion of *Prosopis*, an invasive tree species. This serves as a temporary relief in at

least meeting fuel-wood needs of rural households, but its long-term implications are not clear. Similar effects are being felt due to lantana invasion in the forested areas.(e.g., Murali and Setty, 2001).

Another form of 'degradation' that has taken place is where land-use has been forcibly changed to better suit non-local needs. The implementation of programmes Social Forestry in the 1980s on non-forest CPLRs significantly curtailed access to area available for grazing either by conversion of such lands to soft-wood plantations or by preventing access to livestock access to grazing lands that lay further off such plantations (Damodaran, 1987; Nadkarni and Pasha, 1993; ODA, 1992). Under the Japanese Bank supported Joint Forest Planning and Management (JFPM) programme implemented in the eastern plains starting late 1990s, significant grazing areas were again brought under plantations (Lélé *et al.*, 2005). The same thing happened with afforestation programmes in the Western Ghats, which targeted the meagre open-canopy areas (Saxena *et al.*, 1997). Proposed policies to support the cultivation of bio-fuels such as *Jatropha* or *Pongamia* on common lands again run the risk of reducing access for other uses.

Interestingly, in many cases, neither regional/global nor local needs are met sufficiently and even if particular stakeholder's needs are met, there is no guarantee of these needs being met sustainably in the future. In very few cases where state control is total, as is the case of National Parks and Wildlife Sanctuaries, the resource has ceased to be CPLRs and local needs of fuel and fodder are not met, while wildlife conservation needs are favoured (assuming there is no poaching).

Finally, as mentioned earlier, illegal 'encroachment', which means conversion of CPLRs to other uses (usually agriculture, but increasingly also housing, quarrying and mining) is also a significant trend in the condition of CPLRs.

6. Reasons for the degradation of CPLRs

The reason why CPLRs are being converted into private agricultural lands is relatively straightforward: the benefits that individuals (especially landless ones) can obtain from degraded and open-access lands are much lower than they may individually and temporarily obtain from cultivating such lands, even though the costs imposed on (at least some members of) the larger community may be significant.

The more complicated question, however, is why the community permits such encroachment and equally or more important, why the as-yet-publicly-held CPLRs are in degraded condition or degrading (implying mis- or non-management). Again, it is important to be sensitive to the definition of degradation before trying to explain it. We can relate the definitions to the categories of benefits described in section 2, viz., local and non-local.

What then explains the current inability of CPLRs to meet *local needs* at the level that they could? Several explanations appear to hold simultaneously or for different regions/situations for this mis- or non-management from a local perspective. We outline three possible arguments, which all assume that there is a local interest in CPLR management, but it is not properly articulated. In the next section, we consider alternative arguments that trace the role of economic development.

a. Administrative explanation: Fuzzy and over-simplified nature of land records

The status of land records regarding public lands is extremely fuzzy and non-transparent in Karnataka. We have already described the complexity of tenurial regimes that it has inherited and the refusal to rationalise them so far. This complexity, coupled with maintenance and updating of these records, means that the exact status of many lands is under question. For instance, in the undivided district of Dakshina Kannada, a joint ISEC and NST study (ISEC and NST, 1998) showed that the estimate of legal forest area in the district varied from 32% (of total district area) as per Revenue Department records to 44% as per Forest Department records! Many other instances of fuzziness of records have been noted by the Forest Department itself (Dilip Kumar *et al.*, 2005). Moreover, cadastral maps which are an essential spatial record of land ownership, are out of date and inaccurate especially when it comes to boundaries of public lands. And unfortunately, the state government's otherwise innovative effort to computerise land records and make them publicly available has failed to pay due attention to public lands—they have not recorded any of the complex categories nor made these records accessible to the public, let alone trying to resolve contradictions in the records (Srinidhi and Lélé, 2001).

Fuzzy and non-transparent land records have hampered proper governance of CPLRs in many locations or situations. Perhaps the biggest problem is the non-recognition of local rights. Often, this has enabled the Forest Department to plant up lands that were legally reserved for grazing or local use (see, e.g., the transfer of common lands to pulp mills described in Hiremath, 1997).⁸ In many other cases, it has enabled the Revenue Department to hand out lands to well connected or powerful encroachers (Someshwar, 1995).

Clearly, the refusal to recognize pre-existing rights, to reconcile land records, to resurvey boundaries, to make records publicly available or to rationalise tenurial categories cannot be put down only to lack of knowledge or 'mistakes' in the *Bhoomi* programme. The issue is perhaps not in the interests of the politically powerful classes, in which the land mafia plays a prominent role.⁹

b. Institutional explanation: Historically open-access situations and poorly designed institutional arrangements for CPLR governance:

The most important and widely applicable explanation is that in the British colonial state, CPLRs became state property and local institutions for their management disappeared, and these institutions were not restored (in fact were further suppressed)¹⁰ by post-independence

⁸ The Forest Rights Act 2006 has the potential to rectify some of these missing rights, but it is not making any headway on this issue in Karnataka.

⁹ For instance, the case of encroachment of forests by large coffee planters in Chickmagalur district involved powerful political figures and hence could not be pursued vigorously by the Forest Department, in spite of Supreme Court pressure to do so.

¹⁰ For instance, even the Panchayat Forests that had been set up under Madras Presidency in parts of Bellary district and the Village Forests set up in Shimoga and Uttara Kannada were all dismantled after the passage of the Karnataka Forest Act in the mid-1960s (see Shetty, 1988; Lélé *et al.*, 2005).

governments (Gadgil and Chandran, 1988; Nadkarni and Pasha, 1993). The description of the current tenure regimes given in Srinidhi and Lele (2001) bears out the fact that local users have access rights but not management rights,¹¹ which vest with the Forest or Revenue Departments. This explanation holds good particularly for forest lands that are used by local communities but over which they have no control. This being the situation in most non-individually controlled forest lands, it explains the bulk of the degradation in the forested regions or pockets. It also explains the degradation of many gomaals, because the Revenue Department could not manage grazing practices but did not empower local institutions to manage them either.

Whenever attempts have been made to transfer management to local institutions, whether Gram Panchayats (under Social Forestry) or Village Forest Committees (under JFPM), the multiple institutional conditions for enabling successful local management have not been met. In the case of Social Forestry, the Gram Panchayats are too large and remote from the resource, and do not have statutory powers to manage the resource, apart from the fact the mandate given to them is restrictive (maintain plantations on what was originally grazing land—a mandate they would not be able to follow if they were truly representing their constituency!).

In JFPM, the FD retains too much control, thereby imposing its own objectives (Saxena *et al.*, 1997; Lele *et al.*, 2005). Moreover, it does not have statutory backing and does not bring all CPLRs under management, thus preventing communities from investing seriously in their management (Lele, 2001b). Alternatively, the JFPM structures are such that they enable elite capture in collusion with the Forest Department, leading to generation of cash income for the elite at the cost of other livelihood needs of the marginal and poor households (see Lele *et al.* 2005).

The same failure of institutional arrangements results in excessive conversion to mining or quarrying or other non-agricultural activities (highways), because these decisions do not involve any consultation with, let alone primary role for, local communities. It also means that local communities that have an interest in managing for biomass resources may not take up this task because they know that at any moment the state government can step in and reassign this land for a highway or some other 'developmental' activity which has only marginal benefits for them (Foundation for Ecological Security, statement in Bangalore consultation with Sub-Group VI).

Even when non-local needs are prioritised, it is true empirically that the state often cannot exert adequate long-term control over the resource in the face of hostility generated from exclusion of local communities, because such control comes at a high cost. Policing of National Parks and Sanctuaries is a case in point. Social Forestry plantations which were protected by the state for the initial few years are a better example: as soon as state controlled relaxed, local communities have often cut down these plantations (Lele *et al.*, unpublished study of Social Forestry plantations in Karnataka, 1998).

¹¹ As Nadkarni et al (1989) put it, communities were alienated from management, not from use.

- c. *Sociological explanation: Social conflicts act as barriers for collective action among local communities.*

As discussed above, interest in CPLRs even at the local level is not homogeneous. Different communities or classes may have different interest in the CPLRs. In addition to or independently of this material heterogeneity, there are many situations of socially generated conflicts, even though the community is dependent on them. Alternatively, the reduced dependence of the elite in a village setting where power still is differentially wielded means that the poorer groups cannot organise on their own to take over the CPLR that they may continue to depend upon. Further, Manor (2007) notes that in Karnataka, while caste hierarchies have been broken down, the divisions within villages based on caste identities have increased. This has made collective management difficult for CPLRs although households themselves are still dependent on CPLRs. What is not clear, however, is how much these difficulties are the product of the history of state bureaucratic control that has alienated communities from their management role.

7. Are CPLRs still locally important?

All the previous explanation rest on the assumption of local dependence, and seek to explain CPLR degradation that happens *despite* this dependence. Is it, however, possible that the dependence on CPLRs was a historical phenomenon, with development leading to declining dependence? If so, CPLRs may be *accessible*, but not being *accessed* very much and/or only because other landuses are not permitted. There are two strands to this argument: decline of historical dependence modes and increase in the value of alternative landuses due to development.

- a. *Declining dependence on CPLRs reduces incentive to manage locally*

In an early study Kanbargi and Kanbargi (Kanbargi and Kanbargi, 1991) argued that as a village becomes more prosperous, its CPRs decline, and that this does not produce any adverse impact, but is in fact part of a 'natural' process of development. Dependence on CPLRs has also declined sharply in those forested regions where forests have been extensively converted to coffee/tea or rubber plantations (Lélé, 2001;2006). Similarly, studies in the dry region show that when agriculture undergoes a transformation from traditional to modern, with the spread of irrigation, use of chemical fertilizers, and cross-breed animal husbandry, the dependence on CPLRs declines (Kiran Kumar *et al.*, 2008; Purushothaman *et al.*, 2009). This happens due to the fact that irrigation results in higher cropping intensities and thus the quantity of agricultural waste generated increases, feeding the livestock, thereby reducing dependence for grazing. Similarly, adoption of modern animal husbandry techniques reduces grazing dependence since more and more feed needs to be sourced from the market. Finally, demand for wage labour in irrigated agriculture increases, creating alternative sources of livelihood.

There is also some state-level evidence of declining importance of livestock-based livelihoods. The 17th Indian Livestock Census indicates that livestock population in Karnataka (other than cross breed cattle and poultry) showed an overall decline of 10.18% between 1997 and 2003. Adoption of external input extensive agricultural systems (like heavy use of chemical fertilizers and irrigation) lessens the consumption of leaf manure as well as farm yard manure effectively

reducing the dependence on CPLRs. Increased income and better distribution systems allows a shift from fuelwood to kerosene and especially to LPG.

b. Alternative uses of the CPLRs acquire much higher value

In recent years, certain CPLRs especially in the plains region, have acquired enormous value for their granite or iron ore deposits, special economic zones or urban residential expansion. This has put enormous pressure for their conversion. It is quite possible that even if the local community was fully in command of the CPLR, they might decide to convert it to mining or quarrying.

However, the key point to be noted is that the evidence in support of declining dependence uses a measure of dependence (=current economic benefits) that has major limitations. First, it refers to actual benefits derived, not potential benefits if the CPLR is regenerated. Given that the CPLRs are in degraded condition in many places or have been shifted to other uses (as described in section 5), what looks like lower level of benefits may simply be a result of non-availability of the desired benefits from CPLRs (Pasha, 1991; Damodaran, 1987). Conclusions about potential benefits and significance of CPLRs based on current levels of benefit under conditions of open-access would be erroneous.

Second, the low level of current return to local users is the result of restricted property rights. Specifically, local users do not have timber rights (except in some cases for limited domestic use). The same land, when converted to private land, would become available for farm forestry. So one is comparing apples and oranges—CPLRs with no timber rights versus private lands with timber rights—and concluding that CPLRs do not generate benefits comparable to private lands. At another level, rights of harvest may be given, but marketing may be heavily regulated, resulting again in lower benefits to local harvesters. The classic example is the marketing for non-timber forest products, which the state has tried to control through state-supported cooperatives. Improvements in the functioning of these cooperatives can lead to doubling of incomes for collectors (Lélé and Rao, 1996; Lélé *et al.*, 2004); estimates based on current functioning would then be gross underestimates of the 'value of NTFP benefits from forests'.

Third, information on the importance of local ecological services scarce to non-existent, so it is difficult to assess whether the reduction in direct product dependence means there is no remaining incentive for local management. Studies on ecosystem services such as pollination services provided by forests to agriculture have begun to show that these CPLRs are still important for local communities (Rehel *et al.*, 2009). Moreover, in many regions, forested or dry, the dependence of marginal and landless households is acute (Shaanker *et al.*, 2004; Hegde *et al.*, 1996). On the whole, we would argue that there are significant variations in terms of local dependence on CPLRs, both across and within regions and within villages. The dependence is still quite high in many parts of the forested region, in the transition belt, and in pockets of the dry regions where CPLRs are still available (Lélé, 2001), although dependence may be highly stratified (Lélé *et al.*, 2005).

Finally, the changing face of rural communities and economies may lead to a changing dependence, rather than non-dependence. Agriculture may become less dependent for direct input of (say) leaf manure, but more dependent on hydrological services (as water becomes scarcer) or pollination

services (as pollinator communities within agricultural lands get depleted). Recreation is a value typically attributed only to urban consumers, but there is no reason why, as rural communities prosper, they may not assign increasing importance to this benefit of their local CPLRs.

In short, while some trends in declining dependence are visible, the lack of local ‘interest’ in CPLRs as commonly managed resources is more a reflection of the institutional context rather than of a homogeneous, secular and inexorable decline in the importance of CPLRs for local communities. Local dependence, especially of the poor, continues, and the reconciliation of local interests (and intra-local differences) with global stakes will have to be the focus of policy regarding CPLRs.

8. Towards better CPLR policy

We began by framing the question around CPLR governance in terms of the variety of potential stakeholders and concerns that might underpin policy on CPLRs. We then reviewed the empirical situation in Karnataka, pointing out the enormous diversity of regarding the types of CPLRs, their spatial distribution and changes over time, their condition as seen from different vantage points and the possible reasons for this condition. Two clear threads emerge: one of physical degradation and conversion of CPLRs, and one of persistent non-recognition of a local voice in managerial and conversion decisions about CPLRs. Since at least the 1990s, academics and activists have repeatedly linked the first to the second, i.e., the degradation of CPLRs is a result of local communities not being given rights to manage and govern them. Various state programmes and policies have sought to respond to these critiques with (relatively feeble) attempts to increase local control on CPLRs.

Recently, a third thread, the possibility of declining local interest in CPLRs, has emerged. Some of this literature may simply be pointing out heterogeneities in dependence and reverse causality (degradation of CPLRs leading to declining returns). Some of the development-induced trends in CPLR use may nevertheless be true. After all, livelihoods that are not based either on forest-produce collection, pastoralism, or even agriculture, are bound to see declining *direct* dependence on the uncultivated landscape—this has been the history of development till now.

The conventional interpretation of the evidence of ‘declining direct dependence’ has been to argue for a combination of state control over the ‘globally useful’ CPLRs (high biodiversity forests), the conversion of low-biodiversity areas into commercial plantations,¹² and the conversion of other low-value areas to either land for the landless or (more likely) lands for industrial development, mining, airports and special economic zones. These approaches to governance of CPLRs existed even with the evidence of high dependence was incontrovertible; it is just that signs of declining dependence are used to bolster the push for exclusive state control and/or conversion.

We have argued that the evidence for declining dependence is limited, and these declines are happening in certain institutional contexts, where communities exert no control on the direction of CPLR management or its quality, and where local elite continue to capture any significant opportunity for decentralized control (e.g., Lélé *et al.*, 2005).

¹² Witness the repeated efforts by industrial to gain ‘leases’ in common lands for commercial plantations.

At another level, there may be arguments for decentralization that transcend the presence or absence of tangible local interest. They relate not to the *outcome* of CPLR management but the *process* of CPLR governance. In both global and Indian discourses on development and governance, there has been a strong emerging concern regarding the need for ‘democratization’. This includes a sub-altern perspective favouring an increase in the voice of local communities in the governance of their immediate environment, a voice that has been suppressed for the last two centuries. The 1992 constitutional amendment that created three-tiered governance below the level of the states was the first official recognition of this concern in India. One may therefore argue that community-accessed land resources should become community-managed land resources regardless of the nature of the community’s dependence.

If the state’s normative concerns include not just the immediate land needs of the local poor but the overall and long-term set of benefits generated by CPLRs and a commitment to democratization of governance, the implication may not be not a simplistic proposal for common land management at the community level. Rather a sophisticated, multi-layered and regionally calibrated proposal for **democratic governance of public lands** that includes an integration of forest and non-forest lands, and an open recognition of multiple and partially conflicting stakes, and a particular sensitivity to the pressures of poverty on the poorest sections. Some elements of such a proposal might include:

1. A two-stage CPLR rights reform that accommodates the needs of the landless and pastoral nomads by preferentially giving them individual and secure usufruct rights—such as a ‘tree patta’ and ‘grazing patta’-- in specific portions of CPLRs, nested within hamlet-level community management of the larger CPLR on the lines of the Forest Rights Act 2006.
2. The devolution of regulatory power to district-level governments (not bureaucrats) regarding the conversion of CPLRs to other landuse, but with the strict requirement of hamlet-level consent for such conversions.
3. Implementation of the proposal through state-level legislation that bolsters the Forest Rights Act 2006, but is cognisant of state-specific variations in conditions and historical regimes.

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