People's Role, Good Budget Must for Fighting Fires in Pine Forests

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A forest fire is mostly an anthropogenic phenomenon, which burns and destroys valuable flora and fauna and sometimes also involves villages. Forest fires occur in three main forms as surface fire, crown fire and ground fire depending on the means of spread and their position to the ground. Forests of western Himalayas (Uttarakhand) are more prone to fires compared to any other place. Low rain density with dry and high temperatures during March to May, coupled with huge volumes of dry kindling on the ground present a very conducive environment for a fire. People living near forests burn their farms to clear land which through strong winds can easily spread to forests. Nearly all forest fires are human induced either due to carelessness of passersby, forest dwellers and possibly some vested interests.

The chirpine forests occupy 16 per cent to 17 per cent of the total forest area in Uttarakhand, which produces 4 to 5 metric tonnes of dry combustible leaves per hectare of land. That amounts to more than 3 million tonnes of inflammable material every year in the whole state. This presence of highly combustible material with inflammable resin containing chir trees is a source of rapid spreading forest fires in Uttarakhand.

Role of van panchayats vital

The 12,089 van panchayats in Uttarakhand can play a very important role in controlling forest fires. That is why, according to a recent analysis of data, it is evident that forests under the control of van panchayats suffer less losses compared to reserve forests those are under the jurisdiction of the forest department. Villagers feel alienated as they have been deprived of their traditional forests and they are no longer keen to help put out forest fires. That is the reason why they did not act proactively when fires blazed through forests under the forest and revenue departments. However, when forestlands under van panchyats caught fire, they came forward strongly to put out flames as they derive benefits from these forests. This goes to show the importance of the local community participation and their stakes in the natural resource management.

No concrete policy

There is no sustainable forest firefighting policy in the state and also there is no clear strategy under the National Disaster Management Plan. However, India officially has a forest fire disaster management guideline under the Union Ministry of Environment and Forests. The state Forest Department is expected to prepare an annual forest fire management plan before the fire season.

Lack of coordination

At present, forest fire protection is done mainly through watch and ward schemes, i.e. preventive plans are made at the district, block and village levels, which lack coordination among different government departments, government agencies, NGOs and other stakeholders. Meetings and workshops are organised

at the district, block and village levels. Emphasis is given to the maximum participation of local villagers. A forest fire is also considered a natural disaster and if there is any human loss, due compensation is given through the revenue authorities.

Meagre firefighting budget

Under disaster management efforts, a State Disaster Management Authority and a State Executive Committee have been set up. However, nobody from the Forest Department whether the Principal Chief Conservator of Forests, Principal Secretary or even Forest Minister is on either of these two bodies.

Untimely budget allocation as well as meagre outlay of around Rs. 8 crore for firefighting on forests spread over 68 per cent of the total landmass in Uttarakhand pales substantially against the total disaster management budget allocation of Rs. 2,131.56 crore.

Rhododendron, kafal options

The broad-leaved species such as oak, kafal, kachnar, rhododendron, apricot, aamla, walnut etc build a richer biodiversity habitat and have water conservation abilities compared to chir, which does not allow any vegetation in its surroundings. These species support not only regeneration of soil nutrients and water retention but also address critical issues such as human-wildlife confrontation and help in stabilising landslide areas. In moist and good soil areas, these plant species could replace chir.

GPS monitoring of forests

The GPS data sharing is in its initial stages and needs to be further coordinated with the Forest Survey of India (FSI), which provides the basic information on a request basis. For future real time information availability, there needs to be a data sharing agreement between the FSI and the state forest department.

No assessment of loss of flora, fauna in fire

At present, the assessment of the loss due to forest fires is done on the basis of per hectare of forests affected. This methodology estimates the loss on account of the number of trees but is not able to assess the loss of fauna and biodiversity. The loss estimation of fauna, flora and biodiversity is only possible when there is a databank on its original quantity. This type of data on fauna, flora and biodiversity needs to be estimated and documented. This may be done with the joint efforts of the FSI, State Biodiversity Board, Forest Department, universities, the Wildlife Institute of India and the ICRFE.

A UNDP project was implemented during 1985 to 1990 in the country to address the problem of resource damage from uncontrolled forest fires. The project primarily focused on involving a systematic approach to deal with forest fire damages through tapping of knowledge gained by some developed countries in preventing, detecting and suppressing forest fires, and its transfer to India. Under this project, a pilot project was launched in two states viz: Uttar Pradesh and Maharashtra. Based on the success of this project, the Central Government and the Union Ministry of Environment and Forests initiated a scheme entitled "Modern Forest Fire Control Methods" since 1992-93.

There is need to encourage local community participation in monitoring forests and fighting forest fires. I had experimented with the plan in Uttarakhand as Principal Chief Conservator of Forests from 2008 to 2014.

Following steps can prove to be effective in forest firefighting.

- There is need to set up of master control rooms (MCR) and crew stations in each forest division connecting them with the satellite data facility in the Forest Survey Institute (MODIS), wireless and telephone facility.
- These control rooms and crew stations can also be used as extensions for promoting awareness and firefighting training.
- Commercially-viable schemes can be developed to remove pine needles from forests and also to engage local communities in income generation activities.
- Involve Mahila Mangal Dals and village schools by promising them in writing that if fire incidents do not take place in the allotted areas, at the end of the fire season they shall be suitably rewarded with cash rewards along with a certificate of honour.
- Strong provisions in law for prosecution and penalties against forest arson.
- Garnering local leadership support, especially van panchayats by inviting them in the local, range and division level workshops and training programmes.
- Ensuring 24X7 linking of master control rooms with 108 emergency services of the state.