

# Banko Janakari

A Journal of Forestry Information for Nepal

---

## **Forest Fire and its management strategies in Nepal**

Fire is one of the important tools in forest management when used in planned and controlled manner, but uncontrolled fires lead to serious degradation of forests, ecological changes, as well as deterioration of social and economical conditions in some land-use systems and natural vegetation types. Uncontrolled forest fires in the fire season of 2009 alone caused 41 fatalities (civilians and fire-fighters) and destroyed hundreds of thousands of hectares of national forests, particularly in community forests, government managed forests, national parks and reserves. The major causes of wildfires are man-made. Erratic climatic variation, prolonged dry season and very low winter rainfall in recent years have increased the incidences of wildfires in Nepal. A study shows that about 58% forest fire is deliberate burning by grazers, poachers, hunters and NTFP collectors; 22% due to negligence and 20% by accident in Nepal. By duration, more than 80% forest fire occurs in March and April whereas about 60% forest fire occurs in April alone. The institutional capacity to combat wildfires is very weak. The government has approved the Forest Fire Management Strategy which has given high priority to participatory forest fire management; public awareness programmes; legal reforms and capacity building of government and community institutions. There are various agencies, institutions and NGOs working worldwide and in Nepal such as UN-ISDR Wildland Fire Advisory Group (WFAG) / the Global Wildland Fire Network (GWFN) and its secretariat the Global Fire Monitoring Center (GFMC) and the Regional South Asia Wildland Fire Network (RSAWFN). Nepal Forest Fire Management Chapter (NFMC), an autonomous, non-profit, non-governmental organization, is working to institutionalize wildland fire management activities for sustainable forest resource management in the country.

There are different methods and tools to prevent forest fires that demand much resources both in terms of technology and economy. The introduction of continuous education and training programmes with proper follow-up that can have a positive response to forest fire prevention and control is needed. Coordination and cooperation must be required among wildlife clubs, environmental groups or Eco-clubs, community forest user groups, youth clubs and fire management professionals. These groups can assist in detection and prevention of fires. Use of mass media is one of the best means of public education in the prevention of wild fires in very short time duration. Posters or pamphlets can also be used in market place, bus stands, public offices and schools. Firebreakers or firelines may

be natural barriers, such as road or stream, or especially constructed barriers to limit the spread of fires and to provide an established control line in the case of firefighting. The most effective fire hazard reduction is to eliminate most of fuel from hazardous areas. This can be done by burning off all hazardous fuel through controlled burning or prescribed burning; it should be however, done before fire season.

Fire awareness and educational activities are very effective tools in involving the community and other groups in a fire management programme and in engaging the communities as responsible partners. Those can assist in the prevention, detection and reporting of fires, work with fire personnel to control unwanted fires. Besides, fire prevention training at schools and colleges is an important part of any prevention effort. However, there is a lack of existing national capability in fire research and management, including monitoring, early warning and ecological and socio-economic impact assessment, and facilitating international cooperation in fire management. Now, there is an increasing interest in community-based fire management, and need for institutional and technological capability development at all levels. A reliable and timely fire detection and monitoring system is an important part of forest fire management. International Centre for Integrated Mountain Development, in close collaboration with the Department of Forests, has developed a forest fire detection and monitoring system for Nepal based on Moderate Resolution Imaging Spectroradiometer data. The system currently sends email notification on fires throughout Nepal to some 180 subscribers. Furthermore, some 220 text message subscribers, including District Forest Officers and focal persons of the federation of community forestry users groups of Nepal in all districts, receive fire alerts in their mobile if a fire incident is detected in the district of their subscription. The fire user database is currently managed by the Department of Forests through a customized web interface. It is a very high time to work on fire management towards the conservation of forest ecosystem as well as mitigating the consequences of climate change for which we need to develop synergies through coordinated and collective actions at local and national levels.