

Rampaging Forest Fires of Uttarakhand : Cause of Worry for the Nation

By

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The sight of Mi-17 V helicopter picking up the water from Nainital lake to douse fire in and around Nainital on last weekend of the April 2024, was horrific sight for the tourists as the water activities in the lake had been stopped and fire was raging in many nearby areas, threatening colonies including Army and Air Force Units. According to information provided by the forest department on 19 April, 117 fresh forest fire incidents were reported in Uttarakhand with Garhwal region accounting for 32 of them, Kumaon region 75 and wildlife areas 10. Forest fires flared up in Uttarakhand in mid-April as temperatures soared, with 198.9 hectares of forest land gutted in 117 fresh incidents on 19 April. These fires have larger ramification than just local concerns. The disasters like rain and fire impact the water sources and raise the temperature which has adverse impact on Himalayan ecology. Biodiversity loss, loss of water sources like springs and adverse impact on glaciers is cause of concern for the entire nation.

Uttarakhand Fires over the Years

The fire season which began this year on February 15, has already affected more than 1000 hectares of forest land which also includes 724.93 hectares of reserved forest area.¹ This is not something new. Almost every year from February to June, these forests are damaged by fires

¹ <https://www.ndtv.com/india-news/forest-fires-flare-up-in-uttarakhand-as-temperatures-soar-2901428> April 19,2024

which are caused either by human actions, natural causes or climatic conditions. An analysis of last ten years of forest fire shows that only time there was noticeable low incidents of fire were during Covid period of 2020. That explains about human involvement in causing these fires. In other years particularly in 2016, 2021, 2022 and now this year, the incidents and damage has been very high.²

Year	Fire Incidents	Affected Area(Ha)	Death/Wounded
2014	515	930	17
2015	412	701	00
2016	2074	4433	631
2017	805	1244	01
2018	2150	4480	06
2019	2158	2981	115
2020	135	172	21
2021	2813	3943	23
2022	2186	3425	27
2023	773	933	33

Reasons for Forest Fires

Main reason for the fires in Himalayan region is less precipitation and resultant lack of moisture besides human intervention. Dry fuel in the form of pine needles and grass makes it ideal for the fire to spread. The resin of pine trees also adds to the woes and leads to fire reaching the trees. Locals clearing the area for agriculture and to get new greener grass also ignite fire which frequently goes out of control. Irresponsible behaviour of the tourist in nearby forest areas is also one of the causes. Whatever be the cause, these fires leading to loss of forest cover is worrisome. Uttarakhand has approximate 38000 Square Km of forests, which is almost 71 per cent of its geographical area. Since its formation as a separate state in the year 2000, forest fire have affected over 48000 hectares. The forest fire season in India lasts between November to June. Factors like temperatures, precipitation, vegetation, and moisture contribute to the scale and frequency of these fires. According to experts, three factors cause the spread of forest fires; fuel load, oxygen and temperature. Dry leaves are fuel for forest fires. The Forest Survey of

² <https://www.amarujala.com/uttarakhand/nainital/uttarakhand-forest-fire-forest-fire-incidents-in-the-uttarakhand-in-last-ten-years-2024-04-29>

India (FSI) website states that nearly 36 per cent of India's forests are prone to frequent fires.³ The forest department has four causes of wildfires in Uttarakhand – deliberate fires by locals, carelessness, farming-related activities and natural reasons. According to a government report, locals set forests on fire for the growth of good quality grass, to cover up illegal cutting of trees, for poaching, etc.

Remedial Measures and Role of Forest Department

The Ministry of Environment, Forest and Climate Change (MoEFCC) lists the following methods to prevent and control a forest fire: construction of watch towers for early detection; deployment of fire watchers; involvement of local communities, and the creation and maintenance of '**Fire Lines**'. Forest Department takes care of these actions by employing own manpower or through part time casual labour. According to the National Disaster Management Authority (NDMA) website, two types of fire lines are in practice – Kachha or covered fire lines and Pucca or open fire lines. In Kachha fire lines, the undergrowth and shrubs are removed while trees are retained to decrease the fuel load. The Pucca fire lines are clear felled areas separating a forest/compartments/block from another to control the spread of potential fires.⁴ Fire lines can also be created by controlled fire from other direction to stop the raging fire to move to new areas. These fire lines can also be created to channelise rain water to catchment areas which will improve moisture in the forest.

Role of Community: Practices Around the World

Forest fires is a global phenomenon which in recent times have taken alarming proportions. The fires in recent years in Australia and USA in particular are glaring example of climate change and human activities leading to disastrous fires. While in India most of the fire is '**Surface Fire**' and sometime '**Ground Fire**', the big forests in Australia and USA have often been subjected to '**Crown Fire**'. While not much can be done to the raging forest fire, the prevention strategies can very well be put in place in collaboration with local communities who depend on forest produce. Capacity building and handholding of local populace can work

³ <https://indianexpress.com/article/explained/everyday-explainers/forest-fires-causes-frequency-india-9295213/> 29 April 2024

⁴ Ibid

wonders in control of the forest fire and also mitigating the climate change challenges. Many NGOs and Institutes work with local organisations for spring rejuvenation in Himalayan belt but such small scale intervention is not enough. Water management in entirety has to be done at a large scale with proper policy framework by the Government.

An organisation named **‘Just Dig It’** is on a mission to regreen African landscape to cool down the planet, together with millions of farmers and everyone who can partner in the cause. The organisation feels that global warming is moving fast, earth is drying up and we need to reverse the trend fast if we want to save earth from irreversible damage. They feel global warming can be mitigated by 37 per cent through cost effective nature based solutions. Among the many practices they follow for greening the Africa, one very interesting practice is to just dig the land in a moon crescent fashion with bunding on one side to retain the rain water. They work with the communities and local partners to restore dry land. Proven regreening techniques include rain water harvesting(digging bunds),tree restorations and developing Grass Seed Banks. The



Result of Crescent Bunding by ‘Just Dig It’

projects have successfully been implemented in all parts of Africa including many landscapes in Kenya, Tanzania, Uganda and Ethiopia. The organisation runs their campaign in most of the European countries for financial support besides crowd funding.⁵

⁵ <https://justdiggit.org/>



Involvement of locals in Crescent Bunding

There are many other initiatives across the globe for efficient way of harnessing the rain water leading to increased moisture content and greenery in the forest, thus minimising the fire incidents. In Uttarakhand itself, there are many organisation that work at local levels for spring rejuvenation which are undertaken in similar fashion, though at very low scale. These initiatives in forest areas lead to revival of springs and increase in moisture content. Two years back locals of a village in outskirts of Pune ventured to create water reservoirs up the hill, to stop heavy rain water to gush on the slope and damage their properties in every rainy season. This has led to greening of the forest as well as stopped erosion of top soil and no further damage to the villagers. The forest department also promotes creation of local ponds and check dams but the scale is too less to make any meaningful impact.

Integration of Technical, Social and Practical Solutions

CM of Uttarakhand made an appeal to stakeholders to come together to fight the fire in Nanital area. He also warned the officials of strict action for dereliction of duty. However, merely an appeal after the disaster has struck, is not what is needed. An integrated approach involving all government agencies, local communities as well as the non-government organisations and institutions working on ground is the need of the hour. Water is central in all the environmental problems associated with the disasters of mountainous region. The springs sprouting at frequent intervals is no more the sign of hills because of disruption caused by unplanned development. The blocked channels of water find new route leading to weakening of the slopes and ultimately

causing series of landslides. Similarly lack of moisture in forests is also one of the major causes of spread of fire. There is enough water in forests but it needs to be channelised and retained in the forms of mini ponds all along the forest areas. Easy water availability at frequent intervals will also help forest department and locals during firefighting. The channels so created to lead the rain water to these ponds also has added advantage of natural barriers for spread of fire. These act as fire lines. Creation of mini ponds and check dams in forest is the mandate of forest department, but lack of funds, non-cooperation or half-hearted involvement of local communities in the entire process, results in minimal effort in this direction.

Comprehensive Policy and Advocacy

There is an urgent need for all encompassing policy and implementation to involve all stakeholders and facilitate mini ponding and harness rain water through properly made water leading channels to such reservoirs. The NGOs and locals working in this direction need to be incentivised and capacity building of the communities needs to be undertaken to make them understand the importance of such initiatives and also their responsibility towards forest. Strict actions should also be taken against the defaulters and irresponsible tourists.

जानकर जो जलाते हैं जंगल
जला रहे हैं वो जिगर अपना

अनजान हैं, वो नहीं जानते हैं
जला रहे हैं वो, घर भी अपना

साँसों में धुआं, आँखों में पानी
सुखा रहे हैं वो पानी भी अपना

जंगल है साँसे, जंगल है जीवन
मिटा रहे हैं, जीवन वो अपना

