THE BOUNTY FROM THE TEAK TREE

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Introduction

Only quite lately, numerous newspapers have been carrying advertisements claiming, inter alia, that Rs. 1000 invested on a teak tree grows to Rs. 50,000 over a period of 20 years. This means the timber yielded by the tree would be worth that much.

As much as 112 m^3 of quality timber is obtainable from a single teak tree. Such solitary specimens are met with in the vicinity of interstate borders of Kerala and Tamil Nadu as also in Burma. So huge and wide is the girth of the trunk that it needs at least five people to encircle it by stretching their both hands horizontally along the periphery of the circumference. The height is so much that one has to go 90 m from the base of the tree to photograph its full length. To transport the overground biomass, it needs a minimum of 10 lorries, each of 10 tonnes capacity.

However, in parts of Andhra Pradesh, trees with a girth upto 3.65 m were not uncommon, each of them yielding upto 11.2 m^3. Trees with a yield of 1.12 m^3 each, growing on black alluvial soil abutting the banks of the Godavari, were common. As of today, it is difficult to find a tree attaining 0.30 m^3 of timber before it is felled by a miscreant. However, the growth potential is so much that its coppice shoots in Burma attain as much as 32.5 cm basal girth in a matter of just two years, (Forest Flora of Hyderabad State) and that, a tree of seedling origin attained 19.77 m height and 1.97 m girth at breast height, yielding about 2.80 m^3 of timber in a matter of 28 years, in reverain alluvial soils in Mysore District.

Widespread Impression

Forest lands are so degraded that one has to wait for 60 to 80 long years before teak trees attain respectable dimension and become fit for utilization. So widespread is the impression that per unit time and per unit area production does not justify the growing of teak on commercial lines. The impression may be relevant in so far as growth of forest teak is concerned. Now there are, commercially speaking, three distinct teak trees, forest grown teak, forest plantation grown teak and orchard teak. Orchard teak grows six times faster than forest grown teak and twice as much as forest plantation well-grown teak. The forest conditions that once existed for quick growth of teak are no longer there. But in optimum conditions, teak demonstrates higher growth potential and affords quality timber in a record time. The forest plantations teak though not well-tended, had registered three times more growth than forest grown teak.

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Gamble, a world-renowned forester, had studied very extensively the growth rates of teak in different regions including Burma. On a transverse section of a teak stem grown under plantation conditions, Gamble found four annual growth rings per inch of radius as against an average of twelve annual growth rings on a transverse section of a forest teak stem. This growth pattern is mentioned in 'Forest Flora of Hyderabad State'. It is thus proved that a plantation teak grows three times faster than forest teak of the same age.

More Aeration

In orchard teak soils, more aeration is ensured by constant mechanical inter-culture of loosening the ground keeping the soil more friable. The more the aeration, the better would be the supply of oxygen to the root system which makes all the difference in growth potential. Loosening of the soil means that a larger supply of oxygen is admitted to the roots. The reason why water-logged ground is unsuitable is that the roots are seriously deprived of oxygen, leading to the death of plant or growth retardation. Prof. H.G. Champion in his manual "General Silviculture for India" endorsed that the initial height growth 'may even be doubled' by aeration.

Aeration followed by irrigation, repeated as and when required under orchard conditions during non-rainy season, particularly summer months, accelerates the growth rate of teak. It is generally understood that forest teak grows (if not in summer due to moisture stress) at least during the rainy season. Immediately after a downpour, soil beneath the trees forms into crust - a phenomenon known as crust formation, which impedes aeration resulting in the stagnation of growth of teak even during the rainy season. The deep leaf litter that existed in the erstwhile forests is no longer there to offset the ill-effects of the downpour. The forest plantation areas are practically devoid of leaf litter due to seasonal fires and the resultant crust formation following heavy downpour retards the growth of teak. Pests too denude the trees of leaves, thus arresting the seasonal growth.

Growth Rates

Growth rates of teak in Uttar Pradesh are also very impressive. Shri Kadambi in his book "Silviculture of Teak" mentions one plantation 21 years old in Haldwani Division having attained 34.5 cm diameter and 25.9 m height. In Baster of Madhya Pradesh one plantation 24 years old acquired a diameter growth of 38 cm at breast height equivalent to 1.22 m girth - really an appreciable growth. Even in Andhra Pradesh but outside natural zone of teak in the districts of Visakhapatnam and East Godavari, teak is found growing very impressively. An eleven-year-old plantation in Rajaomangi Reserve Forest as recorded by Sharfuddin Khan in his booklet "Teak in A.P." has put up 72.5 cm girth and 12.46 m height. If plantations are raised at this scale of growth rates, no crop, agricultural or horticultural, coffee or tea, is as remunerative as teak. One more plantation in Rajaomangi Reserve Forest aged just 13 years, produced an equally outstanding growth rate of 77.5 cm girth and 14 m of height. By A.P. Forest Department standards, these growth rates of teak are substantial.

The teak plantation raised over 20 years past in Thanjavur delta in Tamil Nadu, over an extent of 2100 hectares are worth Rs. 400 crores as evaluated by Shri

Khondas former Principal Chief Conservator of Forests, who had further stated that 20-year-old trees had each produced 1 m^3 of wood. A very fantastic growth indeed.

The photographs by R.S. Troup in his book "Silviculture of Indian Trees" of 9 years old plantation in Burma and of 14 years old plantation in Kerala are illustrative of growth potential of teak. Such plantations are capable of yielding good timber after 20 years of age.

The growth rates of teak in other continents such as Africa are even better. Teak in Dahomey attained an abnormal growth rate of 42 cm girth in four years of its life while in Togo and South Africa, the growth rates in Site Quality IV areas compared with those of Site Quality I in India (FAO Publication on Teak, 1956).

Wood Quality

There are other apprehensions as to the quality of wood grown in the shortest time possible. Forest grown timber with 1 to 4 annual growth rings per 2.54 cm of radius from Government-raised plantations were tested at the Forest Research Institute Dehra Dun. The timber was found to be in no way inferior to that grown in natural forest conditions with 12 annual rings per 2.54 cm of radius. In the tests it was found that it was only the weight per unit volume but not the growth, faster or slower, per unit time which matters in the strength properties of the timber. In irrigated and fertilized conditions, timber gains more weight. Field crops too provide best examples. Their per unit volume biomass is more weighty than that grown in unfertilized and unirrigated areas.

The apprehensions about growth potential of teak, therefore, are not well-founded. Of the profitability of tree farming, farmers notably the Patels of Gujarat State provide the best example. They made a higher profit than they would have from crops like wheat and cotton. They had shown what could be done successfully in a short time. What is required is to repeat such work by combining the available technology with the best management.

SUMMARY

Planting of teak under irrigated condition yields more timber than unirrigated condition in 20 years.

सागौन वृक्षों के उपकार

सी० जगन्नाथ रेड्डी

सारांश

असिंचित दशाओं में लगाने की तुलना में सिंचित दशाओं में सागौन को लगाने से 20 वर्षों में उससे काफी अधिक प्रकाष्ठ प्राप्त होता है ।