1.1. THE BACKGROUND

Forests are vital to mankind and are remarkable natural resources since ancient times. In India, the forests are depleting at an alarming rate and with this pace of degradation they may vanish in near future. Due to over exploitation, human interferences, cattle population and other factors, there has been massive degradation of these forests with the consequences of decrease in normal growing stock. Besides these, owing to drastic changes in climatic and edaphic conditions in recent times, natural regeneration in economically important tree species poses great difficulty today. Poor restocking of natural forests managed under different silvicultural systems further decreases the total growing stock and thereby the future increments. The vicious cycle is formed in which the regular removing of forest produce not only decreases the growing stock but also the increment. At this pace if everything goes unabated, the forest cover will decrease substantially in the near future.

The time has come when we have to rethink our strategies, plans and silvicultural operations that we carry out under well documented working plans for managing our forests. In fast changing scenario, working plan based management of our forests needs crucial refinement. Keeping in view all these above mentioned factors, Government of India had to impose a ban on green felling from 1980 onwards, 1000m above mean sea level altitude. As per these guidelines, the Government of India also wanted to identify critical areas prone to land slips erosion and geologically fragile formations which require protection and need immediate vigorous afforestation. As a result of this, freezing of felling in wild life sanctuaries, either side of National and State highways, rivers and streams, tourist resorts etc. was imposed. After the ban was imposed the forests are tending towards the stage of virginity. The fact that the ban was a boon or detrimental to forests is still a matter of dispute. A number of people have the view that the ban on green felling has resulted in
congestion and unhygienic conditions amongst trees as the advance growth is not getting adequate room for proper development due to non-opening of canopy. Further, as the establishment of regeneration of coniferous trees in particular require gradual opening of canopy, hence scientific management is essential for the sustainable utilization of forest resource. According to Mallik (2003), the spreading of dense ericaceous cover observed in boreal and temperate forest that has been attributed to allelopathy, competition, and soil nutrient imbalance is actually due to the removal of canopy trees by forest harvesting.

1.2. THE CHIPKO MOVEMENT

The Chipko movement first started in early 1973 in Chamoli district, when the villagers of Mandal, led by Bhatt and the Dasholi Gram Swarajya Mandal (DGSM), prevented the Allahabad-based sports goods company, Symonds, from felling 14 ash trees. This act took place on April 24 and, in December, the villagers again stopped Symonds agents from felling in the Phata-Rampur forests, about 60 km from Gopeshwar. In 1974, the forest department marked trees for felling in the Peng Murenda forest, near Reni village in Joshimath block as these trees were badly affected by the massive Alaknanda flood of 1970. More than 680 ha. were auctioned for Rs 4.7 lakh to Jagmohan Bhalla, a contractor from Rishikesh. But the women of Reni drove out the contractor’s labourers on March 26, 1974. This was a turning point for Chipko, as it marked the first time that the initiative by women, especially when their men folk were not around. In Kumaon, Chipko made its debut at the Nainadevi fair in Nainital in 1974, and then proceeded to block forest auctions at several places, including Nainital, Ramnagar and Kotdwar. The Chipko Movement was the result of hundreds of decentralized and locally autonomous initiatives. Its leaders and activists have primarily been village women, acting to save their means of subsistence and their communities. Men have been involved too and some of them had given wider leadership to the movement.
One of the most prominent leaders has been Sunderlal Bahuguna, a Gandhian activist and philosopher, whose appeal to Mrs. Indira Gandhi, the then Prime Minister of India resulted in the ban on green-felling and whose 5,000-kilometre trans-Himalayan foot march in 1981-83 was crucial in spreading the Chipko message.

1.3. CASE STUDY

The Govt. of Uttar Pradesh (then Uttarakhand was a part of UP) then imposed ban on green felling on Banj (Quercus leucotrichophora) and Burans (Rhododendron arboretum) trees in the Himalayas for the first time vide order No. 3641/14-1/1974 dated 25th May 1974. Both the trees were felled for making charcoal in the plains. The Govt. also planned to declare both the trees as the “Royal Trees”. The order was later relaxed considering the local demand of fuel wood and fodder due to massive pressure from the local community and it was then decided to allow selection felling for meeting the urgent demand of the hill people because the cities of Pithoragarh, Uttarkashi, Gopeshwar and Joshimath were situated far away from the Railway network (Government of UP’s Order No. 6953210/14-1-27/74 dated 25th Sept 1974). It was observed by the Government of UP that timber was supplied to traders illegally after relaxing the order on complete ban on the trees. In 1980, the UP Government had set up a committee for study of ban on green felling above 1000 m in the Himalayas (Order No.1913 /14-2-81 dated 18th March 1981). The said committee also agreed on ban on green felling above 1000 m in the Himalayas considering the rights and concessions of the villagers keeping in view the fuel and fodder requirements. The restriction was then imposed on green felling wide G.O. No. 6241/14-2-124/82 with following restrictions:

- There will be no green felling above 1000 m from mean sea level.

- No felling would be considered above 2750 m altitude even for right holders.
In areas where the slope is greater than 45° even if the altitude is less than 1000 m there will be no green felling.

In rocky, eroded, geologically unstable, landslide prone areas, the green felling will not be carried out.

No felling of green trees will be carried out within 160 m of mining and quarrying sites.

Within 100 m on both sides of existing motor roads or those roads under construction or proposed to be constructed, no green felling will be done.

Several working plans prepared after this did not prescribe green felling owing to the above mentioned order. However, several working plans prescribed felling as per silviculture systems in vogue subject to the lift of the ban in future. An expert committee was appointed wide G.O. No.4955/14-2-72/80 dated 17/7/1981 to decide on whether felling should continue as per scientific prescriptions in the working plans. This committee, headed by Prof. Kaul recommended scientific felling in forest areas. However, the ban was upheld by the Govt. vide G.O. No.6241/14-2-124/82 dated 21/8/1986 on the basis of envisaging difficulties that would be encountered on giving allowance for exceptions. The ban was further extended by another G.O. No.6373/14-3-700(385)/93 dated 15/9/1993. Another G.O. No.9371/14-2-96-124/1982 dated 27/9/1996 extended the ban for another 10 years. With the intervention of the Hon’ble Supreme Court in the landmark judgment in T.N. Godavarman Thirumulpad Vs Union of India in Writ Petition 202/1995, vide order dated 12/12/1996, all kinds of fellings were stopped in Himachal and the hills of Uttar Pradesh and West Bengal. However, the Hon’ble Supreme Court of India relaxed the order (clarification dated 20/1/1998) for meeting the rights and concessions of local population for bonafide use and instructed the State Governments to appoint suitable committees for deciding on felling of dead, dying and diseased trees in the hill areas. Thus, from 1981, crops
proposed for felling as per working plans were not removed and the forests were worked only by removing dead, dying and diseased trees.

1.4. THE STUDY

After a gap of more than 25 years of ban on green felling above 1000 m altitude in the Himalayas, it was felt by the foresters that studies on impact of the ban on green felling should be carried out to see whether the ban on felling of green trees proved to be fruitful for biodiversity conservation, regeneration, social requirements, health and structure of the forests etc. The similar study was also taken up in chirpine (Pinus roxburghii) forests by the Silviculturist (Hills) of Uttarakhand Forest Department. The present study was taken up in Chakrata Forest Division. The felled and un-felled coupes in the forests of Fir and Spruce were selected for the study. The felled coupes selected were those where green felling was done during 1977-80 period and un-felled coupes were those where felling was prescribed in subsequent years but due to ban on green felling, the coupes could not be felled.

1.5. AIMS & OBJECTIVES

AIM: To assess the impact of ban on green felling on Abies pindrow and Picea smithiana Forests.

OBJECTIVES

1. To assess the impact of ban on green felling on growth and regeneration of Fir and Spruce
2. To study the phyto-diversity of the forests
3. To analyze changes in the micro habitat and macro habitat of Fir and spruce forests due to the Ban.