

*Environmental History of Tamil Nadu State, Law and Decline of Forest and Tribals, 1950–2000**

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I. Background of the Problem

Environment and sustainable development have been accorded great emphasis since the last quarter of the twentieth century. In India, the environmental protection is enshrined in the Constitution of India (42nd Amendment) under the Directive Principles of State Policy in 1977. According to Article 48A, ‘State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife in the country’. Article 51A(g) enjoins upon the citizens ‘to protect and improve the natural environment including forests, lakes and rivers and wildlife and to have compassion for the living creatures’.

Forestry is one of the core components of the environment, which constitutes biodiversity and tribal life. In the process of development, deforestation and denudation have become common phenomena, affecting the sustainability. For instance, about 30 per cent of the total forest reserve (21,44,065 hectares) in Tamil Nadu, a part of the erstwhile Madras Presidency in the Indian subcontinent, has been classified as degraded forest in 1993.¹ In such a grave situation, an attempt to study the effects of post-colonial State policy on the

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¹ State Administrative Report 1989–90, 1993, p. 145.

environment and tribals in Tamil Nadu would help to mould a sustainable environment for development.

Until Independence, in fact, till the last quarter of the twentieth century, scholarly works were found wanting on issues concerned with forests and forest-dwellers as well as users. With the emergence of environmental movements in many parts of the world and in India around the 70s, the scholarly debates got initiated during the last quarter of the twentieth century, particularly in the 80s. However, the environmental history debate concentrated mainly for the colonial period, particularly during the nineteenth century.² Recent studies on the environmental history of Madras Presidency have brought out the dynamic link between the forests and tribals from a historical perspective.³ These studies have found that attempts to encroach on tribal controlled regions faced stiff resistance.⁴ The tribals have launched several agitations and revolts during the eighteenth century to ward off the external control.⁵ Further, it becomes evident that until the introduction of Madras Forest Act 1882, the colonial government had neither considered issues concerning environmental degradation, nor desisted from trampling upon the tribals' rights over the forests. It is appalling to note that no welfare measure was initiated during the period.⁶ In fact, the colonial government accorded priority and emphasis only to commercialisation of forests that gradually led to disruption of the tribal life and settlements.⁷ When coffee plantations were introduced in the hill areas, prior to the implementation of the Madras Forest Act, the British planters alone were encouraged to engage in the venture.⁸ Even the Act of 1882, which sought to extend the area under reserve forests as a strong measure for the

² For the detailed review see Saravanan, 'Colonial Commercial Forest Policy and the Tribal Private Forests', pp. 403–7; Saravanan, 'Colonialism and Coffee Plantations: Decline of Environment and Tribals', pp. 464–88 and Saravanan, 'Political Economy of Colonial Revenue Policies in the Tribal Areas'.

³ Saravanan, 'Political Economy of Colonial Revenue Policies in the Tribal Areas'.

⁴ Saravanan, 'Colonial Commercial Forest Policy and the Tribal Private Forests'.

⁵ Saravanan, 'Tribal Revolts in India with Reference to Salem and Baramahal Districts of Madras Presidency', pp. 67–81.

⁶ Saravanan, 'Colonial Policy and Tribal Welfare Measures in Madras Presidency'.

⁷ Saravanan, 'Commercialisation of Forest, Environmental Negligence and Alienation of Tribal Rights', pp. 125–46; Saravanan, 'Colonial Commercial Forest Policy and the Tribal Private Forests', 'Colonialism and Coffee Plantations: Decline of Environment and Tribals', pp. 464–88; Saravanan, 'Economic Exploitation of Forest Resources in South India'.

⁸ Saravanan, 'Commercial Crops, Alienation of Common Property Resources and Change in Tribal', pp. 298–317; Saravanan, 'Colonialism and Coffee Plantations'.

ecological and environmental conservation, placed several curbs on the customary rights of the tribals. Subsequently, in the early twentieth century, lands traditionally owned by the tribals with occupancy rights, were surveyed and legal rights were given only to those lands that were not in the area of reserve forests.⁹ The Forest Department had further more restricted the tribals' rights through the subsequent forest acts. Further, the State institutions like Forest, Revenue and Police Department authorities who are responsible for executing these Acts digressed from their due responsibility and violated the human rights in recent years in different tribal pockets of Tamil Nadu.¹⁰ In addition to that the influx of a large number of non-tribals who occupied the hills resourcefully resulted in the flight of tribals from their lands.¹¹

Studies pertaining to the post-colonial period invariably made their focus either on the impact of the welfare programmes or socio-cultural aspects of the tribals in the hilly regions.¹² However, a few have attempted to look at environmental issues at the micro-level.¹³ The impact of post-colonial projects on the environment has been almost ignored. Given the scenario, the present paper attempts to analyse the environmental history of Tamil Nadu during the post-Independence period.

In Tamil Nadu, contemporary environmental problems are mainly associated with three dominant actors, viz., State, tribals and non-tribals. (i) The State, while being committed to conservation has enacted several forests acts and yet continued to encroach on the forests for the various developmental activities. The common thread running through all the forest policies, formulated over the years, has been the encouragement offered to commercialisation of forest resources. (ii) Tribals' cultural and economic life has since antiquity remained forest-oriented with their worldview being moulded by the hills. Over the period, several restrictions were enforced through a

⁹ Saravanan, 'Colonial Agrarian Policies in the Tribal Areas of Madras Presidency: 1872-1947'.

¹⁰ Saravanan, 'State Atrocities on Tribals in Contemporary Tamil Nadu (1990-2000): Law, Politics, Political Activism and Justice', Saravanan, 'Terrorising Tribals: Nexus Between Police and Forest Department'.

¹¹ Saravanan, 'Tribal Land Alienation in Madras Presidency During the Colonial period: 1792-1947', pp. 73-104.

¹² Saravanan, 'Economic Transformation of Tribals in Tamil Nadu'.

¹³ Saravanan, 'Terrorising Tribals: Nexus Between Police and Forest Department', pp. 1789-90; Saravanan, 'Tamil Nadu: An Ecological Tragedy', pp. 4-6; Menon and Saravanan, 'Displacement and Rehabilitation Policies', pp. 2854-55.

number of forest acts. In spite of the preventive measures, forest wealth continued to show a sharp decline. Yet, it is still to be proved as to whether the tribals were responsible for the deforestation in the contemporary period. That the tribal development initiatives have changed their conventional forest-dependent livelihood into a resourceful mode of life, however, could not be overlooked. (iii) The role of non-tribals, more importantly the politicians and contractors who have colluded to exploit forest resources with their nexus with the likes of law enforcing machinery needs an elaborate study to ascertain the lacunae arising from the policies.

The main objective of this article is to study the forest policies of the successive governments and their impacts on the environment and the tribal economy in Tamil Nadu during the second half of the twentieth century (1950–2000). The study hence has to cover certain important research questions to ascertain how the post-colonial policy has altered the landscape, forests and tribals along with the irreversible consequences on the environment. To what extent have the policy implementation and the major developmental projects created adverse impacts? Has the environmental protection accorded due importance in the developmental agenda or was the State merely interested in garnering more revenue through commercialisation? What were the other factors responsible for the depletion of the forest resources? In laying emphasis on the commercialisation, has the State considered providing alternatives to the tribals? These queries might be helpful in understanding the State policy in regard to the tribals, environment and changes in the land use patterns (if any) during the study period.

The focus is on the second half of the twentieth century (1950–2000), because of three important factors: (i) despite the extension of reserve forests, forest cover has shrunk, (ii) while restrictions on tribals' rights over forests have been strictly enforced, forests were taken over by the State under one pretext or the other, and (iii) infrastructure development and the attendant consequences on the tribal economy as well as the catastrophic environmental damages are still prominent.

This article consists of eight sections. The background of the problem has been introduced in Section I. Section II gives an account of the geographical terrain and other features of the forest areas. Section III discusses the State policy in regard to afforestation. Section IV addresses the problem of diversion of the forest land for development purposes. Section V analyses the commercialisation of forest resources

by the State. Section VI focuses on the restrictions imposed by the different forest acts and rules. Section VII takes up the whole gamut of tribal development policies and their impact while the last section ends with the concluding observations.

II. Trends of Forest Areas in Tamil Nadu

Trends of Land Utilisation

Land utilisation trends in Tamil Nadu have changed during the post-Independence period. Barren and uncultivable land, cultivable waste and permanent pastures have constantly witnessed a sharp decline during the last five decades. This is primarily due to the extensive afforestation measures like farm forestry, social forestry and other programmes, aimed at developing these areas to cater to the consumable needs of the local people. Consequently, the Common Property Resources (CPRs) mentioned above have started vanishing at an alarming rate during the first three decades of the post-Independence period. It has been estimated that about 50 per cent of the CPRs have disappeared in Tamil Nadu during this time.¹⁴ This sharp decline was primarily attributed to (i) gradual but steady extension of private field borders into the CPR both individually and collectively, (ii) government distributing CPR lands to the landless people under the land reforms programmes and (iii) various government departments encroaching upon the forest tracts for the development activities. At the same time, there was a quantum leap in turning cultivable land for the non-agricultural purposes over the period due to the ever-expanding process of urbanisation. Lands occupied by buildings, roads, canals and industrial plants besides those put under non-agricultural use are brought under this category. Ironically, the area categorised as fallow lands has gone up, particularly during the post-Green Revolution period. The technology-driven Green Revolution has not only led to the scarcity of water resources but also resulted in the increase of fallow lands since the early 90s. However, the area under the forest cover has risen with the other types of the uncultivable lands being clubbed along with the forests. Throughout this period, the CPRs of a specific use have been slowly eliminated to a large extent in the State.

¹⁴ Jodha, *Life on the Edge: Sustaining Agriculture and Common Property Resources*, p. 135.

Expansion of Agriculture

Immediately after Independence, the government encouraged the extension of cultivation under the Grow More Food campaigns, which resulted in the large-scale clearing of the forest areas in Tamil Nadu.¹⁵ The large-scale expansion of agriculture continued with a greater institutional support during the first three decades of the late twentieth century. This process was further facilitated by the introduction of the modern technology that has changed the face of the agricultural operations during the Green Revolution in India. Tractors, harvesting machines, pump-sets, oil-engines and institutional support, including the credit facilities have created a conducive climate for the rapid expansion of the agriculture. Consequently, the area under cultivation has gone up manifold during the 60s and 70s. For example, the net cultivated area which was 58,98,000 ha in 1960–61 has increased to 62,69,000 ha in 1970–71 (Table 1). In the subsequent years, this trend, however, got reversed with the net cultivated area registering a decline in correspondence to the rise of the fallow lands. The undeniable fact is that the Green Revolution technologies and institutional support that has led to the depletion of water tables has resulted in the increase of the current and other fallow lands. In short, while more and more CPRs were brought under cultivation during the first three decades, the momentum could not be sustained due to the depletion of resources resulting in the decline of the net irrigated area during the post-Green Revolution period.

Trends of Forest Area

Since Independence, the area under the forest cover has increased from 18,66,000 ha in 1960–61 to 21,34,000 ha in 1999–2000 or 14.13 per cent to 16.55 per cent of the total geographical area of the same period (Table 2). The CPRs of the villages like barren and cultivable waste and pastoral lands have been reclassified as forest lands for taking up several afforestation programmes. The increase in the area under forest cover witnesses some fluctuations, almost every year, which could not be brushed aside. In the first five decades, the rise and fall was nearly equal. While there was a rise for almost the first half of the period, the rest of the later stages show a decline. The

¹⁵ Bandopadhyay, 'Three Issues from a CPR Management: Village Forestry in Post-Colonial South Aisa', p. 212.

TABLE 1
Trends of Land Utilization in Tamil Nadu: 1960–2000 (area in '000' ha)

Classification	Area (in ha)						Per centage of total area				
	1960/61	1970/71	1980/81	1990/91	1999/00	Change 1999/ 00–1960/61	1960/61	1970/71	1980/81	1990/91	1999/00
Forests	1866	2013	2022	2155	2134	268	14.34	15.36	15.55	16.55	16.43
Barren and uncultivable land	945	832	577	509	476	-469	7.26	6.35	4.44	3.91	3.66
Land put to non-agrl. use	1295	1489	1747	1820	1978	683	9.95	11.36	13.44	13.98	15.22
Cultivable waste	706	507	343	290	349	-357	5.42	3.87	2.64	2.23	2.69
Permanent pasture	363	231	160	124	123	-240	2.79	1.76	1.23	0.95	0.95
Misc. tree crops	246	226	213	234	243	-3	1.89	1.72	1.64	1.80	1.87
Current fallows	974	964	2121	1264	1085	111	7.48	7.36	16.31	9.71	8.35
Others fallows	623	573	459	1044	1140	517	4.79	4.37	3.53	8.02	8.77
Net area cultivated	5997	6269	5360	5578	5464	-533	46.08	47.84	41.22	42.85	42.06
Total geographical area	13015	13104	13002	13018	12992	-23	100.00	100.00	100.00	100.00	100.00

Source: Tamil Nadu—An Economic Appraisal (various years).

TABLE 2
Trends of Forest Area in Tamil Nadu: 1951/52–1999/2000 ('000' ha)

Year	Area under Forest (in ha)	Increase/decrease	Year	Area under Forest (in ha)	Increase/decrease
1951–52	1813	—	1976–77	2000	+28
1952–53	1831	+18	1977–78	2023	+23
1953–54	1835	+4	1978–79	2031	+8
1954–55	1817	-18	1979–80	2022	-9
1955–56	1816	-1	1980–81	2023	+1
1956–57	1788	-28	1981–82	2024	+1
1957–58	1777	-11	1982–83	2030	+6
1958–59	1775	-2	1983–84	2030	0
1959–60	1878	+103	1984–85	2050	+20
1960–61	1866	-12	1985–86	2066	+16
1961–62	1883	+17	1986–87	2091	+25
1962–63	1868	-15	1987–88	2122	+31
1963–64	1885	+17	1988–89	2164	+42
1964–65	1866	-19	1989–90	2166	+2
1965–66	1907	+41	1990–91	2155	-11
1966–67	1916	+9	1991–92	2147	-8
1967–68	1924	+8	1992–93	2151	+4
1968–69	1925	+1	1993–94	2144	-7
1969–70	2016	+91	1994–95	2144	0
1970–71	2013	-3	1995–96	2143	-1
1971–72	2007	-6	1996–97	2141	-2
1972–73	2008	+1	1997–98	2140	-1
1973–74	2008	0	1998–99	2140	0
1974–75	1966	-42	1999–2000	2134	-6
1975–76	1972	+6			

Source: Tamil Nadu—An Economic Appraisal (various years).

latter is an indication of forest land being diverted for development projects and rehabilitation purposes. Even after the enactment of the Conservation of Forest Act in 1980, a sizeable extent of forest land has been diverted for purposes other than forest use. On the whole, about 3,21,000 ha was brought under forest cover while about 2,02,000 ha of land had been diverted between 1951–52 and 1999–2000 (Table 2). Some of the Jagir (ex-zamine) forests in the erstwhile South Arcot, Madurai, Virudunagar, Dindigul, Nilgiris and Tiruchirappalli districts were brought under the reserve forests. Further, 22,496 ha in 1987–88, 29,483 ha in 1988–89 and 6,454 ha in 1989–90 (up to February 1990) were annexed to the reserve forests.¹⁶ Hence, it becomes evident that despite the apparent attempts of the State to expand the forest

¹⁶ *Policy note on Forest Department 1990–91*, p. 3.

cover, a very large area of forest lands was diverted for different developmental activities.

Trends of Actual Forest Cover to Total Forest Area

According to the 1993 estimates, the total recorded forest area is about 22,525 sq.km of which 17,726 sq.km or 78.69 per cent is classified as area under the actual forest cover.¹⁷ In 1997, when the recorded forest area has marginally increased to 22,628 sq.km, only 17,064 sq.km or about 75.41 per cent was the actual area covered by forest.¹⁸ Unmistakably, the actual area under forest cover has shrunk over the period in Tamil Nadu. The Report on Forest Sector of Tamil Nadu by Tata Consultancy Services (1995) indicates that about 7,000 sq.km of forest area out of the total 22,699 sq.km is in a precariously degraded condition.¹⁹

Livestock Population

Sustaining livestock largely depends on the accessibility of forest and grazing lands. The post-colonial government has taken away the barren and uncultivable lands along with the cultivable waste and pastoral lands for afforestation measures, which led to the scarcity of resource base for the livestock feed. In addition to that, cattle herds were restricted in entering the reserve forests. Entry of sheep was banned while curbs like grazing fee were imposed for other cattle. These restrictive measures, though intended to preserve the forest cover, have resulted in the depletion of the cattle wealth (Table 3).

It becomes clear that land use pattern in Tamil Nadu has changed but it was favourably disposed towards the non-forest and other non-agricultural purposes that pose a serious problem. There was also a sharp fall in the area classified as common property lands other than the forests, a prime reason for the depletion of livestock resources in the same period. Interestingly, though the extent of the net irrigated land has gone up during the Green Revolution period, it has declined as

¹⁷ Forestry Statistics India 1995, p. 26.

¹⁸ India Forestry Statistics 2000.

¹⁹ *Ninth Five-Year Plan 1997–2002*, p. 796.

TABLE 3
Trends of Livestock Population in Tamil Nadu: 1951–1998

Years	Cattle	Buffaloes	Sheep	Goats	Others	Total
1951	10161	2285	7926	4013	539	24924
1956	9698	2041	7042	3757	626	23764
1961	10826	2594	7160	3429	629	24638
1966	10939	2724	6621	3771	594	24569
1974	10572	2853	5393	3954	661	23433
1977	10801	3078	5289	4202	776	24146
1982	10366	3212	5537	5246	1826	26187
1989	9353	3128	5880	5910	2085	26366
1994	9096	2931	5612	5865	2175	25679
1998	9603	2899	5539	5392	4982	28415

Source: Tamil Nadu Economic Appraisal (various years).

against the current and other fallows that have increased remarkably in the following decades.

III. State Policy on the Afforestation Measures

The expenditure on forest has increased progressively during the post Independence period; however, the proportion of the total plan outlay/expenditure was only around one per cent during the first five Five-Year Plan(s) and it has increased marginally in the subsequent periods (Table 4).

The afforestation programmes, carried out so far, were not really intended to increase the area under the forest cover but to meet the requirements of the forest-based industries and fuel-wood demand of the local people.²⁰ In the First Five-Year Plan, the focus of the forest policy was on resumption and rehabilitation of ex-zamine as well as the panchayat forests and formation of fuel and matchwood plantations.²¹ Under this, plantations were raised on 0.15 lakh hectares of land. The thrust during the Second Five-Year Plan was shifted on to the denuded and degraded forests. Further, the priorities included raising the industrial and commercial species and conservation of the wild life. Under this plan, about 0.78 lakh hectares of cashew, casuarinas and teak plantations were raised.²² The Third Five-Year Plan also

²⁰ *Policy note on Forest Department 1973–74.*

²¹ *Tamil Nadu—An Economic Appraisal 1971–72*, p. 21.

²² *Ibid.*

TABLE 4
Plan Outlay and Expenditure and the Area Covered under the Afforestation Measures

Plan period	Approved plan outlay (Rs. in lakhs)	Actual plan expenditure (Rs. in lakhs)	Forest expenditure to total outlay (Rs. in lakhs)	Percentage of forest expenditure to total plan expenditure	Area covered (lakh in ha)
First Plan (1951–56)	8600	8039	30.43	0.38	0.15
Second Plan (1956–61)	18619	18776	147.00	0.78	0.78
Third Plan (1961–66)	34233	34715	372.14	1.07	0.76
Annual Plans (1966–69)	26599	26618	279.99	1.05	0.39
Fourth Plan (1969–74)	55169	55896	574.71	1.03	0.68
Fifth Plan (1974–79)	112232	116511	1198.33	1.03	1.09
Annual Plans (1978–80)	71200	71113	516.13	0.73	0.41
Sixth Plan (1980–85)	315000	364462	5700.00	1.56	2.13
Seventh Plan (1985–90)	575000	631744	11189.00	1.77	1.8
Annual Plans (1990–92)	305000	331706	8504.00	2.56	0.85
Eighth Plan (1992–97)	1020000	1401680	23128.57	1.65	2.77

Sources: Plan documents (various Five-Year Plans) and Statistical Hand Book 2002.

had its emphasis on meeting the long-term requirements of the State for timber, fuel and raw materials. Under the plan, the farm forestry projects with the quick growing species like bamboo and eucalyptus were launched to meet the requirements of the pulp and paper industries. In addition to this, economic plantations like blue gum, rubber, wattle and bamboo were also raised which accounted for 0.76 lakh hectares during this plan period.²³ There was no major change in the Fourth Five-Year Plan, which underlined the need to have more of the economic plantations and quick growing species for the uninterrupted supply of raw materials to forest-based industries.²⁴ Such plantations were raised in about 0.68 lakh hectares in this period. The Fifth Five-Year Plan envisaged an increase in production of raw materials for the forest-based industries and the fuel plantations to meet the firewood demand in the urban areas.²⁵

The Seventh Five-Year Plan gave a little importance for conservation while emphasising commercialisation. The plan document says that the thrust was ‘... to increase the green cover in the state through protection, conservation, development, production and watershed management in order to increase the resources of fuel, fodder, small timbers and to raise the productivity of industrial wood plantations and minor forest produce’.²⁶ With this objective, 1.80 lakh hectares of land was brought under the forest cover. The Eighth Five-Year Plan exhibited a genuine concern for conservation, laying emphasis on afforestation, regeneration of degraded forests and effective prevention of deforestation.²⁷ In addition to these, the unauthorised and illegal felling of trees for industrial use and fuel as well as other domestic consumption was restricted.²⁸ Until early 80s, the forest policies initiated by the State have given greater importance to the supply of raw materials to the industries and fuelwood for domestic consumption. Though conservation has gained due attention in later stages, the thrust on commercialisation, however, was not completely withdrawn. In other words, conservation of forest resources never had been a prime agenda of the State.

During the first decade after Independence, the government has encouraged afforestation through programmes like ‘Vana Mahotsav’

²³ Ibid.

²⁴ Ibid., p. 21.

²⁵ *Tamil Nadu—An Economic Appraisal 1972–73*, p. 29.

²⁶ *Eighth Five-Year Plan 1992–1997*, Madras, 1992, p. 133.

²⁷ Ibid., p. 137.

²⁸ Ibid.

(Forest Fest). The festive scheme continued for a decade but has failed to meet its purpose.²⁹ From the 1960s onwards the Forest Department had shifted its focus to farm forestry and continued with it till the early 80s. Afforestation measures, until the 70s, were designed so as to increase the revenue from the forests and infrastructure facilities were initiated to extract more and more forest produce.³⁰ During the 1960s and 1970s, farm forestry was taken up on wastelands, outside the departmental forests, which, however, turned out to be monocultivation, especially the eucalyptus. Consequently, the scheme failed because of the ecological unviability of the eucalyptus. Moreover, it was commercially not profitable.³¹ During the 1970s, the extension forestry project was implemented. The Social Forestry Project (SFP), introduced in 1982 with the support of the Central Government and International Agencies like Swedish International Development Authority (SIDA) primarily focused on the plains and as such the forest-dwellers were isolated from this programme.³² Implemented with an objective of involving villagers in afforestation activities, the SFP continued till 1995–96. Under this programme, afforestation of community lands in rural areas was taken up on a massive scale with the specific goal of meeting the local needs for bamboo, timber, fodder, grass, etc. Between 1981–82 and 1995–96, Rs. 142.40 crore was spent on this project and about 12.65 lakh ha was covered.³³ In 1991–92, the Tamil Nadu Agricultural Development Project (TNADP) was initiated to cover additional areas under the forestry programmes with assistance from the World Bank. Under this scheme, Rs. 57.68 crore was spent to cover about 28,798 ha of land consisting of eco-restoration zones, production zones and interface zones between the periods 1991/92–1997/98.³⁴

It was followed by the Tamil Nadu Afforestation Project, in 1997–98 with financial support from the Japanese Overseas Economic Corporation Fund (OECF). It continued till the close of the twentieth century. The major objective of the scheme was to ensure participation of local people in planning, execution, benefit sharing and monitoring and evaluation under the Joint Forest Management (JFM). Through this scheme, 999 Village Forest Councils (VFC) with a strong

²⁹ Bandopadhyay, 'Three Issues from a CPR Management', p. 210.

³⁰ Policy note on Forest Department 1972–73, pp. 16–17.

³¹ Bandopadhyay, 'Three Issues from a CPR Management', p. 211.

³² *Ibid.*

³³ *Tamil Nadu—An Economic Appraisal 1997–98*, p. 47.

³⁴ *Tamil Nadu—An Economic Appraisal 1999–2000*, p. 42.

representation of 3.59 lakh people were formed to restore about 3.75 lakh ha of degraded forests under JFM.³⁵ The afforestation initiatives carried out so far under various nomenclatures have focused on the plain areas mainly to sustain the supply of raw materials to industries and fuelwood to the rural as well as the urban populations in Tamil Nadu.

The State Government has established three corporations with the explicit purpose of commercial extraction of forest resources. They were Tamil Nadu Forest Plantation Corporation Ltd., Tiruchirappalli, established in 1974, Tamil Nadu Tea Plantation Corporation Ltd., Nilgiris, started in 1976 and Arasu Rubber Corporation, Ltd., Nagercoil, set up in 1984. The Forest Plantation Corporation Ltd., besides supplying material for wood-based industries is also engaged in extracting forest resources for both the domestic as well as the external markets. The Tea Plantation Corporation Ltd. was intended to rehabilitate the Sri Lankan repatriates by raising tea plantations in suitable lands in the Nilgiris. That the commercial considerations got more weightage in implementing the afforestation programmes in the post-Independence period in Tamil Nadu could thus be easily discerned.

Trends of Administrative Strength

To protect forest resources from the illicit felling and unauthorised occupation, staff strength in the Forest Department has increased gradually during the post-Independence period. The total number of personnel in the Department had gone up from 5,176 in 1967–68 to 9,089 in 1997–98. The officers' category alone witnessed a sharp increase from 72 in 1967–68 to 2,165 in 1997–98. The number of special category staff, actually working at the field level, had increased from 4,165 to 5,575 during the same period (Table 5).

With the objective of effectively protecting the forest wealth, particularly sandalwood and timber, seven forest protection squads besides a mobile patrol team were in operation till 1977. Later on, the numbers of the squads were increased to 12 and three detective flying squads were formed.³⁶ In order to check smuggling of forest wealth and illicit activities, a separate Forest Cell CID was established besides

³⁵ *Tenth Five-Year Plan 1997–2002*, p. 792.

³⁶ *Policy note on Forest Department 1986–87*, p. 3.

TABLE 5
Trends of Forest Department Administrative Staffs Strength: 1967/68–1997/98

Categories	1967–68	1977–78	1997–98
I. Superior Officers			
Principal Chief Conservator of forests	—	—	3
Additional Chief Conservator of forests	—	—	1
Chief Conservator of forests	1	2	7
Conservator of forests	5	8	20
Deputy Conservator of forests	20	35	63
Assistant Conservator of forests	37	46	122*
Other Technical Officers	8	16	—
Others	1	6	—
II. Special Categories			
Rangers	200	288	593
Foresters	821	1047	1323
Forest Guards	1579	1264	2154
Forest Watchers	1161	1185	1505
Others	404	679	—
III. Common Categories			
	939	1143	3298 [§]
Total	5176	5719	9089

*Deputation, Training, temporary additional, Training Assistant Conservator of forests, etc. are included.

[§]Others also included.

Sources: Government of Tamil Nadu, *Synoptic Statistics on Forestry in Tamil Nadu*, 1978, p. 29; and *Policy note on Forest Department 2003–2004*.

69 check-posts in 1983. The numbers of check-posts were increased to 89 in 1986–87.

Trends of Forest-Related Offences

Forest-related offences have reportedly come down in Tamil Nadu in the 90s when compared to the 70s. On average, 30,000 cases per annum were recorded during the early 70s while it had declined to about 20,000 by the late 90s (Table 6). Available data show that the enhanced administrative strength of the Forest Department has helped in the drastic reduction of the forest-related offences, especially in the last decade. Though the rate of offences has come down, growth of forest resources has not registered any corresponding increase over the period.

Protection of forest wealth and resources through the effective control with increased personnel signified a welcome shift in the state's conventional thinking. Illegal entries into the forests were curtailed to

TABLE 6
Trends of the Number of Offences: 1969-70/1972-73 to 1996-97/1999-2000

Year	No. of cases at the beginning of the year	New cases during the year				No. of cases disposed during the year				
		Unauthorised felling	Grazing without permit	Other offences	Total	Total cases of the year	Convicted	Acquitted	Department disposal	Total
1969-70	75403	21321	4771	6174	32266	107669	22670	18298	40968	81936
1970-71	66503	24093	3868	3586	31547	98050	20319	16326	36645	73290
1971-72	61003	20889	4261	4603	29753	90756	21508	13095	34603	69206
1972-73	56144	22036	4507	4766	31309	87453	22110	14248	36358	72716
1996-97	21347	9386	1437	7986	18809	40156	3684	2553	11454	17691
1997-98	22465	10825	1140	8878	20843	43308	4838	376	15328	20542
1998-99	22766	13292	846	5174	19312	42078	2854	248	14840	17942
1999-00	24136	13611	3797	4378	21786	45922	11281	3328	11671	26280

Source: India Forest Statistics 1969-70 to 1972-73 and Administration Report of the Forest Department (various years).

a great extent. However, two things stand out clearly. (i) The thrust on afforestation, with its stress on commercialisation, continued to be a means of providing uninterrupted supply of raw materials to the industries. Hence, conservation as a programme of environmental protection received little encouragement. (ii) The decline of actual forest cover, despite forest-related offences having been brought down with the help of increased administrative strength indirectly, indicates that the process has facilitated commercial exploitation.

IV. Diversion of Forestland for Other Purposes

Since Independence, both individuals and various government departments have encroached upon a large extent of forest lands. Interestingly, more than half of the land was thus diverted to favour either individuals or private bodies and the rest alone was meant for developmental projects of the government. For example, 74,893 ha of forest land was diverted to other purposes between 1947 and 1977 of which, 40,612.50 ha (54.27 per cent) was meant for individuals, private bodies and rehabilitation of non-tribals in the forest areas. About 34,280.71 ha (45.73 per cent) of forest land was diverted to take up development programmes like irrigation projects, hydel projects and railway lines during the same period (Table 7). In the early 70s, the huge influx of the repatriates from Sri Lanka was rehabilitated in the hill areas of different parts of Tamil Nadu.³⁷ For instance, in 1972–73, 35.241 sq.km (3,500 ha) of forest land was demarcated for the landless poor people and other development purposes.³⁸ In 1973–74, it was about 70 sq.km (7,000 ha) for the same purpose.³⁹ However, in 1973, the State high power committee under the Chief Minister has decided not to divert forest land for non-forest use, particularly to the landless poor.⁴⁰

To prevent this kind of diversion, the Central Government has enacted the Forest Conservation Act in 1980. Under this Act, 127 cases involving 3,839.33 ha of forest land were considered till 1991 by the Central Government for assigning forests lands for various development projects like construction of dams. Of these, 96 cases

³⁷ *Policy note on Forest Department 1972–73.*

³⁸ *Ibid.*, p. 2.

³⁹ *Policy note on Forest Department 1973–74*, p. 1.

⁴⁰ *Ibid.*, p. 2.

TABLE 7
Forest Land Diverted for Various Purposes: 1947–1977

Purposes	Area (in ha)	Percentage
Lease to individuals	809.13	1.08
Lease to Govt. Department	7002.35	9.35
Lease to private bodies	6286.61	8.40
Area assigned to other Govt. Departments	8884.61	11.87
Area assigned to private bodies	24325.14	32.50
Area released to Hydel projects	4696.60	6.28
Area released to Special Minor Irrigation project	1299.19	1.74
Area released to Major and Medium Irrigation projects	12286.49	16.35
Area released to Railways	102.47	0.14
Rehabilitation purpose	9200.62	12.29
Total	74893.21	100

Source: Government of Tamil Nadu, *Synoptic Statistics on Forestry in Tamil Nadu*, 1978, p. 20.

concerning 1,846.72 ha of forest land were disposed of favourably. While 17 of the remaining 31 were rejected, 14 are still under consideration.⁴¹ In 1991–92, 43 ha of forest land were diverted to development activities, whereas it was only 8 ha in 1992–93.⁴² Between 1989–90 and 1993–94, 108.1 ha of forest land was assigned for the non-forest uses.⁴³ In 1994–95, about 9.55 ha of forest land were diverted for irrigation projects, water supply schemes, electricity transmission line, approach roads, roads over bridges and repeater stations.⁴⁴ In 1995–96, 1.86 ha of forest land was taken up for construction of a wireless station, widening of river course, water supply, irrigation, construction of primary health centers and check-post.⁴⁵ As on 31 May 1998, 235 proposals were received for consideration under the Conservation Act, of which 155 were approved, nine approved in principle, 11 rejected, one lying with the Central Government, five withdrawn and 24 pending with the State Government.⁴⁶ In addition to this, a sizeable area was demarcated for the wildlife parks and sanctuaries during the post-Independence period. About 134.70 sq.km, i.e., 13.7 per cent of the total forest area was set apart for wildlife conservation. This included five national

⁴¹ *Policy note on Forest Department 1990–91*, p. 3.

⁴² *Tamil Nadu—An Economic Appraisal, 1993–94*, p. 103.

⁴³ *Forestry Statistics India, 1995*, p. 42.

⁴⁴ *India Forestry Statistics, 1996*.

⁴⁵ *Ibid.*

⁴⁶ *India Forestry Statistics, 2000*.

parks, eight wildlife sanctuaries and 12 bird sanctuaries, established during the last three decades. Tourism promotion and attendant programmes with State patronage have grown by heaps and bounds in the post-Independence era, creating pressures on sustenance and preservation of the forest cover from external intervention.

Further, encroachment is another major problem that continues to elude solution. As on 31 March 1994, 15,423.75 ha of forest area remained encroached upon by others.⁴⁷ This has increased over the period and according to the official figures it was 18,283 ha till 1998 in Tamil Nadu.⁴⁸ Most of these lands were not encroachments in the strict sense since the Government had notified them as forest area either without consulting the occupants or denying them an opportunity to establish their case.

V. Commercialisation of the Forests

Since the late eighteenth century, the colonial government actively pursued a forest policy that facilitated rapid commercialisation. As such, conservation was not accorded its due primacy until the late nineteenth century, when the concept of reserve forests was introduced.⁴⁹ The idea of having reserve forest was a well-designed strategy to protect and preserve the *fauna* and *flora* from being plundered and to conserve the forest wealth. All the same, the British had not completely given up the commercial motives till the first half of the twentieth century.⁵⁰ Here, it is interesting to note that the post-Independence policy initiatives too were not completely divorced of commercialisation. In fact, commercial exploitation has continued to guide the policy framework. No doubt, it was actively encouraged in various forms during the post-Independence period. Invariably, all afforestation projects were aimed at increasing revenue through the supply of raw materials to industries, etc. In the afforestation programmes, the tribals were further marginalised. Bandopadhyay has rightly pointed out that ‘... these discourses on scientific forestry

⁴⁷ Forestry Statistics India, 1995, p. 36.

⁴⁸ India Forestry Statistics, 2000.

⁴⁹ Saravanan, ‘Commercialisation of Forest, Environmental Negligence’; Saravanan, ‘Colonial Commercial Forest Policy and the Tribal Private’; Saravanan, ‘Colonialism and Coffee Plantations’.

⁵⁰ Saravanan, ‘Colonialism and Environment: Commercialisation of Forest and Decline of Tribals in Madras Presidency, 1882–1947’.

could neither stop the progressive commercialisation of forestry of various forms and the marginalisation of its resident communities'.⁵¹

Demand for Forest Products

Growth in the industrial as well as non-industrial sectors, which witnessed a quantum leap after Independence, spurred a great demand for forest products. Even quantitatively, the demand has been growing more and more. Some of the industries, which required continuous supply of forest products, included paper and rayon units, railway sleepers, auto and boat building, plywood, sandalwood and other precious oils besides matchwood and tanning units. The non-industrial uses are constructional and manufacture of agricultural implements besides fuelwood, pasture, etc. Industrial development, population growth and urbanisation have created the necessity for more demand leading to depletion of forest wealth. According to official estimates, the demand for forest products, which was at 108 lakh tonnes in 1970, has gone up to 113 lakh tonnes in 1980 (Table 8).

Forest-Based Industries

Tamil Nadu can boast of housing prominent forest-based industries like the Seshasayee Paper Mill in Pallipalayam, Sun Paper Mill in Tirunelveli, South India Viscose Industries in Coimbatore (Rayon Manufacturing) besides a large cluster of tanning and beedi units apart from other tiny subsidiaries dotting the various parts of the State. Since Independence, the number of forest-based industries has been on the rise and dependent upon various kinds of forest produce like timber, poles, fuelwood, pulp and matchwood, sal trees and tendu leaves, gums and resin. However, rayon and paper units are the two major industries that consume a lion's share of forest resources.

The quantity of forest produce supplied to these manufacturers and industrial houses would throw some light on the ground realities. Several industries in the State are dependent upon forests for the supply of raw materials. Paper industry is the most prominent among

⁵¹ Bandopadhyay, 'Three Issues from a CPR Management', p. 210.

TABLE 8
Estimated of Demand of Forest products for Industrial and Non-Industrial Use in 1970s and 80s (in Tonnes)

Product	1970	1980	
A. Industrial Use			
I	1. Pulpwood Bamboo	71000	80000
	2. Paper and Boards-wood	23000	68000
	3. Rayon and Staple fibre	10000	18000
	4. Wood	100000	200000
II	1. Railway Coach building	60000	5000
	2. Auto bodies	600	650
	3. Boat Building	3000	3200
III	1. Railway Sleepers	44000	10500
IV	1. Plywood		
	2. Veneers Furniture	5000	6000
	3. Chip boards	200	1000
V	1. Match wood	112000	117000
VI	1. Tanning		
	2. Wattle bark	17500	17600
	3. Wattle Extract	1700	1700
	4. Marobalm	1800	1800
	5. Konnai bark	100	100
	6. Avaram	300	300
VII	1. Cashew Shelling (Raw nuts)	5000	5000
VIII	1. Sandalwood	1500	500
IX	1. Essential Oils		
	2. Lemongian oil	250	250
	3. Eucalyptus oil	5000	5000
X	1. Lac	4	20
Total		249954	224620
B. Non-Industrial Use			
I	1. Constructional Use		
	2. Timber	107377	118114
	3. Bamboo	16000	24000
II	1. Wood in Agriculture		
	2. Bullock Carts	35886	35886
	3. Ploughs	45640	4540
III	1. Fuel wood	8898500	9364500
IV	1. Pasturage animals	1530000	1530000
Total		10633403	11077040
	Grand Total	10883357	11301660

Source: Government of Tamil Nadu, *Synoptic Statistics on Forestry in Tamil Nadu*, 1978, pp. 31-32.

them. In 1982-83 it was a total of 2.33 lakh tonnes for all the units put together. A decade later, in 1991-92 it witnessed a decline with the total supply standing at 2.05 lakh tonnes. Due to the stringent norms and restrictions imposed by the Government on extraction of forest

TABLE 9
*Supply of Forest Produce to
 Forest-Based Industry in Tamil Nadu:
 1982/83–1996/97*

Year	Tonnes
1982–83	232956
1983–84	222259
1984–85	254131
1985–86	196039
1986–87	217200
1987–88	192923
1988–89	209950
1989–90	194000
1990–91	196563
1991–92	204982
1992–93	185867
1993–94	187084
1994–95	169047
1995–96	119825
1996–97	92003

Source: Tamil Nadu—An Economic Appraisal (various years).

produce, this had come down further. Between 1982–83 and 1991–92, about 28.75 lakh tonnes of forest produce has been supplied to different kinds of industries (Table 9). However, it has been estimated that the required quantity of forest produce was 5.20 lakh tonnes.

The number of paper industries has increased over the years since Independence and at the beginning of the 90s there were 21 paper mills with an installed capacity of 2.64 lakh tonnes. As on 2000, there are 31 major paper mills with a capacity of 6.39 lakh tonnes per annum.⁵² Of these, nine units have a capacity of 5,000 tonnes per annum, six plants with 5,001–10,000 tonnes, 10 with 10,001–20,000 tonnes, two with 20,001–33,000 tonnes and four with 33,000 tonnes and above.⁵³

The raw materials to these industries were supplied at a very low rate with a view to sustain industrial growth. In other words, this subsidised supply meant nothing but encouragement at the cost of depletion of forest wealth. Till 1990–91, the price of raw materials supplied to the industries was very low. For instance, price per tonne

⁵² India Forestry Statistics 2000.

⁵³ *Ibid.*

TABLE 10
Trend of Raw Material Price for Industries (Rs. per tonne)

Species	1990-91	1995-96	1996-97
Bamboo	330	570	1140
Bluegum	925	1570	2748
Eucalyptus grandis	800	1360	2380
Debarked Wattle wood	600	1020	1785
Eucalyptus hybrid	450	770	1348
Wattle bark	2200	3375	4725
Pinas patula	660	—	—

Source: Policy note on Forest Department (various years).

was Rs. 330 for bamboo, Rs. 450 for Euc.hybrid wood, Rs. 925 for blue gum wood, Rs. 800 for Euc.grandis wood, Rs. 600 for wattle wood and Rs. 2200 for wattle bark. However, the price structure was rationalised in 1995-96 and in the subsequent years. Between 1990-91 and 1996-97, there was a two- to three-fold increase in the prices of raw materials (Table 10). Precisely, until the last decade of the twentieth century, the State has continued to supply raw materials to the industries at subsidised rates with a view to boost industrial development.

Sandalwood

Sandalwood trees are largely found in the hilly tracts of North Arcot, Salem, Dharmapuri and Coimbatore districts of Tamil Nadu. The Nilgiris, South Arcot, Tiruchirapally, Ramanathapuram and Tirunelveli districts also account for this precious tree species. Since the late eighteenth century, sandalwood was being cleared on a massive scale from the forests for commercial purposes, in fact even exported from the different parts of the Madras Presidency.⁵⁴ Indeed, it was one of the major sources of revenue for the Forest Department. Sandalwood alone accounted for about 40 per cent of the revenue.

Interestingly, the rate of sandalwood felling has increased manifold over the period, particularly during the post-Independence period. And it was very high during the second half of the twentieth century. Between 1956-57 and 1999-2000, 63,297.5 tonnes of sandalwood worth Rs. 38,846.28 lakh was cleared from the forest (Table 11). Of

⁵⁴ Saravanan, 'Commercialisation of Forest, Environmental Negligence'.

TABLE 11
*Quantity and Value of Sandalwood Extracted from the Forests in Tamil Nadu:
 1956/57–1999/2000*

Years	Sandalwood (quantity in tonnes)	Sandalwood (value in lakhs)	Years	Sandalwood (quantity in tonnes)	Sandalwood (Value in Lakhs)
1956–57	967	68.60	1978–79	4693	384.10
1957–58	1162	62.51	1979–80	4353	364.20
1958–59	1183	51.40	1980–81	2411	445.64
1959–60	1187	58.45	1981–82	1755	461.13
1960–61	1882	76.73	1982–83	2123	658.20
1961–62	1761	112.96	1983–84	2660	691.55
1962–63	1927	81.92	1984–85	1854	811.44
1963–64	1385	80.07	1985–86	1170	1331.81
1964–65	1400	92.09	1986–87	1992	1501.00
1965–66	1496	72.59	1987–88	1691	1901.90
1966–67	1221	117.90	1988–89	1032	1196.50
1967–68	1082	117.66	1989–90	968	1273.40
1968–69	1165	120.23	1990–91	643	1283.80
1969–70	1302	115.31	1991–92	1012	1259.79
1970–71	1415	122.79	1992–93	N.A	848.34
1971–72	1465	122.06	1993–94	N.A	1315.69
1972–73	1390	133.71	1994–95	N.A	2824.00
1973–74	1370	282.19	1995–96	N.A	1200.00
1974–75	1445	372.81	1996–97	N.A	2636.00
1975–76	1473	241.91	1997–98	N.A	1092.88
1976–77	2110	573.24	1998–99	N.A	2718.92
1977–78	2822	404.76	1999–2000	2330.5	9164.00

Note: N.A.—not available.

Sources: Tamil Nadu—Economic Appraisal and Policy note on Forest Department (various years).

course, the State has taken up planting of sandalwood saplings as a part of the afforestation measures. Till the 80s, sandalwood was sold in the market only by the State. In 1983, the government established a sandalwood oil factory at Thekkupattu village of Vaniambadi taluk in North Arcot district. The installed capacity of the plant is 400–500 metric tonnes of sandalwood per annum with an output of 22 metric tonnes of oil extraction.⁵⁵

While the State was engaged in the sale of sandalwood, illicit felling by smugglers and the forest mafia, who had a nexus with the law enforcing machinery, was rampant.⁵⁶ The number of offences related

⁵⁵ *Policy note on Forest Department 1985–86*, p. 9.

⁵⁶ Saravanan, 'Terrorising Tribals: Nexus Between Police and Forest'.

TABLE 12
*Details of Offences Detected Illicit Felling of Sandalwood and Other Scheduled Timbers:
 1982–2000*

Year	No. of offences	Quantity (in tonnes)	Value (rupees in lakhs)	Vehicles confiscated
1982/83	384	46.53	19.48	42
1983/84	417	61.53	16.43	21
1984/85	349	60.60	21.12	28
1985/86	670	75.60	40.99	32
1986/87	457	10.04	40.60	40
1987/88	NA	NA	NA	NA
1988/89	541	113.00	111.33	106
1989/90	649	184.00	192.83	168
1990/91	2385	734.00	1147	NA
1991/92	2292	768.00	1330.00	712
1992/93	1799	549.00	958.00	497
1993/94	3544	843.00	1475.00	661
1994/95	2817	533.00	933.00	560
1995/96	2532	523.00	1083.00	531
1996/97	2760	777.00	1894.34	693
1997/98	2622	603.00	1962.61	709
1998/99	2101	NA	816.00	462
1999/00	1135	NA	513.00	164
1990–91	2385	734.00	1147.08	2385
1991–92	2046	681.00	1177.00	618
1992–93	1799	549.00	958.00	497
1993–94	3544	843.00	1475.00	661
1994–95	2817	533.00	933.00	560
1995–96	2532	523.00	1083.00	531
1996–97	2760	777.00	1894.00	693
1997–98	2622	603.00	1903.00	709

Note: NA—not available.

Source: Forest Department Administration Report (various years).

to illicit felling of sandalwood saw a phenomenal rise during the last quarter of the twentieth century. Between 1982–83 and 1997–98, about 47,959 instances of illegal felling were detected, 11,144.3 tonnes of sandalwood worth of Rs. 23,124.81 lakh was seized and 12,080 vehicles used for smuggling them were confiscated in Tamil Nadu (Table 12). Illicit felling gained momentum during the early 90s and the main reason attributed to this was the hike in the price of sandalwood from Rs. 0.40 lakh per tonne in 1960 to Rs. 2 lakh in the 1980s which further went up to Rs. 9 lakh in the 1990s. In 1989–90, 60 tonnes of sandalwood were seized from the notorious sandalwood smuggler Veerappan and his associates following the directions of

the Chief Minister.⁵⁷ Since a huge quantity could not be cleared from the forests without the collusion with the Forest Department staffs, disciplinary proceedings were initiated against those personnel involved in the nexus. In bureaucratic parlance, these can be described and treated as a lapse in duty. From 1980 to December 1982, 3024 cases were registered against the Forest Department personnel on disciplinary grounds for negligence in protecting forest wealth and a total of 1,149 persons were punished.⁵⁸ During 1985–86, 106 forest officials and staff were placed under suspension for various lapses while charge sheets have been issued against 1,531 officials.⁵⁹ This would make it clear that there exists a nexus between the Forest, Revenue and Police Departments and politicians/mafia facilitating in illicit smuggling of sandalwood. In fact, the Madras High Court in 1995 had suggested to the State Government to constitute a separate Inquiry Commission to find out the details of nexus between the politicians and government institutions.⁶⁰ A big network of organised smuggling of sandalwood from Tamil Nadu to sandalwood oil factories in Kerala was in operation since the early 80s.⁶¹ This was exposed by the investigations into the procurement processes of some sandalwood oil factories and criminal cases have been filed in the appropriate courts.⁶²

The price of sandalwood shot up remarkably in the last quarter of twentieth century. In Tamil Nadu, the rate, which was Rs. 4,005 per tonne in 1957, had gone up to Rs. 10,874 in 1967 and 47,830 in 1977.⁶³ Since the 1980s, it had witnessed a sharp increase. It was Rs. 31,000 per tonne in 1980 but Rs. 78,000 in 1987 and Rs. 1,60,000 in 1990 (see Table 13). In 2002, the best quality of sandalwood fetched a price not less than Rs. 9 lakh per tonne.⁶⁴ Hence, smuggling continued to thrive on a large scale with prices skyrocketing in the market. Here, mention should be made of notorious poacher-sandalwood smuggler Veerappan, who had killed a number of

⁵⁷ *Policy note on Forest Department 1990–91*, p. 54.

⁵⁸ *Policy note on Forest Department 1983–84*, p. 4.

⁵⁹ *Policy note on Forest Department 1986–87*, p. 5.

⁶⁰ Saravanan, 'State Atrocities on Tribals in Contemporary Tamil Nadu (1990–2000): Law, Politics, Political Activism and Justice'.

⁶¹ *Policy note on Forest Department 1985–86*, p. 6.

⁶² *Ibid.*

⁶³ *Synoptic Statistics on Forestry in Tamil Nadu*, 1978, p. 14.

⁶⁴ *The Hindu* dated 22 September 2002 in <http://www.thehindu.com/2002/09/22/stories/2002092204570600.htm>

TABLE 13
Sandalwood Prices: 1900–1990

Year	Rs. per tonne
1900	365
1933	1000
1965	6000
1970	10000
1980	31000
1990	200000
2000	900000

Sources: Rai, Shobha (1990) 'Status and Cultivation of Sandalwood in India', Symposium of Sandalwood in the Pacific held at Honolulu, Hawaii, 9–11 April. Actually taken from Ramanathan, C., 1997. Indian Sandalwood Trade. In TED Case Studies: Sandalwood Case. www.american.edu/projects/mandala/TED/sandalwood.htm and Policy note on Forest Department (various years).

elephants and cut down a large number of sandalwood trees in the northwestern parts of Tamil Nadu in the last two decades. According to the media reports he had killed over 2000 elephants for ivory and felled sandalwood trees worth Rs. 100 crore (*The Hindu*, 2 May 2003). In 1989–90, about 60 tonnes of sandalwood was seized from the Veerappan gang and 83 persons were arrested in this connection.⁶⁵

Export of Sandalwood Oil

Sandalwood not only provided revenue to the State but has also fetched precious foreign exchange. About 618.8 tonnes of sandalwood oil worth Rs. 1,354 lakh was exported from Tamil Nadu between 1961–62 and 1982–83 (Table 14). In view of the great export potential, the State Government itself has established sandalwood oil extraction factories during the late 80s. The neighbouring states of Kerala and Karnataka having similar factories encouraged illicit felling in the

⁶⁵ Policy note on Forest Department 1989–90, p. 54.

TABLE 14
Sandalwood Oil Exports from Tamil Nadu: 1961/62–1982/83

Years	Quantity (in tonnes)	Value (Rs. in lakhs)	Years	Quantity (in tonnes)	Value (Rs. in lakhs)
1961–62	47	100	1972–73	96	227
1962–63	24	44	1973–74	122	230
1963–64	NA	NA	1974–75	46	420
1964–65	52	79	1975–76	11	59
1965–66	39	60	1976–77	0.1	16
1966–67	58	130	1977–78	1.7	20
1967–68	61	148	1978–79	NA	NA
1968–69	87	255	1979–80	73	40
1969–70	76	185	1980–81	0.2	2
1970–71	62	150	1981–82	6.5	20
1971–72	83	184	1982–83	8.3	6

Note: NA—not available.

Source: Tamil Nadu—An Economic Appraisal (various years).

forests of Tamil Nadu. The northwestern forests of Tamil Nadu being contiguous to these two States made illicit felling and smuggling much easier.

Sandalwood oil extraction industries in the border areas of Kerala are procuring the smuggled sandalwood from Tamil Nadu. According to the Divisional Forest Officer (DFO), Palakkad, 'It has been reported that there were 21 factories distilling sandalwood oil on the Karnataka and Tamil Nadu border area. On an average, each factory consumes 170 tonnes of sandalwood per year from which it produces six tonnes of sandalwood oil. Only a small portion of the wood is being harvested officially while the rest comes unofficially from Tamil Nadu and Karnataka'.⁶⁶

Sandalwood oil, known for its fragrance and multiple uses ranging from cosmetics to healthcare products has a global market and is being exported to various countries. The quantity of exports has declined since the early 80s due to the stringent procedures by the government. For example, the total sandalwood oil export from the country was only 243 tonnes between 1987–88 and 1992–93.⁶⁷ The break up for the period is as follows: 1987/88—39 tonnes; 1988/89—26 tonnes; 1989/90—34 tonnes; 1990/91—37 tonnes; 1991/92—65

⁶⁶ *The Hindu*, 13 March 2003.

⁶⁷ Food and Agriculture Organisation (FAO) Flavours and Fragrances of Plant Origin, 1995, in <http://www.fao.org/docrep/v5350e/V5350e08.htm>

tonnes and 1992/93—42 tonnes.⁶⁸ The Government of Tamil Nadu kept on insisting to the Central Government to remove the restrictions, a clear indication of the government's fixed mindset on commercialisation of forest resources.

Revenue from the Forest

Since the late eighteenth century, forest resources have been extracted for commercial purposes in different parts of the Madras Presidency by the colonial government.⁶⁹ In fact, the same commercial forest policy continued to persist with minor cosmetic changes until the end of colonial rule. Although post-colonial governments have launched several afforestation programmes, commercialisation and attendant revenue generation received the greater policy thrust. In other words, while bringing additional areas into the ambit of forest cover, the government never gave up constant extraction of resources. Instead of conservation, meeting the future commercial needs was the real motive behind the government in annexing large tracts into the forests.

Major forest products like timber, sandalwood, firewood and other minor forest produce like bamboo and cane, fibres and flosses have been extracted on a very massive scale. For instance, between 1956–57 and 1985–86, 7,37,762 tonnes of timber worth Rs. 3415.47 lakh, 52,459.96 tonnes of sandalwood worth of Rs. 7,342.34 lakh and 64,63,208 tonnes of firewood worth of Rs. 2,606.58 lakh has been extracted from the forests. In addition to this, bamboo and cane worth Rs. 516.39 lakh and minor forest produce like fibres and flosses worth Rs. 4,208.31 lakh was also extracted during the same period (Table 15).

Even after the 1980s, revenue from the various kinds of forest produce has increased progressively in Tamil Nadu. For instance, the revenue from various forest produce was about Rs. 2,773 lakh in 1985–86 and it has increased to Rs. 7,852 lakh in 1999–2000. Between 1885–86 and 1999–2000, about Rs. 65,724.84 lakh worth of forest produce was extracted. Of which, Rs. 26,005.62 lakhs

⁶⁸ Ramanathan, *Indian Sandalwood Trade. In TED Case Studies: Sandalwood Case.*

⁶⁹ Saravanan, 'Commercialisation of Forest, Environmental Negligence' 'Colonialism and Environment: Commercialisation of Forest and Decline of Tribals in Madras Presidency, 1882–1947'.

TABLE 15
Revenue from Forest Produce in Tamil Nadu: 1956/57-1984/85

Years	Major forest produce						Minor forest produce	
	Timber		Sandalwood		Firewood		Bamboos and cane (value in Rs. lakhs)	Fibres and flosses (value in Rs. lakhs)
	Quantity (in tonnes)	Value (in Rs. lakhs)	Quantity (in tonnes)	Value (in Rs. lakhs)	Quantity (in tonnes)	Value (in Rs. lakhs)		
1956/57	23486.00	56.83	967.00	68.60	105940.00	24.14	N.A	N.A
1957/58	19180.00	18.03	1162.00	62.51	202500.00	31.00	7.00	5.53
1958/59	14900.00	19.70	1183.00	51.40	337800.00	32.41	7.83	7.35
1959/60	26017.00	27.11	1187.00	58.45	106530.00	41.40	8.77	8.37
1960/61	27355.00	32.97	1882.00	76.73	142185.00	51.12	8.83	13.74
1961/62	37728.00	36.91	1761.00	112.96	84329.00	58.11	12.28	16.86
1962/63	44872.00	31.81	1927.00	81.92	283775.00	63.74	11.41	17.23
1963/64	51091.00	56.53	1385.00	80.07	278928.00	59.14	16.42	14.96
1964/65	38340.00	74.76	1400.00	92.09	343092.00	61.02	55.29	19.23
1965/66	34563.00	65.60	1496.00	72.59	446766.00	58.52	13.21	14.63
1966/67	32589.00	56.49	1221.00	117.90	552817.00	67.29	21.01	21.29
1967/68	34059.00	62.89	1082.00	117.66	377417.00	18.51	18.17	27.15
1968/69	42283.00	43.73	1165.00	120.23	332000.00	80.40	17.48	30.76
1969/70	38682.00	16.26	1302.00	115.31	332235.00	67.88	15.96	28.96
1970/71	41699.00	44.80	1415.00	122.79	278320.00	83.65	29.45	33.16
1971/72	36477.00	85.45	1465.00	122.06	428306.00	96.98	28.86	75.57

1972/73	28440.00	110.52	1390.00	133.71	311385.00	101.00	24.52	58.05
1973/74	22568.00	108.26	1370.00	282.19	224232.00	107.91	26.22	207.30
1974/75	20355.00	125.22	1445.00	372.81	315670.00	253.78	34.80	126.08
1975/76	27514.00	145.76	1473.00	241.91	271633.00	289.06	33.24	154.46
1976/77	20524.00	200.42	2110.00	573.24	206184.00	198.89	25.01	259.73
1977/78	26366.00	126.66	2822.00	404.76	176040.00	222.11	22.19	320.53
1978/79	10422.00	371.12	4693.00	384.10	98553.00	118.26	27.71	478.08
1979/80	14853.00	234.57	4353.00	364.20	56686.00	72.30	17.21	697.02
1980/81	8558.00	116.60	2411.00	445.64	40208.00	93.62	22.79	601.76
1981/82	3698.00	133.84	1755.00	505.32	40632.00	73.06	10.73	970.51
1982/83	4483.00	133.13	2123.00	658.20	66104.00	127.49	NA	NA
1983/84	4774.00	534.20	2660.00	691.55	18665.00	39.99	NA	NA
1984/85	1886.00	345.30	1854.00	811.44	4276.00	13.80	NA	NA
Total	737762.00	3415.47	52459.00	7342.34	6463208.00	2606.58	516.39	4208.31

Note: NA—not available.

Source: Tamil Nadu—An Economic Appraisal (various years).

worth of sandalwood, Rs. 15,477.74 lakh worth of raw materials were supplied to the industries, Rs. 2,150.05 lakh worth of non-wood forest produce and Rs. 22,246.43 lakh worth of timber, fuel, bamboo, cashew, casuarinas, softwood and farm forest plantations were extracted (Table 16). Admittedly, the restriction clamped by the Central Government on sandalwood export has led to the downfall in prices. Coupled with this, the fall in sandalwood prices in the global market has had a direct impact on the domestic market as witnessed in the declining trends in sandalwood auction in Tamil Nadu during the 80s.⁷⁰ In April 1980, the Ministry of Commerce announced a total ban on the export of sandalwood in log, sawn and billet forms so as to meet the requirements of domestic consumption.⁷¹ Consequently, the price has come down to Rs. 16,934 per tonne in 1998.

Trends of Income and Expenditure

A perusal of the income and expenditure of the Forest Department will furnish a macro view about the policy thrusts of the post-colonial governments. It would help to ascertain how far conservation and environmental protection has been accorded priority corresponding to the emphasis laid on commercialisation. The data clearly proves that the Forest Department had received more revenue from the forest than the expenditure until the 1980s. In other words, the State Government during the first three decades of Independence has encouraged revenue generation through commercialisation. The trend has changed after the 1980s, but this does not necessarily mean that the focus of the Forest Department has taken an 'U' turn thereafter (Table 17). The expenditure being more than the income cannot be relied upon as an indicator of renewed efforts aimed at conservation. Since 1980s, the Forest Department had pumped in huge amounts on Social Forestry Programmes, Tamil Nadu Agricultural Development Project and Tamil Nadu Afforestation Project to bring in additional areas under the green cover. Interestingly, all these programmes were supported by external agencies like Swedish International Development Authority (SIDA), World Bank and the Japanese OECF and mainly focused on areas other than the forest.

⁷⁰ *Policy note on Forest Department 1979–80*, p. 7.

⁷¹ *Policy note on Forest Department 1981–82*, p. 10.

TABLE 16
Revenue from Forest Produces in Tamil Nadu: 1985/86–1999/2000 (Rs. in lakhs)

Year	Sandalwood	Supply of raw materials to industries	Non-wood forest produce (MFP)	Timber, fuel, bamboo, cashew, casuarina, softwood and farm forest plantations and others	Total
1985/86	1338.00	873.00	95.00	622.00	2773.00
1986/87	1400.00	618.00	98.00	733.00	2849.00
1987/88	1560.00	734.00	77.00	1373.00	3744.00
1988/89	1352.00	894.00	77.00	1053.00	3376.00
1989/90	1360.00	1113.00	29.00	1166.00	3668.00
1990/91	1500.00	1357.00	340.00	1014.00	4211.00
1991/92	1259.79	2083.32	163.48	1004.86	4511.45
1992/93	848.34	2041.56	153.81	1034.96	4078.67
1993/94	1315.69	1985.35	125.63	1288.98	4715.65
1994/95	2824.00	1986.00	156.00	1281.00	6247.00
1995/96	1200.00	990.00	139.00	2314.00	4643.00
1996/97	2636.00	183.00	153.00	1260.96	4232.96
1997/98	1092.88	223.95	227.57	1252.65	2797.05
1998/99	2718.92	195.56	162.06	2949.02	6025.56
1999/00	3600.00	200.00	153.50	3899.00	7852.50
Total	26005.62	15477.74	2150.05	22246.43	65724.84

Note: Figures for 1989/90 Budget Revised Estimate and 1990/91 Proposed Budget Estimate.

Sources: Tamil Nadu—An Economic Appraisal (various years), Policy note on Forest Department (various years).

TABLE 17
Trends of Revenue and Expenditure in Forest: 1960/61–1997/98 (Rs. in lakhs)

Year	Revenue	Expenditure	Net income	Year	Revenue	Expenditure	Net income
1960/61	199.35	106.57	92.78	1980/81	1458.00	1458.68	-0.68
1961/62	252.27	114.51	137.76	1981/82	1477.24	1976.00	-498.76
1962/63	222.86	139.13	83.73	1982/83	1524.39	2606.00	-1081.61
1963/64	259.03	169.44	89.59	1983/84	2067.27	2909.00	-841.73
1964/65	307.62	185.50	122.12	1984/85	2467.80	3019.00	-551.20
1965/66	280.78	209.05	71.73	1985/86	2751.87	3027.35	-275.48
1966/67	318.86	206.76	112.10	1986/87	3043.82	2961.25	82.57
1967/68	338.65	226.90	111.75	1987/88	3484.52	3950.71	-466.19
1968/69	336.71	262.73	73.98	1988/89	3872.00	4168.00	-296.00
1969/70	335.81	270.98	64.83	1989/90	4925.02	5107.39	-182.37
1970/71	366.08	310.03	56.05	1990/91	4435.18	6318.56	-1883.38
1971/72	456.99	394.47	62.52	1991/92	4457.62	6481.59	-2023.97
1972/73	490.59	427.51	63.08	1992/93	4452.62	7961.37	-3508.75
1973/74	735.41	526.33	209.08	1993/94	5527.00	5419.23	107.77
1974/75	921.80	574.40	347.40	1994/95	6481.00	8653.37	-2172.37
1975/76	1845.72	657.70	1188.02	1995/96	5796.59	9367.05	-3570.46
1976/77	1051.59	652.17	399.42	1996/97	5273.32	9932.13	-4658.81
1977/78	1051.59	1111.47	1051.59	1997/98	4366.17	12188.50	-7822.33
1978/79	1141.00	925.88	215.12	1998/99	6400.35	19205.77	-12805.42
1979/80	1088.00	1155.50	1088.00	1999/00	8096.16	18395.23	-10299.07

Source: Government of Tamil Nadu, *Synoptic Statistics on Forestry in Tamil Nadu*, 1978, p. 27, Tamil Nadu—An Economic Appraisal (various years) and Policy note on Forest Department (various years).

VI. Conservation Through Different Forest Acts and Rules

In addition to the Tamil Nadu Forest Act of 1882, which is still in force in Tamil Nadu, the post-colonial governments have enacted several forest acts and rules to preserve and protect forest resources from being plundered. They are Tamil Nadu Preservation of Private Forest Act, 1949; Tamil Nadu Hill Areas (Preservation of Trees) Act, 1955; Forest (Conservation) Act, 1980 with amendments made in 1988; Forest (Conservation) Rules, 1981; National Forest Policy, 1988; Indian Wildlife (Protection) Act, 1972; Tamil Nadu Timber Transit Rules, 1968; Tamil Nadu Sandalwood Transit Rules, 1967; Tamil Nadu Sandalwood Possession Rules, 1970. These Acts and Rules have imposed several restrictions on accessing and using forest resources and on the transport of timber in general and sandalwood in particular.

Under the Forest Act of 1882, the tribals could claim only the right of way, watercourse, pasture and collection of minor forest-produce (Section 10). These too were not allowed either wholly or partially (Section 11) and the Forest Department granted them intermittently, with quantitative restrictions (Section 12). Fresh clearings for cultivation or any other purpose were also restricted (Section 7). If the tribals used the prohibited items, they were liable to imprisonment for a period of six months or a fine of about Rs. 500, or both (Section 21). Grazing on forest land was limited and became liable to suspension (Section 22). Grazing cattle in the closed land would attract imprisonment for a month and /or penalty of Rs. 200 (Section 28). Whoever infringes any rules made under section 26 shall be punished (Section 28-A). According to Section 28-A(1) in any case where such an infringement relates to any scheduled timber the punishment would be imprisonment for a term which may extend to five years and a fine which may go up to Rs. 20,000. The tribals were also forced to render free services to the Police and the Forest Department officers.

As per Section 36-A, no person was allowed to keep more than 5 kg of sandalwood without a licence granted by the District Forest Officer or unless such sandalwood is affixed by a Forest Officer with such mark and in such a manner prescribed. Further, this Act provided for the arrest and seizure of property including implements, vehicles and cattle used for committing any offence. However, the Act has a deterrent against unnecessary seizure or vexatious arrest. Use of timber for housing and to make agricultural implements was curbed under the Tamil Nadu Hill Areas (Preservation of Trees) Act, 1955.

Section 3(2) of this Act reads, ‘... no person shall cut or otherwise damage, or cause to be cut or damaged, the branch of any trees’. These restrictions were applicable even to the steep slopes of the hills (Section 4(1)). Any offender was liable for punishment with imprisonment up to one year or penalty up to Rs. 5,000 or both (Section 7). After Independence, the tribals’ rights to cut-down the trees even for their basic necessities have been restricted further.

The Madras Forest (Amendment) Act 1979 increased the penalty for offences committed under the Madras Forest Act (1882). For example, the punishment for using prohibited forest items were raised from six months to three years’ of imprisonment or Rs. 500 to Rs. 10,000 or both. Later, the Tamil Nadu Forest (Amendment) Act 1992 hiked the penalty amount to offences related to scheduled timber from Rs. 10,000 to Rs. 20,000 and the imprisonment period from three to five years.⁷² The rights of tribals on the forest were thus curtailed systematically over the period leading to the collapse of the forest-oriented tribal economy.

Restriction on Timber Transit

The government has framed several rules in order to regulate the transportation of timber from one region to another. The Tamil Nadu Timber Transit Rules, 1968, prescribed restricted transportation of timber without a valid permit. Further, the permit for import as well as export of timber has to be produced at any notified checking station.

Sandalwood Protection

In addition to the general acts, the Tamil Nadu Government has brought out specific rules, viz., Sandalwood Transit Rules, 1967 and Sandalwood Possession Rules, 1970 to protect sandalwood resources. These rules were made for the exercise of powers conferred by sections 35, 36, 36-A, 36-B and 36-D of the Tamil Nadu Forest Act, 1882 (Tamil Nadu Act V of 1882), to prevent illicit felling and smuggling of sandalwood.

⁷² Tamil Nadu Forest (Amendment) Act 1992.

Besides restricting any person from carrying more than 5 kg of sandalwood, the Sandalwood Transit Rules, 1967, provided by the District Forest Officer to maintain an approved list of companies or individuals engaged in the distillation of sandalwood and other by-products. Export/import and transportation of sandalwood without valid permit was forbidden. In the case of sandalwood purchased at the Government sales depot in the State of Andhra Pradesh, Karnataka or Kerala and imported to the State, the permit should be produced from the authority concerned of the respective States. In case of imports, permit has to be obtained on payment of a price fixed by the Chief Conservator of Forest from time to time (Section 4(3)). Subsequent movement of imported sandalwood as well as transport of all local sandalwood should be on the permission from the District Forest Officer on payment (Section 4(4)). Sandalwood transportation is also restricted in the night unless there was clearance at the first checking station in a district. According to the Tamil Nadu Sandalwood Possession Rules, 1970, no person should keep stock of sandalwood in excess of 5 kg without a license.

Restriction to Divert the Forest Land

Concerned about the need to protect the dwindling forest cover in the country, the Government of India has come up with several statutes and rules in the last quarter of the twentieth century. The Forest (Conservation) Act 1980 expressly prohibited the State Governments from transferring the reserve forests for any purpose without the approval of the Central Government. As per the modified Act in 1988, the States should not assign by way of lease or otherwise any forest land to any private person or authority, corporation, agency or any other organisation not owned, managed or controlled by the government.

VII. Tribal Development Policies and its Impacts

According to the 2001 Census, the population of Scheduled Tribes in Tamil Nadu is 6.51 lakh, constituting 1.04 per cent of the total population (62,405,679). About 84.62 per cent of them are living in

the rural areas. Of the total 36 tribal communities⁷³ in the State, six⁷⁴ are classified as Primitive Tribal Groups (PTG). Till 1978 when the Tribal Sub-Plan (TSP) was introduced, the government did not have a major strategy or a development programme for the socio-economic development of the tribals. In fact, budgetary allocation also remained very low and no specific schemes were implemented during the first decade. Only in 1961, two separate Block Development Offices (BDOs) were set up in Shervaroy and Kolli hills, which were converted into Tribal Development Blocks (TDB) in 1963. During the Fifth Five-Year Plan, the concept of TSP was introduced under which nine Integrated Tribal Development Projects (ITDPs) were identified in six districts of north and northwestern Tamil Nadu.⁷⁵

With the introduction of the TSP, the State had hiked the budgetary allocation for the development of tribals. From Rs. 2,167 lakh (0.59 per cent) in the Sixth Five-Year Plan, the outlay had progressively increased to Rs. 27,432 lakh (1.10 per cent) by the Ninth Five-Year Plan (Table 18). Since the Sub-Plan period (1978), the hill areas started to gain more attention and infrastructure facilities. A separate Directorate for the welfare of the tribals was set up on 1 April 2000. However, these development initiatives have failed to create a positive impact on the tribal economy, as there was a visible decline in the proportion of the rate of participation in economic activities. No significant structural transformation has occurred even among the low proportion of workers.⁷⁶ Interestingly, there was a sharp fall in the proportion of cultivators to the total workforce in the primary sector

⁷³ They are 1. Adiyar, 2. Aranandam, 3. Eravallan, 4. Irular, 5. Kadar, 6. Kammara (excluding Kanyakumari district and Shenkottah taluk of Tirunelveli district), 7. Kanikaran, Kanikkar (excluding Kanyakumari district and Shenkottah taluk of Tirunelveli district), 8. Kaniyan, Kanyan, 9. Kattunayakan, 10. Kochu Velan, 11. Konda kapus, 12. Kondareddis, 13. Koraga, 14. Kota (excluding Kanyakumari district and Shenkottah Taluk of Tirunelveli district), 15. Kudiyal Melakudi, 16. Kurichchan, 17. Kurumbas (in the Nilgiris district), 18. Kurumans, 19. MahaMalasar, 20. Malai Arayan, 21. Malai pandaram, 22. Malai Vedan, 23. Malakkuravan, 24. Malasar, 25. Malayali (in Dharmapuri, North Arcot, Pudukottai, Salem, South Arcot and Tiruchirappalli districts), 26. Malayakandi, 27. Mannan, 28. Mudugar, Muduvan, 29. Muthuvan, 30. Pallayan, 31. Pallian, 32. Palliyar, 33. Paniyan, 34. Sholaga, 35. Toda (excluding Kanyakumari district and Shenkottah taluk of Tirunelvelidistrict), 36. Uraly.

⁷⁴ Toda, Kota, Kurumba, Irular, Pania and Kattunaickan.

⁷⁵ They are Kolli hills, Shervaroy hills, Kalrayan hills and Pachamalai hills of Salem district; Kalrayan hills of South Arcot district; and Jawadhi-Elagiri hills of North Arcot district; Pachamalai hills of Tiruchi and Sitteri hills of Dharmapuri district.

⁷⁶ Saravanan, 'Decline of Tribal Economy in Tamil Nadu: 1947-2000'.

TABLE 18
Outlay for the Tribal Development in Tamil Nadu: II to IX Plans (Rs. in lakhs)

Plans	Total outlay	Tribal development	% of col. (3) to (2)
Second Five-Year plan (1956-61)	18776	31.68	0.17
Third Five-Year Plan (1961-66)	34715	41.00	0.12
Fourth Five-Year Plan (1969-74)	55896	76.37	0.14
Fifth Five-Year Plan (1975-79)	83352	83.95	0.10
Sixth Five-Year Plan (1980-85)	364461	2167.00	0.59
Seventh Five-Year Plan (1985-90)	631744	6932.00	1.10
Eighth Five-Year Plan (1992-97)	1401680	10621.70	0.76
Ninth Five-Year Plan (1997-02)	2500000	27432.00	1.10

Note: Only the state plan outlay was taken into account.

Source: Five-Year Plan Documents (various plans).

(from 68 per cent in 1961 to 43 per cent in 1991) while the category of agricultural labourers registered an alarming increase (about 24 per cent in 1961 to 50 per cent in 1991) (Table 19). In addition to this, about 10 per cent of the workers were classified in the category of marginal worker. This is a clear indication of the fact that the tribal economy was on a downward slide with deterioration having set in due to large-scale encroachment by the Forest Department and alienation of tribal lands by non-tribals.

Trends of Landholding Pattern

Without any viable economic transformation, the occupational position of the tribals degenerated into agricultural labourers from that of the cultivators. Not only the proportion of cultivators had dwindled during the post-Independence period, even those of medium as well as large farmers have also declined sharply. On the contrary, the ratio of marginal and small farmers has increased in these years. During 1979-80, marginal land holdings constituted 53.06 per cent of the total holdings and 15 per cent of the total area. In 1995-96, it has gone up to 57.40 per cent of the total holdings and 21.23 per cent of the total area. Small land holdings which constituted 24.02 per cent of the total holdings and 20.64 per cent of the total area has risen to 26.02 per cent of the total holdings and 29.36 per cent of total area during the same period (see Table 20). The sharp fall in the proportion of the semi-medium, medium and large holdings and even

TABLE 19
Trend of ST Workforce: 1961-2001

Year 1	Total population 2	Total workers 3	% of col. (3) to (2) 4	Total primary workers 5	% of col. (5) to (3) 6	Cultivators 7	% of col. (7) to (5) 8	Agri. labourers 9	% of col. (9) to (5) 10	Agri. allied workers 11	% of col. (11) to (5) 12
Total											
1961	251991	143062	56.77	123346	86.22	83289	67.72	29542	23.95	10515	8.33
1971	311515	137295	44.07	127771	93.06	61698	48.29	51204	40.07	14869	11.64
1981	458462	224497	48.97	200398	89.27	105537	52.66	77572	38.71	17289	8.62
1991	574194	281933	32.51	245552	87.10	105345	42.90	123364	50.24	16843	6.86
Rural											
1961	237663	136457	57.42	120666	88.43	82947	68.74	28249	23.41	9470	7.85
1971	294379	130280	44.07	123706	94.95	61414	49.65	49259	39.82	12933	10.55
1981	415165	208746	50.28	194589	93.22	105026	53.97	74775	38.43	14788	7.60
1991	505208	258217	33.84	237904	92.13	104869	44.08	118631	49.87	14404	6.06
Urban											
1961	14328	6605	46.10	2680	40.58	342	12.76	1293	48.25	1045	38.99
1971	17136	7015	40.94	4065	57.95	284	6.99	1945	47.85	1836	45.16
1981	43297	15751	36.38	5809	36.88	511	8.80	2797	48.15	2501	43.05
1991	68986	23716	22.77	7648	32.25	476	6.22	4733	61.89	2437	31.89

Note: For 1981 and 1991 Census, total workers include marginal workers.

Source: Census of India (various censuses).

TABLE 20
Land Size-Holdings of Tribes in Tamil Nadu, 1979-80 and 1990-91

Size	Number of holdings	% of total holding	Area	% of total to total area
Marginal				
1979-80	25,446	53.06	11,675	14.99
1990-91	36,703	55.05	16,600	19.15
1995-96	35658	57.40	16767	21.23
Small				
1979-80	11,520	24.02	16,076	20.64
1990-91	17,370	26.05	24,275	28.00
1995-96	16164	26.02	22655	29.36
Semi-Medium				
1979-80	7,175	14.96	19,658	25.23
1990-91	9,416	14.12	25,657	29.59
1995-96	7577	12.20	20474	26.54
Medium				
1979-80	3,253	6.78	18,920	24.29
1990-91	2,948	4.42	16,476	19.00
1995-96	2476	3.99	13647	17.69
Large				
1979-80	561	1.17	11,577	14.86
1990-91	240	0.36	3,686	4.25
1995-96	247	0.40	3613	4.68
Total				
1979-80	47,955	100.00	77,906	100.00
1990-91	66,677	100.00	86,694	100.00
1995-96	62122	100.00	77156	100.00

Source: World Agricultural Census for the respective years.

the area was corresponding to a phenomenon of a very large number of cultivators being reduced as agricultural labourers. Further, this would illustrate the deterioration and collapse of the tribal economy in the State.

In fact, the numerous restrictions imposed on the accessibility to forest resources and the difficulty of expanding land for cultivation due to the extension of reserve forests and subsequent land alienation have crippled and driven the plight of tribal economy to almost nil. Of all the factors, land alienation remains the most serious one that the tribal communities have confronted in recent years, especially after the sub-plan period.

A survey undertaken among 2,631 tribal households in 1986 to ascertain the intensity of land alienation revealed that 37 per cent of the tribal households have lost their lands to outsiders. On an average, each household had lost land to the extent of not less

than 3.68 acres. Another survey held in nine districts during 1998 showed that of the 3,341 tribal households enumerated 1,535 have lost about 4,647.92 acres of lands primarily due to disposal after mortgaging them to meet domestic consumption, debt repayment, social and religious ceremonies/functions, medical expenses and to some extent alcoholism.⁷⁷ Though the draft bill on land alienation had been prepared, it is yet to see the light.

VIII. Concluding Observations

The policy framework of the post-colonial governments in regard to forests was flawed and inherently contradictory as there was a lack of vision to address environmental and tribal concerns together. As such the policies initiated and the programmes implemented failed to bring any desirable results. On the one hand, the State continued to encroach upon forest land for the various development purposes and on the other, it offered encouragement to denudation and plunder of forest resources for commercial gains. The shrinking of the green cover and depletion of forest wealth is a disturbing trend, which would pose an environmental threat to the State in the long run. While restricting the use of forest resources by the tribals, the State has either remained a mute spectator to the looting of timber and other resources or stood apparently 'ineffective' in controlling the contractor/politician/mafia. Deforestation and denudation caused by the tribals had been magnified to put curbs on them but illicit felling and smuggling of forest wealth, despite stringent laws, raise questions on accountability. Another interesting point is while providing infrastructure facilities to the tribal areas, the State either overlooked the systemic failures of governance or failed to impose restrictions to control non-tribal intruders into the tribal areas. In short, in the post-colonial period there was no paradigmatic shift in the perspective of the State in regard to the hill areas and the tribals concerned. Instead, the pace of disintegration of the traditional forest-oriented tribal economy got accentuated. The policies pursued have neither protected the environment nor promoted the tribal inhabitants but only paved the way for the non-tribals to destroy

⁷⁷ Karuppaiyan, 'Alienation of Tribal Lands in Tamil Nadu', pp. 3344–48; see also *Indebtedness of Scheduled Tribes in Tamil Nadu*, 1978.

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References

- Bandopadhyay, Arun. 2004. 'Three Issues from a CPR Management: Village Forestry in Post-Colonial South Asia', in B. B. Chaudhuri and Arun Bandopadhyay (eds.), *Tribes, Forest and Social Formation in Indian History*. New Delhi: Manohar.
- Census of India 1971, *Special Tables on Scheduled Castes and Scheduled Tribes*, Madras.
- Census of India 1981, *Special Tables for Scheduled Tribes*, Madras.
- Census of India 1991, *Primary Census Abstract for Scheduled Castes and Scheduled Tribes*, Madras.
- Census of India 2001, *Primary Census Abstract for Scheduled Castes and Scheduled Tribes*, Chennai.
- Food and Agriculture Organisation (FAO). Flavours and Fragrances of Plant Origin, 1995, in <http://www.fao.org/docrep/v5350e/v5350e08.htm>.
- Government of India. *Annual Plan for 1989-90*, New Delhi.
- Government of Tamil Nadu, *Policy Note on Forest Department*, Madras/Chennai (various years).
- Government of Tamil Nadu. *An Economic Appraisal*, Chennai (various years).
- Government of Tamil Nadu. *Synoptic Statistics on Forestry in Tamil Nadu*, Office of the Chief Conservator of Forests, Madras, 1978.
- Government of Tamil Nadu. 1993. *Tamil Nadu State Administrative Report 1989-90*, Chennai.
- Government of Tamil Nadu. 1960. *Third Five-Year Plan*, Madras.
- Government of Tamil Nadu, 1969. *Fourth Five-Year Plan*, Madras.
- Government of Tamil Nadu, 1973. *Fifth Five-Year Plan*, Madras.
- Government of Tamil Nadu, 1985. *Seventh Five-Year Plan 1985-90*, Madras.
- Government of Tamil Nadu, 1992. *Eighth Five-Year Plan 1992-1997*, Madras.
- Government of Tamil Nadu, 1998. *Ninth Five-Year Plan 1997-2002*, Chennai.
- Guha, Ramachandra. 1993. 'Writing Environmental History in India', *Studies in History*, n.s, 1.9, 1:122.
- Indian Council of Forest Research & Education. 1995. *Forestry Statistics India, 1995*.
- Indian Council of Forestry Research and Education. 1996. *Forestry Statistics of India*, Dehra Dun.
- Indian Council of Forestry Research and Education. 2000. *Forestry Statistics of India*, Dehra Dun.
- Institute of Techno-Economic Studies. 1978. *Indebtedness of Scheduled tribes in Tamil Nadu*, Chennai.
- The Hindu, dated 13th March 2003, in <http://www.thehindu.com/2003/03/13/stories/2003031305750400.htm>
- The Hindu, dated 2nd May 2003, in <http://www.thehindu.com/2003/05/02/stories/2003050204850400.htm>
- Jodha, N. S. 2001. *Life on the Edge: Sustaining Agriculture and Common Property Resources in Fragile Environment*, Delhi.
- Jothimurugan, A. 1985. Tribal Development in Tamil Nadu, unpublished M.Phil dissertation, Madras: University of Madras.
- Jothimurugan, A. 1989. Socio-economic impact of Tribal Development schemes of Kalrayan hills of Salem and South Arcot Districts, unpublished Ph.D. dissertation, Madras: University of Madras.

- Karuppaiyan, E. 2000. 'Alienation of Tribal Lands in Tamil Nadu: Panel Data Analysis', *Economic and Political Weekly*, 35, 37:3343–50.
- Ramanathan, C. 1997. 'Indian Sandalwood Trade' in TED Case Studies: Sandalwood Case, in www.american.edu/projects/mandala/TED/sandalwood.htm
- Ramanathan, S. 1977. *Tribal Welfare in Salem District: The Role of Government and Voluntary Organisations*, Madras.
- Saravanan, Velayutham (a) 'State Atrocities on Tribals in Contemporary Tamil Nadu (1990–2000): Law, Politics, Political Activism and Justice' (unpublished).
- Saravanan, Velayutham. 'Colonialism and Environment: Commercialisation of Forest and Decline of Tribals in Madras Presidency, 1882–1947' (Unpublished Paper).
- Saravanan, Velayutham 2006. 'Decline of Tribal Economy in Tamil Nadu: 1947–2000', in G.C. Rath (ed), *Tribal Development in India: The Contemporary Debate*, New Delhi.
- Saravanan, Velayutham. 'Economy of Colonial Revenue Policies in the Tribal Areas of Madras Presidency: 1792–1872' (under Revision).
- Saravanan, Velayutham 2006. 'Economic Exploitation of Forest Resources in South India during the early 19th Century' article will be presented at the *Historical Perspective on the Economic Exploitation of the Forest (Session 27) of the XIV World Congress of Economic History*, to be held at the University of Helsinki, Finland, 21–25 August.
- Saravanan, Velayutham. 2006. 'Colonial Agrarian Policies in the Tribal Areas of Madras Presidency: 1872–1947', *South Asia Research*, 26, 1:63–85.
- Saravanan, Velayutham. 2004. 'Economic Reforms and Tribals in Tamil Nadu: 1991–2003' presented at the *National Conference on Economic Reforms and Southern States: Emerging Trends and Issues*, held at the Post Graduate and Research Department of Economics, Pachaiyappa's College for Men, Kancheepuram. Tamil Nadu, 11 September.
- Saravanan, Velayutham. 2004. 'Colonialism and Coffee Plantations: Decline of Environment and Tribals in Madras Presidency During the Nineteenth Century', *Indian Economic and Social History Review*, 41, 4:464–88.
- Saravanan, Velayutham. 2003. 'Colonial Commercial Forest Policy and the Tribal Private Forests in Madras Presidency: 1792–1881', *Indian Economic and Social History Review*, 40, 4:403–423.
- Saravanan, Velayutham. 2003. 'Changing Structure of Workforce Among the Social Groups in Rural Tamil Nadu', *Indian Journal of Labour Economics*, 46, 4:1113–21.
- Saravanan, Velayutham. 2001. 'Tribal Land Alienation in Madras Presidency During the Colonial Period: 1792–1947', *Review of Development and Change*, 6, 1:73–104.
- Saravanan, Velayutham. 2000. 'Tamil Nadu: An Ecological Tragedy', *Frontier*, 33, 3:4–6.
- Saravanan, Velayutham. 1999. 'Tribal Revolts in India with Reference to Salem and Baramahal Districts of Madras Presidency During the Late 18th Century', *Artha Vijnana*, 41, 1:67–81.
- Saravanan, Velayutham. 1999. 'Commercial Crops, Alienation of Common Property Resources and Change in Tribal Economy in the Shervaroy Hills of Madras Presidency During the Colonial Period', *Review of Development and Change*, 4, 2:298–317.
- Saravanan, Velayutham. 1999. 'Economic Transformation of Tribal Women in Tamil Nadu: 1947–1997', *Indian Journal of Labour Economics*, 42, 4:699–70.
- Saravanan, Velayutham. 1998. 'Commercialisation of Forest, Environmental Negligence and Alienation of Tribal Rights in Madras Presidency: 1792–1882', *Indian Economic and Social History Review*, 35, 2:125–46.
- Saravanan, Velayutham. 1998. 'Economic Transformation of Tribals in Tamil Nadu: Causes of Migration and its Employment Pattern, 1792–1991', *Indian Journal of Labour Economics*, 41, 4:695–705.

- Saravanan, Velayutham. 1998. 'Impact of Welfare Programmes on the Tribals in Tamil Nadu: 1947-1991', *Review of Development and Change*, 3, 1:90-108.
- Saravanan, Velayutham. 1997. 'Economic Transformation of Tribals in Tamil Nadu: Subsistence to Commercialisation 1976-1995', *Review of Development and Change*, 2, 1:157-68.
- Saravanan, Velayutham. 1997. 'Terrorising Tribals: Nexus Between Police and Forest Department', *Economic and Political Weekly*, 32, 29:1789-90.
- Saravanan, Velayutham. 1996. 'Displacement and Rehabilitation Policies: The Case of Kolli Hills Hydro-Electric Project', *Economic and Political Weekly*, 31, 43:2854-55 (co-author).
- Saravanan, Velayutham. 1994. 'Economic Transformation of Tribals in Tamil Nadu Since the Colonial Rule 1792-1991', unpublished Ph.D. Thesis, University of Hyderabad.
- Thangaprakasam, M. 1986. Socio-Economic Development of the Tribals in the Jawadhi-Elagiri Hills 1900-1984, unpublished M.Phil Dissertation, Madras: University of Madras.
- World Agricultural Census 1979-80. 1989. Tamil Nadu, Part II, *State and Regional Tables*, Madras.