

STRENGTHENING FOREST FIRE MANAGEMENT IN INDIA

GEOGRAPHY OPTIONAL PAPER 1, BIOGEOGRAPHY: Genesis of soils; Classification and distribution of soils; Soil profile; Soil erosion, Degradation and conservation; Factors influencing world distribution of plants and animals; Problems of deforestation and conservation measures; Social forestry; agro-forestry; Wild life; Major gene pool centres.

IN NEWS: Strongly emphasizing that more and more people will have to be involved to make managing of forest fires into a mass movement, Union Minister of Environment, Forest and Climate Change has said that forest fire management is part of our long-term vision for Sustainable Forest Management. Speaking at the release of a report titled “Strengthening Forest Fire Management in India”, he affirmed that the recommendations suggested in the report must be implemented effectively.

CAUSES OF FOREST FIRE:

- **Natural causes-** Many forest fires start from natural causes such as lightning which set trees on fire. However, rain extinguishes such fires without causing much damage. High atmospheric temperatures and dryness (low humidity) offer favorable circumstance for a fire to start.

- **Man made causes-** Fire is caused when a source of fire like naked flame, cigarette or bidi, electric spark or any source of ignition comes into contact with inflammable material.

- **Environmental causes** are largely related to climatic conditions such as temperature, wind speed and direction, level of moisture in soil and atmosphere and duration of dry spells.



- Other natural causes are the friction of bamboos swaying due to high wind velocity and rolling stones that result in sparks setting off fires in highly inflammable leaf litter on the forest floor.

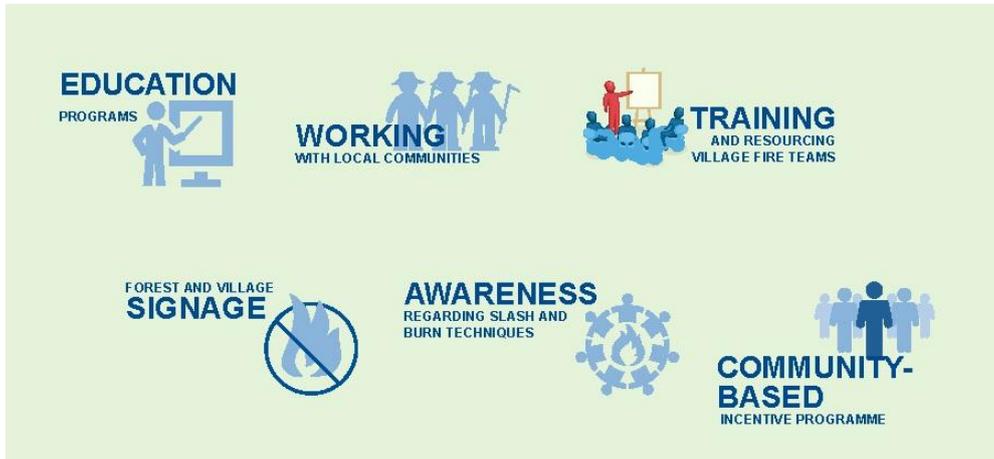
EFFECTS OF FOREST FIRE:

- Loss of natural regeneration, wildlife habitat and reduction in forest cover.
- Loss of carbon sink resource and increase in percentage of CO₂ in atmosphere.
- Global warming and ozone layer depletion.
- Loss of livelihood for tribal people and the rural poor, as approximately 300 million people are directly dependent upon collection of non-timber forest products from forest areas for their livelihood.
- Soil erosion affecting productivity of soils and production.

NATIONAL MASTER PLAN FOR FOREST FIRE CONTROL: The Ministry of Environment and Forests, Government of India, has prepared a National Master Plan for Forest Fire Control. This plan proposes to introduce a well-coordinated and integrated fire-management programme that includes the following components:

- Prevention of human-caused fires through education and environmental modification. It will include silvicultural activities, engineering works, people participation, and education and enforcement. It is proposed that more emphasis be given to people participation through Joint Forest Fire Management for fire prevention.
- Prompt detection of fires through a well coordinated network of observation points, efficient ground patrolling, and communication networks. Remote sensing technology is to be given due importance in fire detection. For successful fire management and administration, a National Fire Danger Rating System (NFDRS) and Fire Forecasting System are to be developed in the country.
- Fast initial attack measures.
- Vigorous follow up action.
- Introducing a forest fuel modification system at strategic points.
- Firefighting resources.

FOUR APPROACHES TO FIGHTING FOREST FIRES:



- The first is what may be called technological, where helicopters or ground-based personnel spray fire retardant chemicals, or pump water to fight the blaze. These are expensive methods and make sense when one is protecting a human community.
- The second is to contain the fire in compartments bordered by natural barriers such as streams, roads, ridges, and fire lines along hillsides or across plains. A fire line is a line through a forest which has been cleared of all vegetation.
- The third is to set a counter fire, so that when a fire is unapproachable for humans, a line is cleared of combustibles and manned. One waits until the wildfire is near enough to be sucking oxygen towards it, and then all the people manning the line set fire to the line simultaneously. The counter fire rushes towards the wildfire, leaving a stretch of burnt ground. As soon as the two fires meet, the blaze is extinguished.
- The fourth approach, which is the most practical and most widely used, is to have enough people with leafy green boughs to beat the fire out. This is practised in combination with fire lines and counter fires.