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Forest Fire: Disbalancing the Wildlife

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ABSTRACT

The article basically focuses on the wildland fires and its consequences, which is very much devastating. Firstly, it draws attention to the naturally causing fires in the forest. Secondly, its emphasis that human ignorance and extreme activities relating to industrialization, manufacture of factories, houses can also have giant effect on the natures cushion cover, by paying heavy prices of life of the animals, birds, insects living there. Thirdly, forest fires can have reverse impact on the climatic change that can cause global warming to its highest peak and melting of glaciers, can ruin down every living creature on earth. Overall, the article shows how wildland fires are dangerous to both man and animals, also in the process of degrading the natural structure of the earth. Many law enforcements have been recognized in order to control the man-made activities and also to pay attention to the forest-cover from getting burned.

Keywords- Forest fire, desertification, fire-ecology, fire triangle, sustainability.

I. INTRODUCTION

Forest cover is the cushion of mother-earth, fire takes away the cushion making her barren.

Forests covers the broader part of the earth, the whole ecology as well as the human system. Forest fires are the ancient one, happening since the day forest existed, earlier the fire caused due to some natural unforeseen climatic impacts but in today's globalised environment major cause is on the man-made disastrous consequences, which is occurring frequently. Dry seasons and no rainfall accelerate the fallen leaves and generates fire, most common in the Himalayan Forests of the Garhwal, dying of the greenery world.² According to various conducted surveys and studies, it has been concluded that every year the world witnesses more than million hectares of forest cover burning leading to the deprivation of forest products like rare wood, timber, etc., which in another way disbalances world finance systems, damages aesthete worth of environment and also breaks the natural cover of earth. In order to make it a place for safe for the vegetation part, the concept of environmental biology has been developed as a multi-dimensional perspective.

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² J. Mitchell, *Forest Fires in Indiana*, 45 J. FOR. 570-574 (1947).

II. FOREST FIRE: RISING ISSUE IN THE ECOSYSTEM

In the context of Indian Legislation, no definite meaning has been assigned to forest, though going by plain meaning, forest includes all the trees, scrubs, brushes and other trees, by the reference of the case T N Godavarman Thirumalpad v/s Union³, where the Apex Court explained the meaning of the forest not adhering to any departmental definition but under the tree area only. “Fire ecology” interprets the meaning of forest fire which says that any material that causes fire in the forests either naturally or man-made amount to forest fire which effects both animals, plants and humans. It also recognises its benefits and curses to the nature.

(A) Categories of forest fires:⁴

Forest fires also depends on its category, differs in size, speed of the wind, natures conduct and many other reasons.

1. **Surface fires-** This type is the most occurring one, where the lower strata of the forest come into play, shorter brushes, scrubs, scattered dried leaves and other free move wastes burn. But this forest fire is usually good one as it recreates the forest cover. If it increases and spreads wide then it may swallow and catch the total structure of the forest.
2. **Crown fires-** Crown fires are basically uncertain and unreliable as the upper part of the forest get into fire by the gusts of wind and its high speed, surface fires can also cause crown fires. This one is the scariest and unmanageable as its multiples its density with the speed of the wind, even firemen get into the fire-catch. Maximum plant lives get sacrificed to this fire.

(B) Division of forest fires:

1. Manageable forest fires.
2. Ignition in the forest caused due to human ignores in dry seasons through dispersed wastes in the vegetative floor.
3. Intentionally setting of the forest in fire by the nearby rural-habitants.

(C) Root cause of forest fire occurring naturally:

Naturalistic occurrence of forest fires is specially in the isolated or woodland areas

1. Thunderstroke sets trees cover into burning flames, ultimately rain comes unto them as a healer posing less threat to the vegetation.

³ (1997) 2 SCC 267

⁴ Mitchell, *supra* note 2.

2. Fire can also ignite due to intense heat and aridness.
3. Volcanic eruption.
4. Collision of stones.
5. Stroke of bamboo twigs.
6. Strong rays of the sun.

The above elements are reasons for 'fire triangle' i.e., fuel, heat and oxygen for forest fires.

(D) Unnatural components to forest fires: Anthropogenic⁵

More than ninety percent of forest fires are due to man built disastrous activities.

1. "Slash and burn Agriculture" in which farmers practice rotational farming by burning the agriculture and left it for few years for recreation.
2. Cigarettes or any powered equipment come in contact with the explosive materials.
3. Igniting left over harvests, taking out gum from trees and drawing out of wine.
4. Construction purposes depriving of animal entry.
5. Supply of non-wood forest materials.

(E) Wildland fire rejuvenates forest life:⁶

1. **Cleanses the lower vegetative area-** Forest burning firstly wipes away all dried wastes like the shorter bushes and scrub making the soil fertile thereby allowing the forest trees to thrive more. These trees become less prone to fire as new fertile makes it moister.
2. **Home to wildlife-** After the free waste gets wiped out it gives a big way too many animals, birds and new group of plants. The rich nutritious soil feed fully to plants and animals on those healthy trees. Water movement also spreads up in the stems of the plant.
3. **Destructions of bugs-** Fires kills many plant living parasites, worm, beetles and pests which are harmful for the plant development. Adds more ingredients to the soil and makes it efficient for further blooming of trees.
4. **New-wave-** Forest also needs a kind of evolution. There are some trees and plants like chaparral, manzanita, chamise, scrub oak, which requires huge amount of heat for the growth of the seed, this is fed by the fire. Therefore, fire burst out trees' resins for the recreation.

⁵ Reference Note, *MEMBERS REFERENCE SERVICE NEW DELHI* (2018).

⁶ Cal Fire, *Benefits of Fire* 1.

(F) Forest fires are also the enemies of environment:⁷

1. **Land degradation-** Fire wipes out the moist of the soil making it highly eroded which serves to be infertile, organic element gets cleaned away breakage of soil cover. Fire makes soil deprivation of soil, where the rainwater passes by without entering into soil turning to desertification with caustic matter.
2. **Reduction in quality air-** Forest fires fuel the global warming and green house effects by the high amount of carbon dioxide penetrating into the air, trees and other plants produce defects to conduct photosynthesis cutting off the amount of oxygen. Carbon monoxides directly pollutes the air, adversely effects animals and humans both. Poisonous chemicals rising out from the unfinished burning of the forests contaminates the environment for longer kilometres proving hazardous to all the living beings.
3. **Water turns polluted-** Toxic substances polluting the air comes down in rainfall and effect dangerously as harmful elements contain in them. The huge litres of water used in calming the fire may turn on certain chemicals in the soil which can eat away nutrients. It makes the surroundings areas inhabitant for many plant species and animals.
4. **Worsening animal life-** Fire in the jungle destroys the very home of the animals rendering them helpless. Biodiversity gets displaced and isolated by forest fire. Death rate among the animals becomes higher as they are unable to bear the fire heating, kills many small and sensitive animals thereby turning upside down their world.

(G) Sustainable management of forest fires:

Forest fires happening naturally is unreliable and unforeseen while man-made are predictable but both go simultaneously, it is the utmost duty of man to take care.

1. Supervision and tracking of forest which are quick to catch fire specially in arid regions.
2. Adoption of worth forestation policies for restoring back after forest fire.
3. Quick planting of trees that recovers the carbon back.
4. Ensure animal feed on plants, grasses which can efficiently act as a gap and prevent forest-fire.
5. People living near by should adhered to the laws of the forest, burning of harvest and coals should handle with great care. Dried leaves should be swiped off till ten kilometres away from the forest.

⁷ C Siebe & D Ferna, *Causes and Effects of Forest Fires in Tropical Rainforests : A Bibliometric Approach* (2017).

6. Noticing, observing and surveys to be conducted before hand to get estimation scale range of forest fires.

(H) India's approaches towards the Wildland fire:

India is rich in flora and fauna, more than seven lakh square kilometres come under forest and forest fires are increasing. The population of bio-diversity is huge, thereby various legislations, steps, and policies has been undertaken to make healthier living environment free from forest fires.

1. Department of environment, forest and climate change has taken initiatives steps through monitoring of satellites over the fire prone forests, monetary aids are being given to the Governments to manage forest fires.
2. Disaster Management ministries have taken firm steps in the National Master Plan for authorisation of forest fires. It has ensured well developed policies involving human participation in reducing fires and preventing fires at its root level. Employment of advanced ideas which could help in reviving back the forest life.
3. National Fire Danger Rating System and Fire Forecasting System has implemented many policies for effectively handling forest fires through advanced resources in extinguishing fires in the forests.
4. Evolving and progressing in the environmental studies to enforce more safer and responsible duties upon the citizens towards the nature by enacting Article 48(a) and 51(a) making both government and citizens bound to nurture the environment.
5. Section 268-294(a) under Indian Penal Code (Chapter XIV), these penal punishing sections enables that no interference and disturbance made by any person toward the environment will amount to contravention. This section is for pollution free nature.
6. Food and Agriculture Organizations and UNDP has taken up the Haldwani project to reduce and spot earlier the forest fires and has also taken wide steps in regulating excess exploitation of the forests.

Indian legislations have progressed a million reach in the arena of environment. By the insertion of Articles 48(a) and 51(a) has imposed duties both on the Government and citizens to take care of the ecological life. The laws ensure pollution-free country and punishes the contraveners, controlling and regulating forest fires. In the case of *K. Ramakrishna v/s The State of Kerala*⁸, the Court prohibited smoking in public places under section 290 of IPC, smoking and debris can generate forest fires. Tendu leaves are also the reasons that causes

⁸ (1999) Ker 385

forest fires, while its production used for beedi making by the locals, legislations check out over these practises. Pollution from the vehicles and over heated mechanics also produce heat enabling the fire in the forest and camp-fires are to be prevented.

Forest fire is the world-wide issue which is rising both naturally and also from the human action which in a feed the natural elements in causing fire. Brazilian amazon fire was the heavy toll on both the lives of plant and animal species. The Amazon fire has enabled policies to take, by preventing human exploit, sustainably use of the forest-land and prohibition of burning and growing vegetation. According to the reports 80% of the forest fire are due to man's action. WWF and Boston global policies has been undertaken to test deforestation in Amazon and regulate fires. Most fires occur in the region of Northern-Hemisphere and sub-tropical regions where improper and negligent methods of cultivation is practised. Over-grazing and urbanisation have caused a big change in the global climatic conditions indirectly effecting both the ecology and human life. Various sustainable procedures have been implemented to provide pollute-free and clean environment.

III. CONCLUSION

Wildfire poses threat to biodiversity and destroys the upper layer protection of the nature, in some-ways it is fruitful by enhancing the soil content. While in the contrary many rural people who consume products from the forests and are the permanent dwellers loses their property and income. Financial and economic values pay price to the fire. After witnessing such fires which are very uncertain, various country-based and global legislations, policies and recommendations has been focussed largely to lessen the root causes of forest fires. More pressure has been given to the aesthetic values to the rural management, vocational training and basic educational programmes established to make people aware that their ignorance and continuous pulling out of the forest products may render it barren which could twirl around to burn down the whole ecological world. Fires are the worst ones menacing the lives, credible and reliable forestry and agriculture has to be adopted to secure good amount of greenery. The lifestyles and like-minded thinking's on sustainable measures is to be practised.
