

Land use pattern in Madras State [#]

by

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Synopsis: A detailed review of the Land use pattern in the Madras State and the long term shifts over a period of five and a half decades are brought out in this paper. An extensive survey of the present land and water use has been suggested for better utilisation of resources.

Introduction: Madras has a total geographical area of 32 million acres and consists of 13 administrative districts. The land use pattern in these districts except Madras and Kanyakumari during the period 1906 to 1960, have been reviewed districtwise in the present study, with the object of highlighting the long term shifts over a period of 55 years.

Materials and Methods: The Government of Madras publish annually Season and Crop Reports wherein basic information on land utilisation in Madras State are furnished districtwise. The classification of land utilisation pattern adopted in the report is as follows: (1) Total Geographical area by village papers, (2) Forests, (3) Barren and Unculturable lands, (4) Land put to non-agricultural uses, (5) Culturable waste, (6) Permanent pastures and other grazing lands, (7) Land under miscellaneous tree crops and groves not included in the net area sown, (8) Current fallows, (9) Other fallow lands, (10) Net area sown, (11) Area sown more than once and (12) Total cropped area.

The data for the present study have been collected from the Season and Crop Reports for the period, *Fasli* 1315 (1905-'06) to *Fasli* 1370 (1960-'61) for the purpose of analysis and quinquennial averages were computed districtwise. The shifts in the land use pattern over a period of five and a half decades in the various districts of Madras State have been discussed.

Discussion: Total Geographical Area: Some half a century ago (1906-1910) Coimbatore district covered an area of 4.9 million acres, followed by Salem with 4.2 million acres and North Arcot with 3.8 million acres. Madurai, South Arcot and Tirunelveli came next with 3.27 million, 3.2 million and 3.0 million acres respectively. Thanjavur district covered 2.3 million acres and Tiruchy 2.2 million acres. The district of Chingleput possessed 1.8 million acres while Ramnad had 1.4 million acres. Nilgiris covered only 0.64 million acres.

During the quinquennium 1956-60, Salem district was found to have the largest area of 4.5 million acres followed by Coimbatore district with 4 million acres. Tiruchi district came third with 3.5 million acres. Madurai district came next with 3.1 million acres. The districts of Ramnad

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and North Arcot covered roughly 3 million acres each while Tirunelveli and South Arcot covered 2.8 million and 2.7 million acres respectively. Thanjavur district had a total acreage of 2.4 million acres while Chingleput had 1.97 million acres. The figure for Nilgiris district was 0.63 million acres. Maximum increase in the area have been noted in Tiruchy and Ramanathapuram districts whereas a reduction in area has been noticed in Coimbatore, North Arcot and Tirunelveli districts. The chief causes for the above were the reorganisation of the States on linguistic basis and reorganisation of the districts for administrative conveniences.

Forests : In Madras State during the quinquennium ended 1956-1960, forests covered only 14 per cent of the total area with an overall acreage of 4.61 million acres.

Taking the districts individually for the quinquennium ended 1960, the area under forests had been very meagre *viz.*, 0.31 lakh of acres in Thanjavur and 0.63 lakh of acres in Ramanathapuram district representing 1 to 2 per cent of the total area of each district. Coimbatore and Salem districts had each about 10 lakhs of acres and North Arcot 7.78 lakhs of acres under forests, representing 27 per cent, 22 per cent and 26 per cent of the total area of the respective districts due to the fact that these districts have some hill ranges. But in Madurai and Tirunelveli districts the figures were 3.92 lakhs of acres and 3.42 lakhs of acres respectively representing just 12 per cent of the total area of each district in spite of the fact that these districts also have some hill ranges as well. The districts of Tiruchy, South Arcot and Chingleput held 1.81 lakhs of acres, 1.59 lakhs of acres 1.13 lakhs of acres respectively under this category each representing 5 to 6 per cent of their individual total extent. The district of Nilgiris which is purely a hill tract had 3.42 lakhs of acres or 54 per cent of the total area of the district under forests. When compared to the area that obtained some 55 years ago it is seen that the natural forest cover has been shrinking in almost all districts of the State except perhaps in Thanjavur, Tirunelveli and Nilgiris. Even here, the forests have not been as thick and flourishing as they ought to be.

Forests were man's companions on the road of civilisation and play a vital role in his economic life. They are both capital and income mixed together. Unlike mines they are renewable, continuously productive resources. The present policy is that 60 per cent of the area in hilly tracts and 20 per cent of the area in the plains should be kept under forests in order to meet the growing need of timber and fuel and divert the colossal amount of cowdung burnt in our hearths to manurial uses for enhancing food production. Even in districts like Thanjavur, where out of 1.4 million acres of net area sown 1.2 million acres or 85 per cent is under wet

cultivation, farm forestry can profitably be adopted. It is generally recognised that 10 to 15 per cent of the farm area should be under forest and this may be in the form of wind breaks, shelter belts, wood lots and live hedges. Forestry is the best ally of agriculture in the long run.

Barren and Unculturable Land: All unculturable land like mountains, deserts, etc., are included in this category. During the quinquennium ended 1960 the district of Salem had the maximum area of 4.61 lakhs of acres representing 10 per cent of the total area of the district under this category. The figures for the other districts were Ramnad 4.08 lakhs of acres and 13 per cent; South Arcot 3.87 lakhs of acres and 14 per cent; Madurai 2.21 lakhs of acres and 7 per cent; North Arcot 1.84 lakhs of acres and 6 per cent; Tiruchy 1.72 lakhs of acres and 5 per cent; Chingleput 1.58 lakhs of acres and 8 per cent; Tirunelveli 1.41 lakhs of acres and 13 per cent; Coimbatore 1.13 lakhs of acres and 3 per cent; Thanjavur 0.91 lakhs of acres and 4 per cent and Nilgiris 0.22 lakhs of acres and 3.5 per cent.

When compared to the area that obtained some 55 years ago, a general decrease in the area under this category has been noticed in all the districts of the State except in Ramnad where it had increased. It covered an extent of 2.34 million acres or 7.3 per cent of the total area of the State. Consequent on the launching of large scale land reclamation programme during the Five Year Plans, there had been a steep decline in the area under this category in all the districts after 1950.

The causes for the barren nature of a land will be many and varied, as for example rocky mountainous or sandy desert highly eroded land with sub soil exposed, highly alkaline land etc. The possibility of putting these lands under suitable type of vegetation should be explored. This will not only help to reclaim the land but will also provide alternative sources of income.

Land put to non-Agricultural Uses: This classification represents all lands occupied by buildings, roads, railways, rivers, canals and other lands put to other than agricultural use. During the quinquennium ended 1960, Tiruchy district held the maximum area of 5.1 lakhs of acres under this category, followed by Thanjavur with 4.74 lakhs of acres, Chingleput with 3.89 lakhs of acres, North Arcot with 3.23 lakhs of acres and Ramnad with 2.85 lakhs of acres. The districts of Salem, South Arcot and Madurai came next each with about 2.5 lakhs of acres. Tirunelveli and Coimbatore districts held 2 lakhs of acres and 1.5 lakhs of acres respectively and the district of Nilgiris held 0.19 lakhs of acres under this category.

Comparing the above to the total area of the respective districts it is seen that during quinquennium ended 1960 the district of Thanjavur and Chingleput came first each with nearly 20 per cent of the total area under

this category, followed by Tiruchy with 15 per cent. The district of Nilgiris ranked last with 3 per cent. In the other districts the percentage varied from 4 to 11. The trend shows slight increase in the districts of North Arcot, Salem, Coimbatore, Tirunelveli and Nilgiris and slight decrease in the other districts as compared to that obtained a decade back. The figure for the State as a whole was 1.3 million acres or 9.9 per cent of the total area of the State for the quinquennium ended 1960.

Socio-economic factors, the needs of urban areas, the expansion of highways, railways, establishment of industrial estates and colonies, emergence of townships around factory establishments etc. are bound to push up the extent under this category. These state of affairs are bound to exist in a country with a developing economy. However, it should be seen that such expansions do not take place unchecked at the expense of arable and fertile lands which will help in crop production.

Culturable waste: All lands available for cultivation but, not taken up for cultivation or abandoned after a few years for one reason or other come under this category. The area under culturable waste has been found to fluctuate in all the districts of the State. The recent trend is downwards in all the districts except Tiruchy and the Nilgiris where it is upwards. Comparing to that obtained fifty years ago there is a fall in the acreage under culturable waste in all the districts except Chingleput, Tiruchy, Tirunelveli and the Nilgiris districts.

For the quinquennium ended 1960, Tiruchy district had the maximum acreage of 3.57 lakhs of acres followed by Ramnad with 3.07 lakhs of acres and Tirunelveli with 2.79 lakhs of acres representing 10 per cent of the total extent in each of the above districts. It was 2.21 lakhs of acres for Salem, 1.48 lakhs of acres for North Arcot, 1.41 lakhs of acres for South Arcot, 1.24 lakhs of acres for Chingleput and 1.07 lakhs of acres for Thanjavur representing about 5 per cent of the total extent of each district. Coimbatore and Madurai districts had 1.13 lakhs of acres and 0.98 lakh of acres respectively covering 3 per cent on the total extent of each district. For Nilgiris the figures were 0.6 lakh of acres and 11 per cent. The extent under this category offers a potential source for expanding the area under cultivation by resorting to suitable remedial measures of land reclamation and soil improvement, provision of irrigation facilities, adopting dry farming practices and by creating suitable social climate.

Permanent Pastures and other Grazing Lands: Under this category have been included all grazing lands whether they are permanent pastures and meadows, or not. For the quinquennium ended 1960 Madurai district ranked first with an area of 2.93 lakhs of acres under pasture representing

about 9 per cent of the total extent of the district. It was 3 per cent each for Tiruchy with 1.28 lakhs of acres, Salem with 1.17 lakhs of acres, Tirunelvelly with 0.72 lakhs of acres and Nilgiris with 0.19 lakh of acres. The district of Chingleput had 1.06 lakhs of acres representing about 5 per cent of its total area. The districts of North Arcot, Coimbatore and Ramnad had each about half a lakh of acres representing 1 to 2 per cent. It was just 1 per cent for South Arcot with 0.23 lakh of acres. Thanjavur ranked last with 0.15 lakh of acres or 0.6 per cent of the total area of the district. The overall acreage for the State was 0.90 million acres or 2.8 per cent of the total area of the State.

With the increase in stress on food and commercial crops to satisfy the needs of the growing population the area under grazing lands and pastures is getting progressively reduced. Madras State has a total bovine population of 13.4 million as per live stock census of 1961. The cattle are ill-fed, ill-bred, and ill-used. The so called permanent pastures and grazing lands are only ill-managed. There is thus an urgent need to increase the supplies of fodder and also use the available resources economically by sound pasture management.

Land under miscellaneous tree crops and groves not included in the net area sown: This classification represents all cultivable land which is not included in the net area sown but is put to some kind of agricultural use. For the quinquennium ended 1960 the districts of Tiruchy with 1.40 lakhs of acres and Chingleput with 0.9 lakh of acres, had each roughly 4 per cent of the total area under this category. Coimbatore with 0.16 lakh of acres had less than half a per cent. The percentage ranged from 2 to 3 for Madurai, Salem, Thanjavur and Ramnad districts each with half a lakh of acres and more. In the other districts, the area had been very much less each representing 1 to 2 per cent of their total extent. The trend was on the increase in the districts of Chingleput, South Arcot, Coimbatore, Tiruchirappalli and Thanjavur while it was on the decrease in the other districts.

Trees and groves are national wealth. They have a marked influence on the climate of a particular place apart from beautifying the country side. They help in reducing the velocity of wind, checking soil erosion and improving soil fertility by their leaf litter. With the implementation of the tree planting campaign there is a general awakening to plant more trees but the vandalism played by men and cattle had retarded the progress very much. The trees and groves which at present cover 0.61 million acres or 1.91 per cent of the total area of the State need to be maintained and improved upon considerably.

Current fallows: This represents cropped lands kept fallow during the current years. For the quinquennium ended 1960 Coimbatore district had the maximum area of nearly 5 lakhs of acres or 13 per cent of the total

area of the district under this category followed by Ramnad with $4\frac{1}{2}$ lakhs of acres and 15 per cent and Salem with 3 lakhs of acres and 7 per cent. It was about $2\frac{1}{2}$ lakhs of acres in each of the districts of Madurai, Tirunelveli and Tiruchy with percentages ranging from 7 to 9 and $1\frac{1}{2}$ lakhs of acres in North Arcot, South Arcot and Chingleput districts with the percentages ranging from 5 to 7. The area was less than one lakh acres in Thanjavur and 0.2 lakh acres in Nilgiris representing 3 to 4 per cent of the total extent in each district. The overall acreage for the State was 2.4 million acres or 7.5 per cent of the total area of the State.

Lands lie fallow for one or more of the following causes. Low fertility status of the soil which cannot permit profitable cropping year after year. Adverse seasonal conditions on account of which crops often fail, litigations, factions, absentee land lordism, oppressive land tenure system etc. Appropriate land use planning and successful implementation of the same, will reduce the acreage under this category and help in stepping up agricultural production.

Other fallow lands: In this category is included all lands which were taken up for cultivation but are temporarily out of cultivation for the period of not less than one year and not more than five years. Under this category for the quinquennium ended 1960, Tirunelveli district was found to have the maximum acreage of 3.61 lakhs of acres representing 13 per cent of the total area of the district. Salem district had 2.0 lakhs of acres representing 4 per cent. In all the other districts except Nilgiris, the acreage ranged from 0.9 to 1.6 lakhs of acres representing 3 to 7 per cent of the total area in each district. The total extent for the State was 1.3 million acres or 4.8 per cent of the total area of the State.

As has already been discussed, lands lie fallow for reasons more than one. The clarion call of the country being grow more food, the causes for the fallow nature of the lands should be detected and remedied early. Hunger for land is rampant and needs to be quenched urgently.

Net area sown: The net area sown has been fluctuating in all the districts of the State. During the five decades under study the percentage under this category with reference to the total area of the district ranged from 55 to 58 in Thanjavur district, 47 to 51 in Tiruchirappalli and South Arcot districts and 41 to 50 in Tirunelveli district. In the other districts except Nilgiris the percentage ranged from 30 to 40, while in Nilgiris it was 10 to 18 per cent.

As regards the acreage under this category, Salem and Coimbatore districts ranked first each with nearly 19 lakhs of acres. Tiruchirappalli ranked second with 17.4 lakhs of acres closely followed by Madurai, South

Arcot and Ramanathapuram each with 13 lakhs of acres. Tirunelveli and North Arcot had 12 lakhs of acres each while Nilgiris had a lakh of acres under this category during quinquennium ended 1960.

Out of 32 million acres covered by the State, only 14.8 million acres or 46.1 per cent represented the net area sown for the quinquennium ended 1960 to support a population of 33.7 million. The net area sown needs to be increased by all means at our disposal.

Area sown more than once: This represents area on which more than one crop is cultivated in an agricultural year. At present it is 3.27 million acres or 10 per cent of the total area in the State. During the five and a half decades under study, there had been an appreciable increase in acreage in the districts of Chingleput, South Arcot, Coimbatore, Tiruchirappalli and Thanjavur. In Chingleput, Coimbatore and Tiruchirappalli the increase was more than half. In South Arcot it was more than three fourths. In Thanjavur it was more than double. In North Arcot to start with it was 25.5 per cent of the net area sown. In the subsequent quinquennium it fell to 20 per cent and had been fluctuating, finally reaching the figure that obtained fifty years ago. A similar picture is presented by Salem with fluctuations ranging from 12.5 to 17 per cent with the latest figure at 15.7 per cent. In Ramanathapuram the percentage of increase had not been very much appreciable and the area was round about 6 per cent. Similar was the case with Tirunelveli with 17 to 18 per cent and Nilgiris with less than 4 per cent of the net area sown in the respective districts.

There are two ways of increasing agricultural production namely extensive and intensive cultivations. Indian agriculture is characterised by low investment and low uncertain returns. Indian economy is at present under the spell of a triple shortage of food, industrial raw materials, and exportable commodities that earn foreign exchange. Hence there should be the three fold objective of eliminating these shortages.

Total cropped area: The area covered with crops during an agricultural year figures under this item. It is the sum total of the net area sown and area sown more than once. It is now 18 million acres or 56.27 per cent of the total area in the State. There had been slight increase in the total cropped area in all the districts during the period under study. While this increase is desirable in eliminating the shortages outlined earlier, the objective of increasing the area under pasture in order to support a balanced mixed economy consisting of stock raising and dairy farming should not be lost sight of.

Conclusion : Madras State covers an area of 32 million acres and of these, forests cover only 14 per cent of the total area in the State.

Barren and uncultural lands cover 2.3 million acres in the State. The districts of Salem, Ramnad and South Arcot each have roughly 0.4 million acre. There is scope for these lands to be reclaimed by appropriate methods. So also culturable waste accounts for 1.7 million acres in the State. The districts of Tiruchirappalli and Ramanathapuram have more than 0.3 million acre each and the districts of Salem and Tirunelveli have more than 0.2 million acres each. It is about 0.1 million acre in each of the other districts. These lands must be utilised by adopting suitable improvements and by conservation farming.

Land put to non-agricultural uses is on the increase. While this cannot altogether be stopped, it should not be allowed to tell upon areas suitable for food production. The area under pastures and grazing lands is getting reduced while the bovine population is increasing. Efficient pasture management is the urgent need of the hour.

Current fallows and other fallow lands account for 3.9 million acres in the State. These could be brought under the plough by conservation farming. The net area sown has been fluctuating. Area sown more than once has increased in the districts of Chingleput, Coimbatore, Tiruchirappalli and Thanjavur. The total cropped area shows slight increase in all the districts of the State though not commensurate with the rate of increase in population.

The economic development programmes in action will place much heavier burden on the land resources in the years to come. Unless our technique of land utilisation are improved upon, the possibility of meeting the increasing needs will be jeopardised. Planned economy has come to stay. An extensive survey of the present land and water use pattern is necessary on the basis of their "capabilities". A better utilisation of both these basic resources is the prime need to maximise production in order to support the alarmingly increasing population. This must remain the most important public and private concern.

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