Implication of Silvicultural Rules and Regulations, and their Effect on Forest Exploitation With Reference to Long-Fibred Coniferous Forests of Western Himalayas of India

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The paper focuses attention on the long-fibred coniferous forests of Western Himalayas with regard to the silvicultural rules and regulations applied to them. It describes the status of these forests vis-a-vis wood based industries. It also brings out the effect of the current silvicultural rules and regulations, which are aimed at production of large size timber, on extraction problems relating to logging and transport. Finally, the paper advocates bringing down the cutting diameter limits and also for survey of potential coniferous forests and application of proper management principles to them.

A strong plea is made for utilization of this precious long-fibred pulping raw material for high grade pulp and speciality paper and not to fritter it away for manufacture of newsprint and dissolving pulp.

Introduction

Coniferous forests of Western Himalayas are the main source of long-fibred pulp raw-material in this country. Out of 409500 hactares of coniferous forests, 4029000 hactares lie in the Western Himalayan states of Jammu and Kashmir, Himachal Pradesh and Uttar Pradesh (source: Bulletin No. 11 on Forest Statistics issued by Central Forestry Commission). The bulk of this valuable raw material is at present being used for purposes other than pulp production like railway sleepers, constructional timber etc. It is in the supreme national interest that this valuable raw material is not frittered away for uses for which other substitute are available, but is utilised for manufacture of high grade pulp and speciality paper, both of which are, at present being imported at the cost of considerable foreign exchange. The need of the day is to maximize the production of this raw material both by reorienting the current management to this end, as well as to avoid wastage in conversion and transport. This paper discusses the status of these forests vis-a-vis industry, some aspects of silvicultural management of these forests relevant to paper and pulp industry and their effect on extraction (a term adopted in lieu "exploitation" which sounds rather selfish). At the end, some suggestions for reorienting the objective of the present management have been made and reasons given.

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Status of the coniferous forests in Western Himalayas vis-a-vis wood-based industry.

The primary objective of the hill forests, which are predominantly coniferous, is not production of industrial wood, but for water-shed management and soil conservation, in combination with other broad-leaved associates of tree, shrub and even herbal species. This does not mean that these should not be worked at all. On the contrary, to keep these coniferous forests healthy, vigorous and at their maximum efficiency for water and soil conservation, they must be worked for their re-growth, vigour and spread of crown (which is one of the measure of vigour). The resultant production of wood is merely incidental. Thus, while examining the economics of these coniferous forests in the hills, this incidental production of wood is not the only consideration for benefit/ratio, as there are many other benefits to be accounted for against the cost of their raising. Consequently, the industry has to take whatever becomes available as a result of management of these forests for the primary objective of soil and water conservation.

Some aspects of silvicultural management of these forests:

This objective, however, is not so rigid, but leaves sufficient margin for the forester to decide the kind of timber he intends to grow as the incidental production by applying appropriate silvicultural rules and regulations.

All our coniferous forests in the Western Himalayas are at present managed and worked to produce large size timber primarily for railway sleepers and for constructional timber. Thus growth of trees of 60 to 70 cm. d.b.h. is aimed at, irrespective of the fact whether shelterwood compartment or selection system of management is applied. In some cases thinnings required in early stages are not made or are delayed, because the resulting material is not saleable as timber and so the operation is considered uneconomical. This, in many cases, often affects the annual increment adversely.

Effect on extraction:

As already mentioned, the silvicultural rules and regulations are aimed at production of large size timber particularly of railway sleeper size. This makes the felling, conversion and transport of wood from large size trees growing on steeper slopes difficult, if not impossible. Felling of large size trees on steep slopes is not only hazardous owing to quick momentum generated, thereby making control of direction and speed difficult, but also results in heavy damage to the tree in question itself as well as to neighbouring trees, which come in its way of fall. Such huge trees, when entangled with other trees or having rolled down to precarious situations, present quite an intriguing logging problem. Even if these are logged, the transport of logs of such big dimensions particularly by rope ways and floating in narrow side streams is physically impossible and uneconomical. Thus many beautiful coniferous forests get allotted to protection working circle merely because of their un-workability rather than for any role of protection of soil and water, which they could play. And so many of the potential forests remain unproductive and suffering from lack of proper management even lose their effect as protectors of soil and water.

There are many areas, which are potential coniferous forests, but are at present sparsely wooded or devoid of three growth, serving mostly as grass lands or grazing grounds. Most of these forests are placed under protection working circle and not much is done to improve their condition. The main reason for their not being fully stocked coniferous forests is the fact of their close proximity to habitation and lines of communication. A judicious survey of these forests could definitely lead to their reclamation as coniferous forests. This would immensely help in not only bringing the long fibred pulp raw material nearer to the production sites, but can also, to large extent, improve the condition of the land for water and soil conservation. So far as the raw material is concerned, its extraction and transport costs can thus considerably be reduced.

Suggestions for future management of these forests:

It is suggested that the silvicultural rules and regulations be re-oriented to aim at production of trees with d.b.h. between 40-50cm. rather than larger trees. One reason for this suggestion is that, all the Western Himalayas conifers of almost all quality classes reach thier rotation of maximum physical productivity between these limits. Also that reduction in rotation resulting from this re-orientation will increase the soil expectation value.

Another reason is that the cost of extraction and transport of timber from trees of this reduced size become more economical, especially in the rugged terrains, where resort has to be made to manual carriage, light rope-ways and floating in seasonal and shallow streams.

It is also suggested that concrete steps should be taken by various states forest departments to survey the potential coniferous forests, which are at present used as grass lands and grazing grounds in the hills, with a view to segregate them judiciously and bring them under silvicultural management so that long fibred raw material becomes available from more approachable areas thereby, not only improving the utility of these areas from water and soil conservation point of view, but also helping to cut down their extraction and transport costs thereby making feasible their use in wood-based industries.

It is also stressed that paper and pulp industry should also take the responsibility of utilizing the long-fibred products from these coniferous only for production of high grade pulp and speciality paper rather than fritter away this valuable long-fibred raw material, found in limited quantity in this country, in manufacture of newsprint and products of dissolving pulp.