

WHITHER SHORT ROTATION ?

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In our forestry practices short rotation is a new term. By short rotation we are used to the thinkings of 80 years or 100 years or 120 years - a long-long period. These were our rotations in the past. Rotations that were fixed on the statistical basis of growth and yield. These days the concepts have changed. Economy has come in between the growth and yield. This has given birth to rotations in relation to best and earliest economic return. There were difficulties in fixing up such rotations. The principal one being the lack of reliable and adequate statistical data. There was, however, available in hand an experience of about one hundred years of artificial regeneration. Teak (Tectona grandis), the major species in our plantations were seen flutting from the age of 40 years and by the time these are 60 years old their growth are still there, but the proportionate wastage from this flutting was beyond any economic acceptability. Basing on this a group of thinkers in the early sixties decided to bring down the rotation of teak to 60 years. This is the story of our first attempt to bring down the rotation. It has no statistical basis, it has no supporting data, but it seems logical and has been accepted and adopted.

It is, however, surprising that even after reducing the rotation to about half its original, we still named it 'Long Rotation'. Why ? Are we after even a shorter rotation? Yes. We require some quality timber for which a rotation of 60 years is acceptable, but what about pulpwood, match wood, pole crops, pit props etc., which are to be economically available in a much shorter time. For this we cannot wait that long. We must bring down the rotation much below to get a quicker economic return. Pulp wood these days means all wood - every species can make good mechanical pulp. Fast growing species definitely excell all. But what are our fast growing species ? The soft hard woods ? Yes, but slow grow growing hardwoods like teak will definitely give a much better economic return at any age that any fast growing species of that age. Qualitatively also the teak poles, pit props etc. will excel any other fast growing species in respect of durability. Area for area a mixture of teak and fast growing hardwoods will fetch much more economic return than a crop of pure semihard woods. It is thus the concept of shorter rotation under a poly-culture of economic hardwood and fast growing semihard-woods cropped in and a conservative shorter rotation was fixed at 30 years.

This again had no statistical backing and was only a theoretical concept based mostly on the experience of the artificial plantations that were available.

There was, however, a school of thinking that the shortening of rotations and the changing of the natural vegetation will have detrimental effect on the soil and environment. There is no doubt that the shortening of rotation and the accompanying change of vegetation will have some initial effect on the soil, but the luxuriant undergrowth vegetation that comes up as a natural consequence of heavy tropical rains will nullify this effect and rebuild the soil through fresh organic humus deposits. As for environment there may be some deteriorating effect, but experience of world forestry reveals that the liquidation of an inferior crop and its replacement by an economical species is always the first choice. It will be just a luxury to think of environment alone and forget about the economy. Preservation of the natural vegetation by way of keeping the 'Natural Regeneration Strips' in between blocks of artificial plantations is a sure and best compromise under such circumstances and this is the usual practice in our plantations.

After fixing the rotation at 30 years and 60 years, it was decided to allot $1/3$ of our forest areas to shorter rotation and $2/3$ to long rotation. Since the period under short rotation is exactly $1/2$ of long rotation, such an arrangement will give exactly equal annual cut area under the two rotations. The idea behind this equal annual yield was also a far sighted one. The eye was on future. In about 50 years time from now our major goal will be the production of smallwood, pulpwood, and might be to a lesser or say equal extent on growing quality timber for constructional purposes. It is with this idea that the early sixty thinkers postulated a 50 - 50 basis for future timber production under short and long rotations.

Since with the technical know how in our hand, we are in a position to grow any species any where, and as most of the fast growing species and some of the economically important species may also be grown under the shorter rotation, it was thought that most of the areas with easy accessibility should go under short rotation crop. Lower Rainkhiang, lower Kassalong & part of Sitapahar reserves in Chittagong Hill Tracts, accessible areas of Chittagong, Cox's Bazar and Sylhet Forests were thus earmarked for short rotation crop. As steeper slopes are always discouraged for plantations and are always advocated to be retained as natural regeneration strips, the lower Rainkhiang Valley with its excellent soil condition

and easy approach to the hydel lake and with the reservations as above was thus considered to be the most suitable area for short rotation crop. Similarly Kaptai with little sacrifice to its old heritage was considered to be ideal for short rotation vegetation. Lower Kassalong with easy accessibility to the hydel lake and for its better soil conditions was thought to be most suitable for the short rotation plantations. In sylhet, Chittagong & Cox's Bazar Forests also the areas for short rotation crop were selected more or less on the similar basis. The Chittagong Hill Tracts, where forestry operations are less disturbed by human interference than other plain districts was, however, considered to be more ideal for short rotation crops. This in short is the basis for going after large scale prescriptions under short rotation in these regions in the management plans compiled during the sixties

The world of Forestry is now dynamic and is moving with much faster pace. Rotations are tumbling down and are almost competing with horticultural and agricultural rotations. Under such circumstances we as Foresters of a developing nation should also go ahead with at least similar pace and should look forward towards more dynamic ideas. It is sure that we may have to come down much more in respect of rotation, and it is also sure that we were to start this coming down operation somewhere and some time. We have started it from the mid sixties of this century after about a hundred years of conservative forestry practice in the country. Let that be all for us and let the posterity decide how much more to come down and to what extent to go down. The ball has been set rolling, let us not stop it with the shroud of our conservatism and heritage.