

A preliminary result on simple coppice management of Sal (*Shorea robusta*) forests of Nepal

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The Sal (*Shorea robusta*) forest is distributed in the Terai. The Sal forests occupy largest area of forests and are distributed most widely in the country. Majority of people mainly depends on this forest for fulfilling various forest products requirements. The forest was heavily exploited to generate state revenue, to meet the forest product demand, for resettlement programmes and for the expansion of agricultural land. In present days the forests are protected and green felling is prohibited. However, due to lack of planned management, despite being put under total protection, such forests are degrading in quantity and quality (Acharya 2000).

In recent years, there is a growing demand for information from local community as well as forestry professionals on how forests could be managed to meet the demand of forest products that is essential to sustain rural livelihood. The Department of Forest Research and Survey initiated research on Sal forests since 80's to generate forest management information that could maximise fodder and firewood production sustainably. There are various research sites located in different parts of the country. The present paper is based on research plots established in 1988 at Butwal of Rupandehi district in Western Nepal. The aim of this paper is to provide information on management options for simple coppice options for Sal forests that maximises total biomass production from Butwal site.

Objectives of the study

The main objective of the research were:

- to investigate best management practice to ensure the natural regeneration through coppice management.
- to identify best management practice that can maximise fodder and firewood production from degraded Terai forests of Nepal.

Description of the study sites

Butwal is situated in the Bhabar Terai, and the plots are at an altitude of 263 m.a.s.l. The soil texture is sandy loam with gravel. Basically, the climate is subtropical with regular monsoon in June - August. Frost seldom occurs and the annual average number of days with minus temperature is 0. (Jackson 1994). It is a tropical Sal forest having more than 80 percent Sal (*Shorea robusta*). Other associated tree species in this forest are Asna (*Terminalia alata*), Bijaya Sal (*Pterocarpus marsupium*) Amala (*Phyllanthus emblica*), Barro (*Terminalia belerica*), Bhalayo (*Semicarpus anacardium*) Botdhairo (*Lagstroemia parviflora*), Harro (*Terminalia chebula*), Karma (*Adina cordifolia*), Raj Briksha (*Cassia fistula*) and Sindure (*Mallotus philippinensis*).

Methods and tools

The block has been divided into four different treatment prescriptions: i) simple coppice, ii) high forest, iii) coppice with standards 50% and iv) coppice with standards 25% (Figure 1). Each of these management prescriptions has four treatments. This report analyses the simple coppice option only having the shortest rotation of four years. The simple coppice plot is divided into four plots, each of 500 m². The details of these treatments are described in various reports such as Acharya *et al.* 2002, FORESC 1996 and Tamrakar 1993, 1994.

Results and discussion

The total biomass output of Sal forests under simple coppice management option for a period of 3 rotations is presented in Table 2. The table shows that management intervention increases biomass production.

For the first rotation, the biomass production increases if management prescriptions are applied.

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production. If fodder requirement is the management option, earlier years of the rotation needs to be best managed. Similarly, 1 s/s is the best treatment for fuelwood and foliage production. This management option is not suitable to produce timber, except some weaving materials (*Bhata*). The yields of different products for each of the options gave an indication of the productivity that could be expected following different management options in degraded terai Sal forests.

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