

Nilgiris District, Tamil Nadu

Connie Smith

Tamil Nadu Overview

Tamil Nadu is bordered by Pondicherry, Kerala, Karnataka and Andhra Pradesh. Sri Lanka, which has a significant Tamil minority, lies off the southeast coast. Tamil Nadu, with its traceable history of continuous human habitation since pre-historic times has cultural traditions amongst the oldest in the world. Colonised by the East India Company, Tamil Nadu was eventually incorporated into the Madras Presidency. After the independence of India, the state of Tamil Nadu was created in 1969 based on linguistic boundaries. The politics of Tamil Nadu has been dominated by DMK and AIADMK, which are the products of the Dravidian movement that demanded concessions for the 'Dravidian' population of Tamil Nadu.

Lying on a low plain along the southeastern coast of the Indian peninsula, Tamil Nadu is bounded by the Eastern Ghats in the north and Nilgiri, Anai Malai hills and Palakkad (Palghat Gap) on the west. The state has large fertile areas along the Coromandel coast, the Palk strait, and the Gulf of Mannar. The fertile plains of Tamil Nadu are fed by rivers such as Kaveri, Palar and Vaigai and by the northeast monsoon. Traditionally an agricultural state, Tamil Nadu is a leading producer of agricultural products.

Tribal Population

As per 2001 census, out of the total state population of 62,405,679, the population of Scheduled Castes is 11,857,504 and that of Scheduled Tribes is 651,321. This constitutes 19% and 1.04% of the total population respectively.¹ Further, the literacy level of the Adi Dravidar is only 63.19% and that of Tribal is 41.53%. This is low when compared to the overall literacy rate of the State, which is 73.45%.² Out of the 36 Scheduled Tribe communities in the State, six tribal communities have been identified as Primitive Tribal Groups; these are the Toda, Kota, Kurumbas, Irular, Paniyan and Kattunayakan.

Agriculture³

AGRICULTURE 2004-05		
Total Cultivated Area (Ha)	5,889,069	
Net Area Sown (Ha)	5,097,011	
Area Sown more than once (Ha)	792,058	
Area and Production of Principal Crops	Area (Ha)	Production ('000 Tonnes)
	(in '000)	

¹ P.1 Policy Note 2006-2007 Demand No.4 Adi Dravidar and Tribal Welfare Department, Tamil Nadu

² P.1 ibid.

³ From <http://www.census.tn.nic.in/pca2001.aspx>

Paddy (Rice)	1873	5062
Millets and Other Cereals	824	868
Pulses	590	216
Sugarcane	222	24457
Groundnut	616	1005
Gingelly	73	34
Cotton (bales of 170 Kg. lint)	129	195
Agricultural Land Holdings (2000-01 Agricultural Census)		
Holdings (No.)	7858887	
Area (Ha)	6971516	
Average size of Holdings (Ha)	0.89	

IRRIGATION 2004-05	
Net Area Irrigated (in Ha.)	2637198
Government Canals	753259
Private Canals	560
Tanks	465355
Tube Wells	315629
Open Wells	1084765
Other Sources	17630
Gross Area Irrigated	3087108

Tamil Nadu has historically been an agricultural state, although its advances in other fields have made the state competitive in other areas. Even so, Tamil Nadu is a leading producer of agricultural products in India, despite being heavily dependent on the river water and Monsoon rains. The perennial rivers are Palar, Cheyyar, Ponnaiyar, Kaveri, Meyar, Bhavani, Amaravati, Vaigai, Chittar & Tamaraparani. Non-perennial rivers include the Vellar, Noyal, Suruli, Gundar, Vaipar, Valparai and Varshali. Tamil Nadu is also the leading producer of kambu, corn, rye, ground nuts, oil, seeds and sugar cane in India. At present Tamil Nadu is India's second biggest producer of rice, after Punjab. Tamil Nadu is also the only state to have a formal Bio-Diesel Policy using jatropa plant crops.

Forests:⁴ As per the latest State of Forest Report 2003 of Forest Survey of India, the forest cover of the state is 22,643km², or 17.41% of the Geographical Area of the State. There has been a net increase of 1161km² of forest cover since the last assessment; however, nearly half of the forest area is subjected to heavy degradation on account of population pressure, depletion of resources, encroachment and diversion to other uses.

The details are as follows:

⁴ From <http://www.forests.tn.nic.in/AboutUs.htm>

Geographic Area	130,058ha
Very Dense Forest	2,440
Moderately Dense Forest	9,567
Open Forest	10,636
Total	22,643
Percent	17.41%

Tamil Nadu is endowed with a rich bio-diversity. Of the total recorded forest area in the State, 2917km² or 12.8% is dedicated towards wildlife conservation covering five national parks, seven wildlife sanctuaries and twelve bird sanctuaries. Conservation of flora and fauna are the main objective in the maintenance of sanctuaries, national parks and biosphere reserves. Efforts are being made to increase the extent of protected areas under wildlife management to 25% of the total forest area of the State. Many medicinal plants and plants of genetic importance will also be conserved in these areas. The yield of forest products in 2003-04 was as follows:⁵

Out-turn of Forest Produce (in MT) (2003-04)	
Timber	6033.920
Teak Poles (No.)	32.000
Fuel wood	31011.270
Pulp wood	15797.000
Sandalwood (excluding Sapwood)	210.500
Sapwood	311.000
Wattle Bark	2500.000
Minor Forest Produce (including Cashew)	2032.406

Catchment Area Management:⁶ There are 32 river systems, 11 major reservoirs, 2679 canals and 38,863 tanks in Tamil Nadu. The majority of the catchment areas lie in forestlands. To improve the forests, an Integrated Watershed Development Programme is being implemented with afforestation and soil and water conservation measures in the affected watersheds, which further help to increase the ground water level, regulate water-flow in streams, rivers, etc., and improve fertility of the land below. The agrarian economy is benefited by augmentation of the water availability.

Forestry for Tribal Development:⁷ Traditionally, tribal communities are at the centre of the forest eco-system, since their economy is dependent upon forest resources. The state government proposes to create tree/vegetation-based assets in tribal and forestlands that would generate sustained benefits to tribal groups. Employment generation, improving the infrastructure facilities in tribal villages and education will also be emphasised.

⁵ From <http://www.forests.tn.nic.in/AboutUs.htm>

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Nilgiri District Overview

Nilgiri District forms the most westerly district of Tamil Nadu state, comprising 2543km², of which 142,577 hectares are classified as forest areas. The altitude of the district ranges between 900m and 2636m above sea level. Nilgiris District is bounded to the north by Karnataka State, to the east by Coimbatore District and Erode District and to the south and west by Kerala State.



Fig 1: Tamil Nadu with Nilgiris District highlighted⁸

Nilgiris District is divided into four blocks: Udhagamandalam, Gudalur, Coonoor and Kotagiri (Fig 2). These blocks comprise four Panchayat Unions and the district also contains two Municipalities: Wellington Cantonment and Aruvankadu Township. The District consists of 56 Revenue Villages there are two Revenue Divisions in this district: Coonoor and Gudalur. There are 35 Village Panchayats and 13 Town Panchayats in this District.

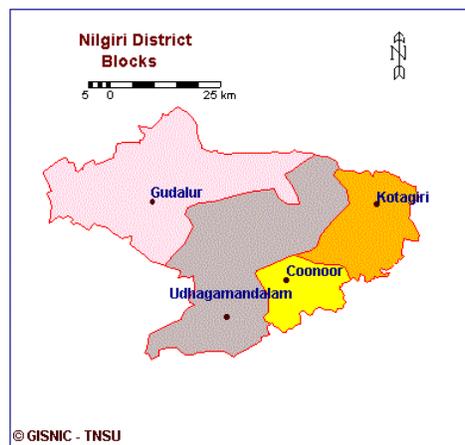


Fig 2: Nilgiri District Blocks⁹

⁸ Source: <http://nilgiris.nic.in>

Land Use

Current land use is as follows:¹⁰

Classification	Sub-type	Area in hectares	Area as %
Total District Area		254,485	100%
Total Forest Area		142,577	56%
	Reserved Forest	137,192	
	Reserved Lands	5,777	
	Unclassed Forests	3,313	
Gross Cultivated Area		79,514	30%
	Tea	59,462	
	Coffee	6,849	
	Vegetables	6,155	
	Other	7,048	
	Average size of land holding	1.29	
Area used for other purposes		32,394	14%

The Western Ghats, of which Nilgiri District forms a part, is famous for its unique ecological zone of *shola*-grasslands. *Shola* is a type of high-altitude stunted evergreen cloud forest found only in southern India, and is interspersed by undulating grassland. The grasslands occupy the high plateaux whilst the folds of the hills feature the ancient cloud forests, or *sholas*. Despite their ecological significance, however, *shola* make up only 10% of the Reserved Forest areas of Nilgiri District, with the remainder covered by a variety of deciduous dry and moist woodlands.¹¹ In addition to the forest area, a significant proportion of the district is given over to commercial tea plantations, which currently occupy around 75% of the cultivated land in the District. Non-native plantations of acacia and eucalyptus trees occupy further areas, these are used as a fuel source for tanning and paper industries on the plains below and eucalyptus is also grown for the extraction of essential oils.

Nilgiris Biosphere Reserve and Mudumalai National Park

The Nilgiris have been identified as a biodiversity hotspot, and feature a high level of species endemism. Not only are the *shola*-grassland habitats important biodiversity sites, but also are essential for water security on the plains below. The *sholas* act as a giant sponge, sucking up rainwater during the monsoon and slowly releasing it throughout the dry season. All the forests of Nilgiri District – not just the *shola*-grasslands - fall under the UNESCO Nilgiri Hills Biosphere Reserve, established in 1986. The biosphere reserve also extends over the adjoining states of Kerala and Karnataka. The 2537.6km² of NBR in Tamil Nadu covers all the forests of the Nilgiris district as well as a part of Coimbatore and Erode districts. This reserve protects the forests

⁹ Source: <http://nilgiris.nic.in>

¹⁰ Source: District Statistical Handbook 2004-2005

¹¹ p.17 Working Plan for Nilgiri South Forest Division 1996-2000

through stringent restrictions on forest use, with timber felling and the extraction of NTFP prohibited activities.

Mudumalai National Park falls into Gudalur Taluk of Nilgiri District, covering 321km² and forming a part of the Nilgiri Biosphere Reserve. The Park comprises a total area of 32,100ha, of which 21,776 ha is occupied by the wildlife sanctuary and 10,323ha is designated as a national park. The forests of the park are primarily moist deciduous, becoming dry deciduous towards Bandipur. The annual rainfall in the region is about 2300 mm.

See 'Legal Framework' for rights and concessions in the Reserved Forests and Biosphere Reserve.

Population: According to the 2001 census, the current total population of Nilgiris District is 764,826; up from 710,214 in the 1991 census. The current population can be further subdivided as follows:

Male Population	379,610
Female Population	385,216
Rural Population	309,652
Urban Population	455,174

Although Nilgiris District is well known for its adivasi communities, as a proportion of the population, the numbers of these groups have dropped significantly over the past 200 years. When the British first surveyed the population in 1821, 100% of the inhabitants were of indigenous tribal communities, but by 1961 adivasi groups made up only 25% of the population of the Nilgiri Hills, a figure that includes the Badagas, an ethnic group that migrated to the hills in the 16th century.¹² This ratio of tribal groups to non-native inhabitants has remained fairly consistent since the 1960s, however in contemporary analyses of tribal numbers the Badagas are often excluded as they have broadly assimilated modern agricultural techniques and have achieved a higher socio-economic status. From census figures, the tribal population without the Badagas amounts to 25,048, or around 3.5% of the total district population.¹³

Current occupational statistics in the Nilgiri Hills are as follows:¹⁴

Cultivators: 10,922
Agricultural Labourers: 24,992
Live Stock, Forestry, Fishing
Hunting and Plantations,
Orchards and allied activities: 1,50,631
Household industry: 547
Construction: 7,376
Trade and Commerce: 16,785
Other Services: 44,829

¹² p.76 'Development-Conservation Dilemma in the Nilgiri Mountains of Southern India' D Venugopal in Journal of Mountain History 1 (1) 2004

¹³ 1991 census Source: <http://nilgiris.nic.in> checked 04.11.06

¹⁴ From 1991 census. Source: <http://nilgiris.nic.in> checked 04.11.06

Marginal workers: 7821
Non-workers: 421,345

Indigenous Groups

British anthropologists such as W Rivers first made the tribal groups of the Nilgiri Hills famous in the early 19th century. The different ethnic groups have become well known for their distinct cultures and livelihoods, whilst maintaining key areas of inter-reliance. The main groups in the district are the Todas, Kota, Kurumba, Irula, Paniya and Badaga, who tend to occupy different altitudinal locations, which accounts for some of their cultural distinctions. Around 50% of the tribal population is concentrated in Gudalur Taluk, with a further 25% in Kotagiri Taluk. Udhagamandalam and Coonoor taluks have 16% and 9% of the tribal population respectively. The population of the major Scheduled Tribes are summarised below:¹⁵

Kurumba	5075
Irula	9719
Paniya	7460
Toda	1001
Kota	2072
Total	25327

Toda: The Toda believe themselves to be the original inhabitants of the hills, and have attracted a high level of anthropological interest since W H Rivers' renowned ethnographic account in 1906. They predominantly occupy the high altitude grassland areas at the top of the plateau, mainly in Udhagamandalam Taluk. Traditionally Toda life and religion was centred on herds of sacred buffalo whose dairy products provided the main means of survival. These buffalo were kept in the Toda *munds* or hamlets for the majority of the year, but during February to May the buffalo were taken to the Kundah area to access fresh pastures before the monsoons. Over the last fifty years this rotational grazing practice has almost ceased with the more static settlement of Toda people, and their growing adoption of agriculture. Since the 1882 Madras Forest Act, the Government has reserved certain forest and grassland areas as for Toda needs; these are known as Toda patta lands. Toda people have rights to live, graze their cattle and to undertake cultivation in these lands on the basis of permits granted by District Authorities. Pulpwood plantations occupy some patta lands. The profits from these, under the Social Forestry scheme, are supposed to be split 60:40 between the pattadar and the forest department.

Kota: Traditionally the Kota were an artisan group skilled in carpentry, metalwork and pottery as well as producing other crafts and music that they exchanged for foodstuffs from other tribal groups. Today the Kota live in seven settlements at an elevation of about 1800m MSL in Udhagamandalam and Kotagiri taluks, and many are now small-scale agriculturalists on patta lands that have been allocated to them. Compared to other tribal groups, the Kota are comparatively well educated and economically secure, with some holding positions in the civil service and non-government sectors.

¹⁵ 1991 Census figures Source: <http://nilgiris.nic.in> checked 04.11.06

Kurumba: 'Kurumba' is a collective name that has been given to quite a diverse range of forest hunter-gatherers that mainly live in forested tracts between an elevation of 1200m and 1500m in Kotagiri Taluk. However there has been much recent debate over whether these groups should be considered as entirely separate ethnic clusters.¹⁶ Previously the Kurumba were entirely reliant on forests for their livelihood, exchanging forest products, in particular honey, with other tribes. Today honey still forms a significant part of Kurumba income, though it is now traded on a cash basis rather than exchanged. However, most Kurumba are now engaged in agriculture and those who do not own lands work as casual agricultural labourers. Many Kurumba are amongst the poorest of the population of Nilgiri District.

Irula: Irula people were also traditionally a hunter-gathering group inhabiting the forest edges at similar altitudes to Kurumba peoples, and they were also engaged in the collection of forest products. Although today forest products still provide some income on a seasonal basis, most Irula are casual agricultural labourers, either on the plantations or for livestock owners. Some are engaged in agriculture on patta lands that have been conditionally assigned to them, where tea, coffee, jack trees and fruits are cultivated, but these lands are small and of poor quality, and income from these lands has to be supplemented with paid labour.¹⁷

Paniya: 'Paniya' literally translates as 'worker', and in the past Paniya people have tended to be tied into labouring relationships with local landholders and agriculturalists, working for very low wages and without the liberty to seek work elsewhere. This somewhat feudal system was recognised as a form of bonded labour, and under the British as well as post Independence some efforts have been made to break these bonds and rehabilitate Paniya in various schemes. After independence many Paniya took up work as casual agricultural labourers or plantation workers, however although most are now not working under bonds Paniya people remain particularly poor and uneducated.¹⁸

Badaga: The Badaga form the largest ethnic group in Nilgiri District, numbering around 200,000. They were originally a migrant group from Karnataka who arrived in the highlands in the 16th century. Traditionally agriculturalists, they have assimilated and adapted to technological change and new forms of cash crop agriculture, making them the most economically secure ethnic group. Many Badaga have succeeded as small-scale tea cultivators, they tend to be better educated and many are now employed in the civil service and in urban economic sectors.

History of Settlement, Administration and Land Use

Nilgiris before the British: The Nilgiri Plateau was ceded to the British in 1799 under the Treaty of Seringapatam following the defeat of the Muslim emperor Tippu Sultan. Prior to this date, there is very little reference made to the Nilgiri region, and thus it is difficult to ascertain how it was settled and subsequently managed. Due to the inhospitable climate and terrain of the area, with

¹⁶ See N Bird David 'The Nilgiri Tribal Systems: A View From Below' in Modern Asian Studies 28 (2) 1994

¹⁷ p. 153 in 'Review of *Blue Mountains* by Paul Hockings' by William Bright in Journal of the American Oriental Society 112 (1) 1992

¹⁸ <http://nilgiris.nic.in> checked 04.11.06

difficult passes and malarial jungles to be overcome before reaching the plateau, it seems to have remained a very isolated region and the tribal groups inhabiting it had little contact with people from beyond the plateau. The considerable linguistic divergence between Nilgiri tribal languages and the plains languages of Tamil, Kannada or Malaya reinforces this premise. One of the present tribal groups, the Toda, claim to be the original inhabitants of the plateau, and indeed their presence is recorded from the earliest references to the region. It is during the 16th century that it is thought the Badaga people migrated to the plateau from the plains of Karnataka. Of the other tribal groups there is little evidence to suggest when or why they settled in the hills, but from linguistic evidence it appears that their settlement considerably pre-dates that of the Badagas.

From 930 AD the region was under the control of the Ganga dynasty of Mysore, but from the close of the 10th century to the 12th century the region passed to the Kadambas who ousted the Ganga rulers. The plateau remained under Hindu rule until 1310 when the Muslim empire centred in Delhi conquered the region. Early on in the 16th century the Muslim empire of the Deccan took nominal control of the Nilgiris but maintained only a semblance of power, with their Vassals acting fairly independently in the region. In 1610 the Raja Wodeyar of Mysore became the titular ruler of the Nilgiri Hills, and from this date down to 1799 there is no record either of the political history of the region, or of the people that inhabited it.

The arrival of the British: Land use in Nilgiri District has changed dramatically over the last 150 years, having a significant impact on the livelihood strategies and opportunities of adivasi groups. There are several strands to this process, the convergence of which has undermined the traditional ritual exchanges between local ethnic groups. Before the arrival of the British in the early 19th century, the indigenous tribal groups relied primarily on the native forests and grasslands for their livelihoods. There was no monetary economy; instead livelihoods were based on a ritual of exchange. Through this the different adivasi groups had maintained relatively egalitarian relationships, where each group provided distinct services or products – e.g. the Toda provided dairy produce, the Kota crafts and utensils, the Irula and Kurumba various forest products.

Although the Nilgiri Hills came under British control in 1799, it was not until the 1820s that the British began to have any presence in the hills. David Ouchterlony was the first to recognise the region's potential, conducting a survey of the land and recommending it as a health resort for British officials. Initially, the area that is now Nilgiri District was shared between other neighbouring districts; the plateau came under the jurisdiction of Coimbatore District, the Wynad was a part of Malabar district whilst the Ouchterlony Valley was the *jenmam* property of the Nilambur Thirumalpad. It was not until 1882 that the Nilgiris became a separate administrative district.

Administration: Before the British there was no proper revenue system in the area, with a fixed monetary rate being paid by land users with no relevance to the extent of lands cultivated. Until the late 19th century the British failed to make any major inroads into the issue of land tenure and revenue assessments. Although several attempts were made in the first half of the 19th century to survey the region and initiate assessments based on productivity and lands cultivated, these initially had little impact due to lack of organisation, the absence of proper equipment and the inaccessibility of the hilly region.

At first, the Todas, who occupied the highest regions of the plateau herding their buffalo on the grasslands, were recognised as having absolute proprietary rights to the lands they used. It was

considered that even the Badagas were there as cultivators on the basis of Toda permission. Therefore, the first British settlers purchased land from the Todas, and this was recognised by the British Government, who in 1828 ordered European settlers to pay compensation to the Todas for any lands occupied. This recognition of Toda proprietorship did not last however, and in 1843 it was decreed that the proprietary right over all lands rested with the state, and the Todas had "nothing more than a prescriptive right to pasture their herds, on payment of a small tax, on Government land."¹⁹ Pattas were issued to each Toda *mund* (hamlet), these initially stood at 3 *ballars* (11.46 acres) per *mund*. This was followed in 1863 by the granting of an extra nine *ballars* (34.38 acres) per *mund* for pasturage purposes only.²⁰

In addition to the increasing extent of settler-controlled plantations, through the colonial period two main types of land tenure persisted in the region, both of which pre-dated the British administration. Firstly there was the *bhurty* system, which allowed *ryots* (landholders) many privileges including the right to maintain control of vast tracts of land for which they only had to pay tax on the area cultivated in any one year. This became increasingly obstructive to British settlers, particularly those seeking to establish tea and coffee estates, and eventually in 1863 it was abolished. However, a land survey undertaken in the region in 1880 revealed many continuing cases of *bhurty* tenure, and it was only very gradually that the British undermined the *bhurty* system.²¹

The second main type of landholding was *jenmam* land tenure, under which *jenmis* (landowners) had absolute proprietary rights over their lands, and did not derive any authority from the State. The *jenmam* lands were cultivated by *kudiyans* (tenants), who paid a share of their produce to the *jenmi* as well as paying revenues to the Government. This effectively kept *kudiyans* tied into a feudal system of land tenure, and many estate owners paid little attention either to the development of agriculture or to the economic condition of their *kudiyans*. The British sought to replace the *bhurty* and *jenmam* land tenures with the *Ryotwari* system of revenue administration. This system was based on direct contact between the landowner and the Government, where the revenues of the landowner were fixed on the basis of detailed surveys and accounts right down to the village level. The *ryotwari* system became a slowly implemented replacement for *bhurty* structure following its official abolition in 1863.

In 1875 the Nilgiri forests came under the control of the Forest Department for the first time, and it was under the 1882 Madras Forest Act that the forest areas in the region were first selected, mapped and demarcated. The ecological significance of the indigenous forests were recognised and strict laws were introduced to restrict felling and degradation in these areas. Doctor Brandis, who inspected the Nilgiris Forests, also recognised the significance of forest cover for long-term soil and water sustainability. He recommended the planting of exotics along the deforested ridges to increase fertility in cultivated valleys, to prevent soil erosion and to conserve the water supply. This increased the usage of exotics, which had been planted since the first arrival of the British to ease the fuel wood demands.

¹⁹ p.888 Nilgiris District Gazetteer

²⁰ p.888 Nilgiris District Gazetteer

²¹ Nilgiris District Gazetteer

Changing Land Use: With the establishment of Ootacamund as a hill station, it was not long before British settlers began to have an impact on land use and agriculture. In the 1820s European vegetables such as potatoes, carrots and beans were introduced, and were quickly taken up particularly by Badaga people. In 1838 the British introduced coffee to the region and then in 1885 tea was cultivated for the first time. It is has been the expansion of these two crops in commercial plantations that has come to dominate Nilgiri agriculture and has been the catalyst for major livelihood change in the region. Large tracts of forest were cleared for the new tea and coffee estates, reducing the lands relied on by tribal groups for subsistence.

The penetration of this previously isolated region by the British brought not only new crops however, but the inclusion of Nilgiri Hills into much wider trading networks and infrastructure, linking the highlands to a market economy for the first time. Tribal groups' loss of lands to plantations on the one hand and the settlers' need for labour on the estates on the other meant that many adivasi quickly became involved in a monetary economy as plantation workers, whilst still others began to cultivate new vegetables and crops for sale to the new market. Although the favourable highland climate at first encouraged British settlers to clear wide areas of the forested hills for both tea and coffee cultivation, the collapse of coffee exports early in the 20th century led to an increased emphasis on tea. In 1920 3000 hectares were under tea cultivation in the district, but by 1950 this had shot up to 9000 hectares.²² In addition to big estates, many small-scale farmers took up tea cultivation as population growth and the enforcement of a monetary economy made traditional livelihoods increasingly more difficult.

The settlement of the British in this region also brought a high influx of Indians from the plains, who arrived as servants, minor officials, workers and traders, dramatically increasing the population of the district and placing new pressures on resources, particularly as urban settlements began to develop, not only at Ootacamund, but elsewhere such as Conoor and Kotagiri. The population increase and new industries required a much greater supply of fuel wood, which the British sought to meet through the introduction of non-native fast growing species such as acacia and eucalyptus. Although the significance of the *shola* (indigenous montane forest) was partly recognised as the British officials sought to protect these areas from being used for fuel, the unique biodiversity of the indigenous grasslands was not recognised and they were considered very suitable for new fuel wood plantations of acacia and eucalyptus.

Post Independence Administration: After Independence attempts to abolish estates led to the Tamil Nadu Estates (Abolition and Conversion into *Ryotwari*) Act of 1948, where *ryotwari* tenureship would replace feudal estate structures. However this did not immediately include the *jenmam* estates of Nilgiris District, and it took an extension of the Act – finally upheld in 1970 – to abolish *jenmam* estates and to replace them with *ryotwari* tenureship.

Throughout actions by both colonial and independence governments to alter systems of land tenureship and revenue collection, the tea and coffee plantations that are the predominant feature of the Nilgiris region have remained exempt. Consequently, little has changed for the peasants who work on these estates. For example, in 1961 the Tamil Nadu Land Reforms (Fixation of Ceiling on

²² p.78 'Development-Conservation Dilemma in the Nilgiri Mountains of Southern India' D Venugopal in Journal of Mountain History 1 (1) 2004

Land) Act was passed, which was intended to distribute lands more equably between inhabitants and thus heighten social and economic justice, as a hill area Nilgiris District was excluded from this act until 1972. Even after this date – when an extension of the act was passed to include the district - plantations remained exempt. Due to this, the intended impact of land reforms has had little effect in Nilgiris District. Even outside of the plantations, there have been no voluntary returns of land, and where officials have used their powers to compel the return of lands above the ceiling only a tiny proportion of this land has been redistributed. Similarly, the many Acts passed in Tamil Nadu since the 1950s attempting to introduce tenancy reforms have been of little relevance to Nilgiris District due to the dominance of the plantations.

Since Independence the relative importance of land revenues to Government income has declined considerably across India, and this has been no different in Nilgiris District. The introduction of other forms of taxation and fee payment have become increasingly important, particularly taxation on commercial businesses, income tax and a variety of registration fees. The plantations have been subject to income tax since 1955 and income tax was extended across the district in the late 1950s. The growing importance of agricultural income tax compared to land revenues is partly attributable to modern agricultural techniques and technologies. Land revenues traditionally were calculated on the basis of area, soil quality and usage, however the usage of irrigation, fertilisers, new crop varieties etc meant that what was previously considered low-grade land could produce higher yields and more monetary return than traditional high-grade land. More recently, commercial taxation has replaced agricultural taxation as the highest source of state income in Nilgiris District. Since the liberalisation of the prohibition policy in 1981 licences for and taxation on the sale of liquor have been a particularly high source of revenue, reaching 259 lakhs as early as 1989.

The rights and concessions of adivasi communities to forest areas have remained fairly consistent with those established under the British. See the Legal Framework section for an analysis of these rights.

Land Use: After Independence in 1947 tea cultivation intensified still further, particularly at the smaller scale. In the 1960s many Sri Lankan immigrants were settled in the area and encouraged to cultivate tea. A surge in tea prices in the 1980s led to a huge boom in tea production in the Nilgiris, with almost all small-scale agriculture given over to tea, much against the advice of environmentalists and soil scientists. Between 1985 and 1995 the land used for growing tea rose by 36% and the agricultural economy of Nilgiris had become essentially monocultural. This would ultimately lead to widespread soil nutrient deficiency, land instability and vulnerability to market fluctuations by relying too heavily on a single cash crop. This vulnerability materialised in the late 1990s when tea prices crashed on both the domestic and export markets, leading to widespread loss of income and insecurity. Despite this, tea remains the backbone of the economy of this District. Tea is grown in nearly 70% of the total cultivated land, an area of over 45,974 hectares with production at around 60,000 tons.²³ Tea from the Nilgiris is mainly marketed in the auction centre at Coonoor, with some Nilgiris Tea also being exported from Cochin Port. In addition to tea, eucalyptus and acacia plantations were also expanded after independence to meet the growing fuel needs of various industries, such as tanning, paper and viscose production. These species

²³ <http://nilgiris.nic.in>

had originally been introduced by the British to protect native forests, but ironically by the 1950s these forests were being destroyed to make way for the plantations.

Legal Framework regarding Forest areas

In 1875 the Nilgiri Forests came under the control of the Forest Department for the first time. Since the 1850s, however, the British had introduced legislation in an attempt to preserve the *shola* forests from rapid destruction for fuel use and to create lands for tea and coffee estates. One new initiative was the introduction of exotic tree plantations to ease the pressures for fuel. Despite new legislation deforestation continued, both by local people and by new settlers, and as in certain areas felling of *shola* trees could be done with a license it was difficult to monitor the controls. In 1882 the Madras Forest Act formally introduced conservation procedures, accompanied by the mapping and demarcation of reserve areas. The rights of the hill tribes were also outlined for the first time and these have altered occasionally since that date.

The Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act 1961 was supposed to impose a ceiling of 30 acres of land per family of five members, in 1970 this was then amended to reduce the ceiling to 15 acres, but the impact of this Act on Nilgiri District has been minimal. In theory, returns of surplus land were supposed to be allocated either to the Forest Department or the rights assigned to landless individuals. 1430 acres in the district have been notified as surplus, with 1417 reserved for the Forest Department, however the Forest Department has not taken over these lands, and they remain vulnerable to encroachment.²⁴

The district currently encompasses 142,577 acres of forest, which amounts to 56% of the total land area. In the Reserved forest areas comprising 137,192 hectares (of which approximately 10% or 13,700 hectares are *shola* forests) the following restrictions apply:

NTFP: Adivasi groups are entitled to collect NTFP from Reserved Forest areas for private and domestic use. Since the 1980s the government have attempted to improve the situation of tribal groups by allowing Tribal Co-op societies within 60km of forested reserves to sell NTFP they collect.

Grazing: Hill Tribes settled in reserve forest areas can graze their livestock (except goats) on payment of a small levy. Grazing fees currently stand at

Sheep	3R/head
Cow	5R/head
Buffalo	10R/head
Ass/Horse	10R/head
Elephant	100R/head

Certain restrictions apply to grazing access. No grazing is allowed under any circumstances in the *shola* or those areas cultivated for sandalwood. Lands used for silvicultural activities are closed to grazing for three years from the date of planting or coppicing. Toda people can graze their buffalo

²⁴ p.897 Nilgiris District Gazetteer

for free - except where restrictions apply - on the lands surrounding their *munds* (hamlets), provided they hold the relevant permit.

Fodder Grass can be collected from inside the reserve forests by local tribal groups on payment of a small levy. However the District Forest Officer has the right to close sections of forest from fodder collection and grazing should he deem the areas to be overly depleted or in need of regeneration.

Tree Felling is particularly tightly restricted. In accordance with the Tamil Nadu State Act of 1955 tree felling on private or patta lands can only be done with a permit that almost impossible for local individuals to access. This has led to many individuals being forced to sell their timber trees to middlemen or contractors at way below their market value. This situation has led to the discouragement of private timber cultivation, as income is uncertain, and thus private lands remain lacking in tree cover.

Legalities of the Nilgiri Biosphere Reserve: The NBR consists of 4 zonal categories of land: Core, Manipulation (forestry), Manipulation (tourism) and Restoration. Of the land in Nilgiris District that is covered by the NBR, the majority is in the manipulation (forestry) category. The NBR legislation allows for the practice of sustainable forestry management techniques in areas designated as manipulation (forestry) zones, which is intended to conserve the forests whilst meeting the fuel and fodder needs of the hill tribes. Core zones include the Mudumalai Sanctuary and the *shola* forests, and these areas are closed to grazing and fodder collection whilst the extraction of NTFP is more tightly regulated. Hill tribes are supposed to be involved with the planning and implementation of all developmental programmes concerning the NBR so that "a balanced relationship is developed between Man and Nature."²⁵

Key Issues

Tourism and Conservation

The long-term implications of estate and plantation agriculture have been far reaching. Ecologically, mono-cultural cash cropping has necessitated a big increase in chemical fertilisers and pesticides as soil nutrients decline; deforestation has also dramatically reduced the soil's water retention capacity as well as significantly increased soil instability resulting in a series of serious landslides in the district²⁶, whilst the fragmentation of forest areas has increased the frequency of fires and enabled the encroachment of non-native trees into indigenous forest areas.²⁷ A major controversy erupted in the 1980s when the Central Soil and Water Conservation Training and Research Institute (CSWCTRI) showed that eucalyptus plantations in the Nilgiris were absorbing immense quantities of subsoil moisture, further contributing to water scarcity both in the hills and on the plains below.

In 1986 the Nilgiri Hills were identified as a biodiversity hotspot and the Nilgiri International Biosphere Reserve was established, which encompasses 5,520 km² in the states of Karnataka

²⁵ P.468 Working Plan for Nilgiri South Forest Division 1996-2000

²⁶ P.534 'Climate Change and its impact on tropical montane ecosystems in South India' R Sukumar et al in Journal of Biogeography 22 1995

²⁷ 'Conservation Threat of Increasing Fire Frequencies in the Western Ghats, India' N Kodandapani et al in Conservation Biology 18 (6) 2004

(1527.4 km²), Kerala (1455.4 km²), and Tamil Nadu (2537.6 km²).²⁸ All of the shola-grassland areas in Nilgiri District come under the biosphere reserve, whilst some of the tree plantations occupy the buffer zone area to the reserve. The protection of this region is essential not just for the conservation of endangered and endemic species of plant and animal life, but for humanitarian reasons as well, particularly with regards to water security. Since the mid 19th century huge tracts of forest have been cleared or severely degraded (Fig. 4).

Total Area	Ouchterlony's map (1849)	1992 map
Shola	8,600 ha	4,225 ha
Grasslands	29,875 ha	4,700 ha
Cultivation	10,875 ha	12,400 ha
Tea	0 ha	11,475 ha
Wattle	0 ha	9,775 ha
Eucalyptus	0 ha	5,150 ha

Fig 4: Comparison of the different types of vegetation in the Nilgiri Biosphere Reserve between 1849 and 1992

Given the close relationship between water security and the native forests as well as the reliance of tribal groups on forest products, environmental conservation is clearly not a discrete issue from humanitarian development. However, this region faces something of a development-conservation dilemma, since the total protection of biodiversity sites through the creation of reserves can come at the expense of socio-economic development of the people who rely on such habitats for survival, since they may be denied access to the forests and/or their products. Varghese and Thekaekara have noted from their fieldwork in the Mudumalai Sanctuary that attempts at biodiversity conservation have actually made local people more destructive in their exploitation of forest resources:

Policing of the sanctuary by officials has made people wary; they have had to resort to furtive collection of NTFP. (Whereas) in the past they used less destructive methods to collect the produce, the emphasis now is on collecting as much as one can in the short time before one is caught by an official. Traditional methods of prudent gathering allowed room for regeneration. Faced with an uncertain future, with no guarantee of enjoying these privileges to enter the sanctuary for very long, the people have ceased to care about prudence.²⁹

Furthermore, with the creation of the biosphere reserve tourism has increasingly dominated the economy of Nilgiris District, with the area experiencing massive commercialisation since the 1980s. However, the expansion of the tourist infrastructure has occurred with no proper planning and has brought its own pressures. Whilst tourism has brought new livelihood opportunities as older systems have declined, there has been little provision made for the necessary infrastructure, and thus tourism has caused significant environmental degradation which is itself threatening the long

²⁸ Source: http://en.wikipedia.org/wiki/Nilgiri_Biosphere_Reserve

²⁹ p.238 A Varghese and S Thekaekara 'Proposal for Joint Management of Nilgiri Biosphere Reserve' in A Kothari et al People and Protected Areas: Towards participatory conservation in India 1996

term viability of tourism in the hills.³⁰ Thus there is a possibility that the deep emphasis on conservation is simultaneously restricting the opportunities for adivasi groups reliant on the forest areas as well as encouraging increased levels of tourism that the infrastructure of the district cannot sustain without degradation to the surroundings.

Contemporary Issues faced by Adivasi Communities

The development of cash crop agriculture and plantations has had significant socio-cultural implications for adivasi groups in Nilgiri District. New capitalist forms of agricultural production have eroded the equitable inter-reliance between different ethnic communities and enabled the emergence of new economic hierarchies founded on profit-based wealth and a monetary economy. The regularisation of land settlement, the abolition of 'slash and burn' agriculture and the restriction of previously semi-nomadic communities to demarcated village areas has made the population much more static and has brought new individual forms of land use and tenureship. This new static lifestyle combined with massive population growth through immigration has hugely increased pressures on land resulting in reduced land productivity, food insecurity, and the erosion of local knowledge of and symbiosis with the surrounding environment.

The monopolisation of land use by estates and plantations has usually been at the expense of adivasi groups, who as the least educated and with the least socio-political leverage have tended to be marginalized by developments in the district. Although many have been able to establish themselves as small-scale farmers, the emphasis on monocultural cultivation of tea has made them susceptible to market fluctuations as has been seen in the past decade in particular with the crash in tea prices. Unclear boundaries have left them susceptible to encroachments by larger estates and/or higher caste, more powerful individuals. Toda patta lands in particular have been subject to encroachment usually by plains immigrants. These settlers have cultivated vegetables, particularly potatoes, on steep gradient land that has led to soil erosion and instability as well as a reduction in soil fertility.

Those tribal people who still pursue more traditional livelihoods reliant on forest produce face two inter-related obstacles: firstly the degradation of much of the forest area they relied on for subsistence, which has in turn dramatically increased pressure on remaining resources and thus compounds the degradation of these ecological zones, and secondly new legislation restricting usage of the forest and grasslands in an attempt to protect the biodiversity of the Nilgiri Hills, which can emphasise conservation at the expense of adivasi livelihoods.

³⁰ p.76 'Development-Conservation Dilemma in the Nilgiri Mountains of Southern India' D Venugopal in Journal of Mountain Science 1 (1) 2004