

FOREST RESOURCES AND WILD LIFE OF MADANAPALLI TALUK IN CHITTOOR DISTRICT, ANDHRA PRADESH

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Abstract

Forests are main source of many commercial products such as wood, timber, pulpwood etc. About 1.5 billion people depend upon fuel wood as an energy source. Timber obtained from the forest can used to make plywood, board, doors and windows, furniture, and agriculture implements and sports goods. Timber is also a raw material for preparation of paper, rayon and film. Forest can provide food , fibre, edible oils and drugs. Forest lands are also used for agriculture and grazing. Forest is important source of development of dams, recreation and mining.

Key Words: *Forest Resources, Land use, Forest land*

Introduction

Forest lands are the most prominent and the most conspicuous over the landscape of Madanapalli Taluk. The natural forests provide manifold man's domestic and industrial requirements and also bring the inevitable evolution of socio-eco-cultural environments in the form of catastrophic diversification such as climate, fire, drought, exceptional flood, clearing by human operation and the maintenance of steadfast soil conditions. Thus it influences the dynamic character of climate and plant succession, morphological and structural characters, floristic composition and its distribution including several biotic characters of area under study. So, its detailed analysis is essential.

Study Area

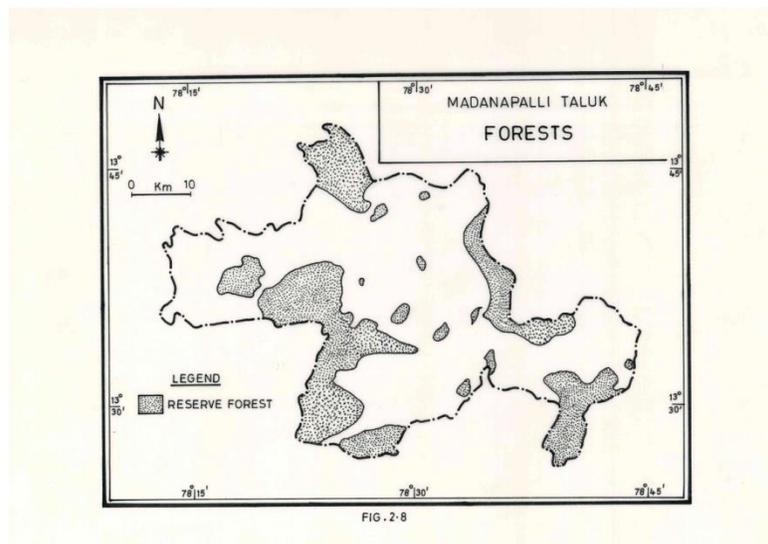
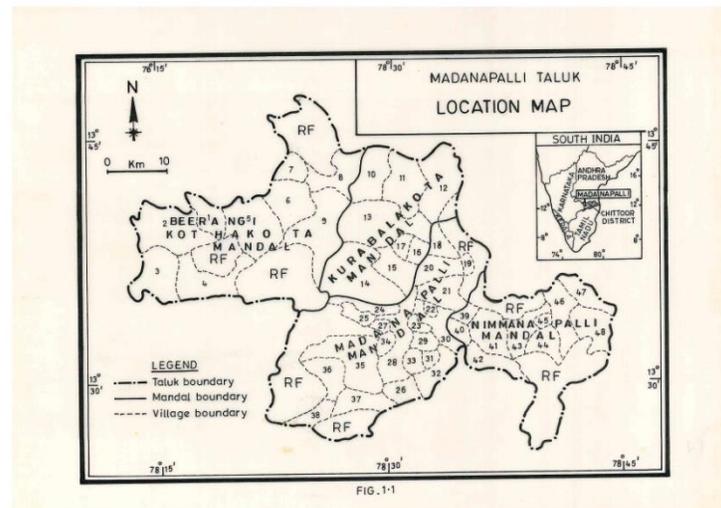
Madanapalli Revenue Division, derives its name from Madanapalli, its head quarters town. It is one of the backward and droughtprone Revenue Division of Chittoor District of Rayalaseema in Andhra Pradesh and located 13°26' to 13°48' N and 78°13' E to 78°44' E. It is surrounded by Anantapur and Cuddapah districts on the north, by Nellore, Tamilnadu on the East, by North Arcot Ambedkar and Dharmapuri district of Tamilnadu on the south and by Kolar District of Karnataka on the west. The district is spread over 15152 Sq. Kms.

Objective

This paper is an attempt to study the different types of forest resources and wild life of study area

Database and Methodology

The Secondary data was prime source in this paper. The information regarding different types of forest resources data have collected from District Planning Officer and District Statistical Planning Office, Chittoor district. The suitable cartographic technique was adopted to depict map to find our relationship between resources and wild life data for Chittoor district in Andha Pradesh.



For the purpose of administration the forests of Chittoor District are divided into 'Divisions', which are further subdivided into 'Ranges', which in turn are divided into various 'blocks', each representing a 'Reserved Forest' in a small area. The 'Division' is headed by Divisional Forest Officer, while the ranges are under the control of a Forest Range Officer, who is assisted by a few 'Guards' and 'Watchers' depending upon the nature of the reserve forests in the range.

For administrative control, Chittoor District is divided into two forest divisions namely Chittoor East and Chittoor West. The former is comparatively larger division comprising the eastern Taluks of Srikalahasti, Puttur, Chittoor, Chandragiri, part of Vayalpadu and part of Bangarupalem sub-Taluk, while the later comprises the western upland Taluks of Palamaner, Kuppam, Punganur, Madanapalli, part of Vayalpadu and part of Bangaupalem sub-Taluk. The Cuddapah - Chittoor trunk road almost forms the divisional boundary. The Chittoor East Division consists of six ranges that is Chittoor, Tirupati and Bhakarapet, while the Chittoor West Division consists of four ranges namely Chittoor West, Kuppam, Punganur and Madanapalli.

The floristic composition in the forests vary from dry mixed deciduous to thorny scrub with occasional patches of dry evergreen growth and can be assumed to have reached the climatic climax of the region. The forests of some of the ranges are mainly confined to the imposing Seshachalam Hills, were assumed to be part of the ancient Dandakaranya as expounded in the famous epic Ramayana. Dandakaranya, as implied in its name, was impregnable and was replete with a great variety of birds and animals besides its luxuriant and varied vegetative forms. Such remarkable 'Vanams' have so far deteriorated physically so as to be easily reclaimable and in fact tending to be an assemblage of bald and barren mountains and hills.

Chittoor District has a forest area of 4,51,345 ha which accounts to 30.11 per cent of the total geographical area of 14,98,778 ha. Presently the forests of this district stretch from 150 meters to 1440 meters above MSL. The forests of the study area which comes under Chittoor West Division occupy 18,014 ha which accounts for 18 per cent of the total geographical area. (i.e. 1,00,101 ha). For the purpose of general management, only two types are recognized in the district. They are class I forests, which have been under the control of the Forest Department from the beginning and class III forests, which were taken over by the forest department from Panchayat management, for ensuring better protecting and sound management. The forests of the study area can broadly be classified into three principal types.

1. Dry Tropical South Indian Dry Mixed Deciduous Forest.
 2. Southern Cutch Thorn Forests.
 3. Tropical Dry Evergreen Forests.
- 1. Dry Tropical South Indian Dry Mixed Deciduous Forests**

These forests are confined to the interior of most of class I and a few to class III and estate forests. They consists of variety of species and they can be again sub-divided into three zones based on the configuration of ground. They are

- a) Terai Forests
- b) Hill Forests
- c) Plateau Forests

a. Terai Forests (Altitude up to 330 meters above M.S.L)

They are confined to the cooler parts of the Taluk and the narrow stripes running at the foot hills of Ghattu, and valley portions of Nimmanapalli, and interior portions of B.Kothakota.

Although these forests are flanked on either side by thorn forests and massive hill ranges they are not free from the pressure of smugglers for small timber and firewood for the villages which lie in the vicinity of the reserves. In consequence they are prone to dilution and degradation from the point of view of their growing stock. Soil is moderately deep, poor and hard except along stream margins and protected valleys, where it is deeper and capable of supporting huge dimensional vegetation. The growing stock attains a height of 8 meters and girth 30 cm, on the average.

The common species met within the Terai forests are *Albizzia amar*, (Narlingi), *Albizzia lebbeck* (Pedda dirisinam), *Albizzia procera* (Tella chindnga), *Alangium lamarck* (Vuduga), *Annona squamosa* (Sitaphalam), *Atlantia monophylla* (Adevi Nimma) etc.

b. The Hill Forests : (Altitude from about 330 meters to 670 meters above M.S.L)

These forest are confined to the inner hill slopes of the Taluk whose elevational limit 670 meters above M.S.L. The inner slopes of the Horsely Hills reserve of Madanapalli range join to make up these forests. The hill forests are considered important from the point of view of timber of the Taluk and the District; since whatever timber is extracted here is only from this class of forests. But the present stage is far from satisfactory, both qualitatively and quantitatively. Good species like *Pterocarpus santalinus* (red sanders) *Anogeissus latifolia*, *Hardwickia binata*, *Chloroxylon swietenia* (Billudu) are known for timber value.

c) The Plateau Forests (Altitude more than 670 meters above M.S.L)

This type is confined wholly to the high level plateau near Madanapalli Town and its surroundings. In typical forests of this zone, *Eugenia alternifolia* (Alla Neredu) forms nearly 80% of the crop. *Shorea tumbaggia* is practically confined to the hillocks and ridges, while *Shorea talura* (Jalari) is confined to more moist localities.

2. Southern Cutch Thorn Forests

The rest of the forest not described under the dry tropical South India dry mixed deciduous forests except those belts which will be dealt with under tropical dry evergreen type of forests falls under this type. All the Class - III Reserved Forests taken over in the past from Panachayat management and the open and marginal belts of Madanapalli Taluk belong to this type.

The chief species of the thorn forests are *Acacia latronum* (Puki-tumma), *Acacia sundar* (Sundra), *Carissa spinarum* (Kalivi) and *Zizyphus jujuba* (Regu).

3. Tropical Dry Evergreen Forests

Chittoor District falls within the chief zone of dry evergreen forests, widely recognised to have been confined to a narrow strip along the Carnatic coast. It abuts that zone and in consequence a good number of dry ever green species have diffused into the eastern part of the division. The Chief species of this type are *Memecylon edule* (Alli), *Webera corymbosa* (Kommi) and *Hugonia mystax*.

The following Table gives the various forest resources of the study area in the year 2000-2001.

Table - 1
Madanapalli Taluk - Forest Resources

S.No.	Name of the Material	Quantity available (in tonnes)
1.	Fire wood	824
2.	Bamboo	25
3.	Red sanders	15
4.	Sandal wood	4
5.	Eucalyptus	50
6.	Tuki Leaves	5
7.	Tamarind	100

Source : District Forest Officer, Chittoor.

WILD LIFE

Bountiful nature had endowed our range with a good asset of fauna. This area was once famous for its wild life, particularly for tigers. Famous hunters like Kenneth Anderson recorded the greatness of Madanapalli forests in their books; and it is a pity we are now left with only nostalgic memories of the forest. In fact, these areas are reported to have contained elephants caught and exported about 400 years back. The Madanapalli Taluk hilly areas are exclusively noted for their rare endangered and valuable wild animals like suender loris, mouse deer, samber, barking deer, sloth bear, wolves, wild dogs, jackals, monkeys, besides a large number of reptiles and birds.

Social Forestry

Social forestry is a great instrument of land transformation development of forests on agricultural and other waste lands has tremendous effect. As described earlier, the study area is

prone to sheet, rill and gully erosion, the idea of social forestry is to check these erosions. Social forestry will retain the moisture in soil, improve the atmospheric conditions, provide fuel and timber and also recreation to people. Social forestry practices include.

- a) Raising wind breaks on the dry farm lands and trees on soil conservation bunds.
- b) Planting shelter belts
- c) Planting along road side intensively (avenue trees)
- d) Planting up the village common lands and waste lands and planting wood lots on the farm if it is large.
- e) Planting of grooves near villages and along highways for recreation and rest and in urban area - environmental planning.
- f) Barren hills afforestation.

Table - 2
Madanapalli Taluk
Landuse Particulars (1990-91 to 2000-2001)
(Geographical Area of the Taluk 1,00,101 ha or 1000.56 km²)

S. No.	Landuse	Area in ha		% of each geographical area		Landuse change %
		1990-91	2000-01	1990-91	2000-01	
1.	Forest	19,606	18,014	19.58	17.99	-1.59
2.	Barren and Non-cultivable	8,372	8,240	8.36	8.23	-0.13
3.	Pasture land	1,516	1,231	1.51	1.22	-0.29
4.	Miscellaneous tree crops	1,210	1,238	1.20	1.23	+0.03
5.	Land put to Non-Agricultural	9,679	9,516	9.66	9.51	-0.15
6.	Arable land	15,301	16,108	15.28	16.09	+0.81
7.	Cultivable waste (Current fallows)	5,439	6,696	5.43	6.68	+1.25
Taluk Total		61,123	61,043			

Source : Computed from the data collected - 2001.

Forests

They cover any land classified or administered as a forest under legal enactment. The area figures under grazing lands or a crop within the forest are also included in the area under forests.

$$1. \text{ 1 Hectare} = 2.471 \text{ acres} \qquad 3. \quad 1 \text{ acre} = \frac{1}{2.471} \text{ 1 ha}$$

$$2. \ 1 \text{ Km}^2 = 247 \text{ acres} \qquad 4. \quad 1 \text{ Hectare} = \frac{2.471}{247} \text{ Km}^2$$

The area under study comes under Chitoor West Division, which serves the tropical dry deciduous forests. During the early period the forests were very thick, dense and luxuriant, but are gradually destroyed by human interposition for the purpose of agriculture, pastoral lands and settlements by repeated burning, uncontrolled hacking and extreme grazing. In the earlier centuries, the forests were counted as the private property of the 'Rajahs', and local 'Zamindaries' and they used the forests according to their needs. In this period, the forest was very thick, dense and luxuriant and was not considered profitable for men.

The increasing demand for fire wood and charcoal in Madanapalli Taluk led to the complete denudation of the forest cover. The 'grow more food' campaign due to the continuous swift growth of population converted much of the forest lands into agriculture lands. After independence, the depletion of the area is recorded in very slow manner due to the administration and management of forests.

The total area occupied by forests in the Taluk was 19,606 ha (17.79 per cent of the total geographical area) in 1990-91 and decreased to 18,014 ha (17.99 per cent of the total geographical area) in 2000-2001; and thereby showing a decrease of 1.59 per cent in a decade.

Barren and Non-Cultivable

The land which is rendered sterile from the agricultural point of view is considered as non-cultivable land. It includes -

- a) The land occupied by water bodies (drainage, reservoirs, canals, ponds, tanks and wells)
- b) The land occupied by transport network (roads, railways, cart tracks and foot paths)
- c) The land occupied by rocky out crops, hillocks, rocky mounds and deserts.
- d) The land occupied by other purposes (i.e., crematorium and burial grounds)

In the above table, the total area occupied by barren and non-cultivable category was 8,372 ha (8.36 per cent) in 1990-91 and it decreased by 8,240 ha (8.23 per cent) in 2000-2001, (i.e. 0.13 per cent). The spatial distribution of non-cultivable land reveals that 15 villages carry more than the 15 per cent of non-cultivable land and 8 villages fall between 12-15 per cent of such types of land. The remaining villages carry less than 12 per cent of such type of land.

Pasture lands

The land which is classified as permanent pastures, trees and groves is an important category of landuse. It consists of grasslands/grazing land for livestock. Owing to the differentiation in the nature of the terrain and the available soil moisture content due to erratic

rainfall, the growth of pastures are limited in the study area and they are mainly confined to at the foot slopes (piedmont slopes) of the hills in the Taluk.

The pastures in the northern and northwestern hilly terrain include the thorny bushes and shrubs and in the eastern part due to the prevalence of somewhat moist climates they are green and used as grazing purposes. In the Table 2.5 it is discernible that pastures occupy 1,516 ha (which accounts to 1.51 per cent of the total geographical area) in the 1990-91, with a decrease to 1,231 ha (which accounts to 1.22 per cent of the total geographical area) in 2000-2001 and there by showing a decrease of 0.29 per cent in a decade.

Arable land

The word 'arable' was originated from the French 'arables' which is the suffixable and the appended to a word 'ARARE' meaning to plough; is derived form the Latin and Greek word "AROO" which means to plough. It is truthfully relevant that such types of land which is suitable for ploughing or cultivating is generally applied to reveal the cropped or ploughed area. The restrainable and emphasiabile phenomena of physico-cultural aspects determine the distribution of arable land and its intensity and compactness containing productivity. The most intensive expansion of such lands are owing to alluring phenomena while restrictive forces like drought, floods, water logging areas are the main causes for sparse distribution.

According to the table, the arable land occupies 15,301 ha (which accounted for 15.28 per cent to the total geographical area) in 1990-91 and increased to 16,108 ha (which accounts for 16.09 per cent of the total geographical area) in 2000-2001, thereby showing an increase of 0.81 per cent in the study area. But the spatial distribution of arable land is not uniform in the study area. It is evidently generalized by the allocation of cultivated area. This is owing to the contribution of the physio-socio-cultural phenomena existing in the area.

Fallow Lands (current fallows)

It includes land considered by present judgments as cultivable but actually not cultivated during the current year and last five years or more in succession. It is left untilled on account of physical and socioeconomic limitations. The fallow waste land cannot entirely be converted into arable land because they are not wholly fit for ploughing. This include gardens and groves old, new and current fallows, land used for recreational grounds, local markets, fallows and fare sites. If any land remains uncultivated for more than three continuous years it is called as old fallow, and the arable land which is uncultivated for more than one year but less than three continuous years is termed new fallow. On the whole these are fit for cultivation but at present they are left uncultivated for a long time or left fallow for crop rotation. The present category can be put under cultivation with minor adjustments so again and again they allure inhabitants to cultivate them for the solving of the growing food problem. As per the above the table the total area

occupied by this category was 5,439 ha (5.43 per cent) in 1990-91 and increased to 6,696 ha (6.68 per cent) in 2000-2001 and thereby showing an increasing trend. The spatial distribution of this category was more in the northern and northwestern part of the study area than in the south.

It transpires from the above table the forest area, barren and non-cultivable land, pasture land, and land put to non-agricultural area has been showing a negative trend and miscellaneous tree crops arable land, and current fallows has been showing the positive trend. The increasing pressure of population in the study area, is the main reason for the increase of arable land.

Conclusion

Over several years there has been a strong belief among geographers and environmental scientists that deforestation drastically changes climate. Trees have been felled indiscriminately to the demand of firewood, industrial raw material and extension of arable land etc. Chittoor district, the study area in Andhra Pradesh is no more an exception where active deforestation is one of the root causes for the vagaries of rainfall. However, forest degradation and small-scale deforestation still continue for the need of fuel wood, fodder, timber products and shifting cultivation in parts of Western region of study area.

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