

Management of Bamboo Forests in Madhya Pradesh, As Producers of Raw Material for Pulp and Paper Industry

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Bamboo forests cover vast areas in the State of Madhya Pradesh and during the past two decades have increasingly been used as producers of raw material for pulp and paper industry. The two biggest consumers of this produce, within the State itself, are the O.P. Mills, *Amlai* and the Nepa Mills, *Nepanagar*.

Ecologically speaking, these bamboo forests may be distinguished as:

- (a) *Dry Bamboo Forests*: They cover, by far, the largest area. They are open, clump size is small, culms are short and thin and annual recruitment is extremely limited. They are subject to excessive use by the people for their domestic needs.
- (b) *Semi-moist Bamboo Forests*: They cover a fair proportion of the total area. They are fairly stocked but open patches are also interspersed. Medium sized clumps preponderate, but small-sized clumps are, by no means, uncommon. Culm size is moderate and annual recruitment fair. They are primarily subject to commercial use by the people and are the mainstay in supplying raw

material to pulp and paper industry.

- (c) *Moist Bamboo Forests*: They are extremely limited in extent and are generally located in remote areas. They are well-stocked with large clumps and culm size is the largest, obtainable in the State. Annual rate of recruitment is the highest. They are not subject to any specific demand of the people. They are the main producers of raw material for the pulp and paper industry.

In spite of the variations in the bamboo forests of the State, their management is based on a uniform pattern. They are worked on a standard felling cycle of 4 years, and fellings in annual coupes are made as per the standard bamboo-cutting rules. One-and two-year old culms are prohibited from cutting and the clump size is limited to a minimum of 10 culms. This standardisation was done almost two decades ago and is continually in vogue since then. In the early years of this standardisation the bamboo forests probably responded well to this treatment, in spite of their ecological differences, the potent reason being that they were rigidly protected from annual fires, excessive grazing, indiscriminate and over-fellings, hacking by graziers to feed their herds of cattle, etc. At that stage, the demands of pulp and paper

mills on these forests were also limited. The bamboo areas allotted to them were producing enough bamboos to keep them going comfortably.

Gradually, the production of these mills was brought to full capacity and substantial expansions were also incorporated. Accordingly, demand for extra bamboo forests arose keenly. This demand was adequately met with by allotting extra bamboo areas on the basis of productive capacity of the areas allotted earlier. This arrangement worked well for some years but, of late, they are demanding more bamboo areas, as the allotted areas have registered a gross fall in production.

With the formation of the new State of Madhya Pradesh in 1956, gross laxity crept in, in the usual protective measures prescribed for the continuance and development of the forests. Since the past one decade the continuing situation is as follows:

- (1) Fire protection has lost its sanctity. All bamboo forests burn annually, except some bits of the moist bamboo forests. This has grossly affected the annual production of new culms.
- (2) There is practically no control over forest grazing. Excessive grazing has damaged bamboo forests, almost beyond repairs.

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- (3) Population pressure being continually increasing, the domestic needs of the people for bamboos have increased several-folds. There is almost no check on their fellings and from many areas in the vicinity of large habitation, the bamboo forests have either vanished or are on the verge of disappearance.
- (4) Graziers take their large herds of cattle, goats and sheep to bamboo forests and mercilessly hack down bamboos to feed their stocks. Many of the easily approachable areas have been rendered almost completely unproductive.
- (5) Illicit—and over-fellings are common features, in the wake of lax supervision and control.
- (6) Commercial exploitation of bamboo forests is done through contractors. Their main aim being to earn the maximum profits during the course of the annual lease period, they do not desist from over-fellings, unauthorised fellings, both within the coupe and the abutting unleased area, burning the forest headlessly, etc. All this has already proved very ruinous.
- (7) Remotely located bamboo forests, or which means of communication are waiting to approach them, remain unworked. Clumps get over-congested and dry bamboos increase in proportion. Thus, they stagnate in growth. Dry bamboos easily burn in annual fires and annual recruitment of new culms completely culminates.

This awful situation has now reached its climax. Bamboo forest has disappeared from many localities and yet from many more localities it is on the verge of vanishing in not too distant a future. The existing bamboo forests have grossly diminished in their productive capacity, causing due alarm and anxiety to dependent pulp and paper industry. Recently, a study of continued productivity of the bamboo forests leased to Paper Mills was made. Presently, the fall in production from one felling cycle to another is 30 to 40 per cent. Accordingly, if the present system of protection and management continues unchecked and unaltered, the leased bamboo areas will become totally unproductive within 3 to 4 felling cycles, i.e., a period of 12 to 16 years.

To make up the short-fall in production from leased areas, the Mills are constantly asking for more bamboo areas to work. This is generally not allowed and the Mill authorities are getting panicky. It is also certain that allotment of more bamboo areas for working is not going to solve the problem permanently, because the bamboo forests are constantly shrinking in extent, domestic needs of the people are ever increasing and they have a priority, productive capacity of the forests is fast dwindling down, etc. The relevant measures which should be taken up now to halt degradation of bamboo forests and to revive their full production, are as follows:

- (1) For all bamboo forests of the State, very rigid and effective fire protection measures be introduced forthwith.
- (2) Grazing from bamboo forests should be strictly prohibited

from the 1st July to 15th October each year, when new culms are appearing and developing in the forest.

- (3) No cattle camps be allowed in and around the bamboo forests.
- (4) Hacking of bamboo clumps by graziers to feed their large herds of cattle, sheep and goats be strictly prohibited.
- (5) Fellings by people to meet their domestic demands and by contractors in commercial felling series be banned. Instead, departmental working be introduced in all these bamboo forests which are not leased to the Paper Mills.
- (6) The standard bamboo felling cycle of 4 years be modified, in accordance with the ecological bamboo forest types, obtainable in the State. This necessary modification may be worked out through research. Till such a definite prescription becomes available, the bamboo felling cycles may be fixed as follows:
 Dry bamboo forests.. ..
 Felling Cycle 8 years.
 Semi-moist Bamboo forest ..
 Felling Cycle 6 years.
 Moist Bamboo Forest ..
 Felling Cycle 4 years.
- (7) Uniform application of standard bamboo-cutting rules throughout the State is inimical. Bamboo-cutting rules should be evolved separately for each ecological bamboo forest type. This should again be based on research, but during the interim period, the modifications may be introduced, as follows:

- (a) Prohibition on the cutting of one—and two-year old culms should continue in all types of bamboo forests.
- (b) The minimum clump size for working should be:
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|---------------------------|----------|
| Dry Bamboo Forests.. .. | 15 culms |
| Semi-moist Bamboo Forests | 20 culms |
| Moist Bamboo Forests.. | 25 culms |
- (c) In understocked bamboo forests, the minimum size for clump working should be:
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|---------------------------|----------|
| Dry Bamboo Forests.. .. | 20 culms |
| Semi-moist Bamboo Forests | 25 culms |
| Moist Bamboo Forests.. .. | 30 culms |
- (d) No clump should remain unworked, if workable.
- (e) The general prescriptions of removing dead culms, cutting out broken culms, spacing out of culms retained, prohibition on cutting of bamboos during 1st July to 15th October, etc. may continue.
- (f) Before a coupe is taken up for working, its treatment may be prepared by a responsible officer, indicating the following treatment types:
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|--|------------------------|--------------------------------|----------------------------|
| (a) Fully-stocked bamboo forests, with well-grown bamboos: | (i) Dry Bamboo Forests | (ii) Semi-moist Bamboo Forests | (iii) Moist Bamboo Forests |
| (b) Understocked Bamboo Forests with well-grown bamboos: | | | |
- (c) Fully or fairly stocked bamboo forests, with badly hacked clumps.
- (d) Grossly understocked bamboo forests and/or don-bamboo lands capable of growing bamboos.

Treatment types (a) and (b) may be worked as per the modified standard bamboo-cutting rules, with strict adherence to minimum clump size for working. In type (c), only cleanings be allowed, with absolute ban on commercial exploitation of bamboos. Type (d) be fenced and planted with bamboos.