

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH
NEW DELHI**

**Original Application No. 216 of 2016
(M.A. No. 397 of 2017)**

IN THE MATTER OF:

Rajiv Dutta

Senior Advocate
27, Lawyer Chamber, R.K Garg Block,
Supreme Court of India,
TilakMarg,
New Delhi-110201

.....Applicant

Versus

1. Union of India

Through the Secretary
Ministry of Environment, Forest & Climate Change
Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi-110003

2. Principal Secretary

State of Uttarakhand
Chief Minister Secretariat
4, Subash Road,
Uttarakhand Secretariat,
Fourth Floor, New Building,
Dehradun, -248001
Uttarakhand

3. Additional Chief Secretary

State of Himachal Pradesh
Government of Himachal Pradesh, Department of Personnel,
Himachal Pradesh Secretariat,
Shimla- 171002
Himachal Pradesh

4. Central Pollution Control Board

Through its Chairman
Parivesh Bhawan, CBD-cum-Office Complex,
East Arjun Nagar
New Delhi-110032

5. Pollution Control Board

Through its Chairman
Government of Uttrakhand
29/20, Nemi Road,
Dehradun-248001
Uttrakhand

6. Himachal Pradesh State Pollution Control Board

Through its Chairman
Him Parivesh, Phase-III,
New Shimla-171009
Himachal Pradesh

.....Respondent(s)

COUNSEL FOR APPLICANT:

Mr. Rajiv Dutta Sr. Adv in person with Mr. Mukul Lather and Mr. Kumar Dushyant Singh, Adv.

COUNSEL FOR RESPONDENTS:

Mr. Krishna Kumar Singh, Adv, Adv. for respondent no.1
Mr. Vivek Singh and Mr. Gautam Singh, Adv. for State of Uttarakhand, for respondent no.2
Mr. Raj kumar, Adv. and Ms. NitiChoudhary, LA, CPCB Mr. MukeshVerma and Mr. Bikash Kumar Sinha, Adv. for UPPCB for respondent no.4
Mr. Tarunvir Singh Khehar, Ms. GuneetKhehar and Mr. CharanJeet Singh, Adv. Mr.D. K. Thakur AAG with Ms. Seema Sharma, DAG, for State of Himachal Pradesh Mr. YadavNarender Singh and Mr. Gaurav Jain, Adv.

JUDGEMENT

PRESENT:

Hon'bleMr. Justice Swatanter Kumar (Chairperson)
Hon'bleMr.JusticeRaghuvendra S. Rathore (Judicial Member)
Hon'bleMr.Bikram Singh Sajwan (Expert Member)

Reserved on: 21st April, 2017
Pronounced on: 3rd August,2017

- 1. Whether the judgment is allowed to be published on the net?**
- 2. Whether the judgment is allowed to be published in the NGT Reporter**

RAGHUVENDRA S. RATHORE (JUDICIAL MEMBER) J

1. Concerned about large scale and unchecked damage being caused by devastating forest fire, an event which takes place annually spreading across the State of Uttarakhand and Himachal Pradesh has shocked the applicant and this inspired him to file this Application before the Tribunal under Section 14 &15 of the National Green Tribunal Act, 2010. As the respondent has not chosen to take *suo moto* cognizance of the fires, such events would continue unabated, if not checked. Therefore, the applicant has sought to highlight the issue and to know as to what measures are being taken by the Central Government and the Authorities concerned to prevent further damage and curb such preventable fires. According to the applicant, for forest fire disaster preventive measures needs to be undertaken and it should be ensured that disaster mitigation strategy are provided for future.

Brief facts

2. Since last few weeks, large scale and uncontrolled forest fires have been ravaging the States of Uttarakhand and Himachal Pradesh resulting in enormous ecological damage to already endangered biological zone. The

ecological balance maintained by these regions is essential for the entire region and the country. It is submitted that press report annexed clearly states that, an eminently preventable disaster has occurred in the two States of Uttarakhand and Himachal Pradesh where for more than 2 to 3 weeks, a huge chunk of pristine forest land is affected due to uncontrolled and devastating fire. These fires have largely been caused by humans, local land mafia and other mafia who have been engaged in cutting wood for commercial purpose. There are large numbers of forest officials appointed at the expense of public money, but regardless of the same, no clear action has been taken by the said authorities.

- 3.** Further the case of the applicant is that all statues under which the present petition is filed uniformly provide, inter-alia, prevention of pollution and restoration of ecology. But in reality the situation prevailing is very different. It is clearly evident that large swathes of virgin forest lands, along with diverse biological species have already become extinct as a consequence of these preventable forests. If no urgent steps are taken, further devastation would be caused to a huge chunk of flora and fauna which are considered as wealth of the Nation.
- 4.** The petitioner has annexed newspaper reports of Times of India, New Delhi edition dated 1st May, 2016 and 3rd May, 2016. A bare reading of which provides the extent of

loss which is occurring by fires caused in these two states.

5. It has been prayed by the applicant to direct the respondents to immediately take necessary steps in order to curb existing fires in the forests of the State of Uttarakhand & Himachal Pradesh, and further to ensure that such disaster is not repeated in future and to immediately take steps to restore the ecology of these forests.
6. On having heard the learned counsel for the applicant, the Tribunal had issued notices to the respondents on 04.05.2016. Further, the respondents were directed to take specific instructions from the respective authorities as to:
- i) *What action has been taken by the respective State Government, particularly the Forest Department on the fire alerts received by them from the Forest Survey of India and they will place on record the alerts received by them for last two months.*
 - ii) *Whether the State Government and other concerned Authorities or Institute have made mapping of the forest areas which are critical as far as forest fire is concerned. If such mapping of vulnerable areas was brought before the Authorities concerned, what action was taken by them. The Departments would clearly state before the Tribunal as to what steps were taken for fire line cutting as preventive measures, amongst such other preventive measures that they have taken.*
 - iii) *What steps have been taken by the respective State Governments particularly Forest Department after the current forest fire have been noticed to prevent their aggravation and adverse impacts on environment and ecology.*
 - iv) *Both the State Governments would also submit as to whether the Madhya Pradesh Forest Fire Management Policy has been adopted and implemented by both these States or not. We may*

notice that before the Tribunal it was stated on behalf of the concerned State Governments that the Madhya Pradesh Model was ideal to be adopted and action taken in terms thereof.

- 7. A reply/affidavit has been filed on behalf State of Uttarakhand, respondent no.2 in compliance of the order dated 04.05.2016** passed by the Hon'ble Tribunal directing the respondents to take specific action in this regard. The respondent has submitted that since 6th May, 2016, no active forest fire has been detected by satellites, and no forest fire points information is received from Forest Survey of India (FSI). Almost all the recent fires incidents were of surface fire. All such incidents have been tackled and the fire in the entire region has been doused.
- 8.** The respondent has submitted that general weather conditions in the current year for the State of Uttarakhand have been displaying erratic pattern in comparison to previous years, as inferred from Indian Meteorological Department (IMD) data pertaining to temperature and rainfall. According to IMD rains have been less, as compared to previous years. Heat waves have further rendered the forest extremely vulnerable to fires across the country, and many incidents of forest fires have been reported in the current forest fire season. Further, it has been reported in the media that incident of fire have been reported by various States. Therefore, it

is evident that forest fires are affecting all across the country, and Uttarakhand is no exception. In Uttarakhand, one of the main cause of such fire is the quality of forest floor litter (majorly Pine needles) that is recognized as highly inflammable.

- 9.** The Working Plans/ Management Plans i.e. Government of India approved prescriptions for the scientific management of the concerned Forest division/Protected area prescribed to control burnt (Control Burning) annually or on a rotational basis (Rotational Burning). All the fire prevention practices are carried out every year during the winter season, immediately preceding the Forest Fire season every year.
- 10.** The weather conditions of forests in Uttarakhand are monitored by 40 Master Control Rooms, 94 Watch Towers and 1166 Fire Crew Station for fire sensitivity, detection and control of forest fires. The forest fire sensitive areas are mapped and **they are** as for which pre-fire alerts are received from Forest Survey of India, are kept on high vigil.
- 11.** In response to the questions put forward by the Tribunal, the respondent submits that Department of Forest, Government of Uttarakhand, has collaborated with various agencies and fire alerts are being received in the form of shape files through email on daily basis and then it is distributed on real time active fire points. ITGC then

downloads it and superimpose them on administrative boundaries of Uttarakhand forest to identify the near-exact location where the fire incidents have been recorded by the satellites. This is followed by generating a report in the PDF format which is being circulated to the concerned forest offices. The information thus derived is immediately relayed to concerned Officer by SMS, Email, and dedicated whats App group for cognizance. The same is also uploaded on the departmental website.

12. Forest Survey of India under MoEF&CC, Government of India has initiated a pre-warning alert system for forest fires, this year, based on several parameters including forest cover, forest type, temperature, recent fire signals etc. The Information Technology and Geoinformatics Centre, Uttarakhand forest department has received four such alerts through email in the form of shape files. Further, ITGC has developed a collaborative application over National Remote Sensing Centre's Bhuvan platform in order to utilize GIS database. Uttarakhand is the third Indian State to have such a dedicated platform over Bhuvan portal.

13. In response to the second question put forward by the Tribunal, respondent submits that all the districts within the State have prepared a district fire management plan before the onset of the forest fire season from February 15th to June 15th. The said plan incorporates the

exercise of categorizing the forest area, along the scale of vulnerability to fire in the fore-coming fire season. After ranking and categorizing the area, the regions are highlighted on forest maps by different colors. The said maps are discussed in the District Fire Management Plan meeting headed by District Magistrate. On the basis of analysis of this daily data, areas prone to fire, are indicated and the Forest Fire Crew Station of the concerned area is informed and directed accordingly.

14. It is submitted that necessary fire preventive management activities are carried out in the forest, as per the guideline issued by MoEF & CC and the concerned Management/Working Plans. Some of the activities that are carried out in vulnerable forest areas, include awareness generation programs like training/workshops, street play and distribution of publicity pamphlets. Rotational Burning/ Controlled Burning of forest floor litter are established. There are silvicultural and forest management tools that are employed to manage forest. Clearing of fire lines in the forest are essential to remove the combustible material and forest floor litter in order to frustrate any progressive fire. Further, a master control room is deployed and it is provided with wireless communication network and firefighting equipment. It serves as the base station for the firefighting crew. There is a watch tower established and it serves as a view point

that offers large sections of forests to be monitored for various activities happening inside the forest. Further a crew station is placed and it is operated by a forest guard, who instruct and mobilize the firefighting crew as and when required. There is a wireless communication network that is maintained and trial runs and mock exercise are conducted regularly to ensure their effectiveness. Further, satellite based information is operated and capacities are developed and put in place by the ITGC to receive, analyze, and derive conclusion from satellite data.

- 15.** Answering the third question put forward by the Tribunal respondent states that there are numerous actions taken by the State Government and particularly the Forest Department, to combat the recent forest fires. Like detection of fire incidence is being done through information gathered from various sources, such as local source, watchers, whats App number etc. Pre-fire alerts and warning are issued on weekly basis, and the same is also forwarded to the concerned authorities/ agencies. Further, upon receipt of information related to fire, near-most fire crew/ team is alerted and mobilized to the reported area. After putting of the fire, a preliminary report is forwarded by the local crew station to the divisional MCR at the respective headquarters. The Uttarakhand forest department, has created a website

that has dedicated and prominently displayed links which deals with issues pertaining to fire.

16. It is also submitted that the Governor of Uttarakhand has been monitoring the forest fire issues regularly and he has held meetings/video-conferencing to monitor forest fires. He has issued instructions for control of fires. Incident of fire took place on 27th & 28th April and immediate decisions and action was taken at the highest level. Necessary directions were also issued to the DMs, SPs, DFOs and others officers of the State.

17. The forest department has increased the number of Fire Watchers on the ground from 3000 to 6000. About 500 employees from the firefighting department have been engaged for forest fire protection. Tankers have been engaged to supply water to the water holes in the protected area and other wildlife rich areas. Wildlife rescue rapid response squads are established in the National Park and Wildlife Sanctuary. Every district has established a District Forest Fire Control Room for monitoring forest fire cases on daily basis. Pre-fire alert systems for next seven days, potentially fire sensitive areas, are being uploaded on departmental website. Further, Bhuvan Portal and the extended weather forecast for next 15 days is being uploaded on the website. An amount of Rs. 35 Crores has been provided, out of SDRF, to the districts for disaster relief. The state

Emergency Operation Centre & District Emergency Operations Centre were up-scaled during this period for combating forest fire.

18. Answering the fourth question put forward by the Tribunal, it is submitted that the Government of Uttarakhand has been managing its forest in light of working plans and guidelines issued by MoEF&CC, from time to time. Further, it is stated that all the practices followed by Madhya Pradesh Government towards protecting its forest from fire are also being followed by Government of Uttarakhand.

19. It is stated that forest fires are an integral component of forest ecology. It has an important role in promoting biodiversity and hardy timber species. Most of the forest fires in Uttarakhand are anthropogenic and the main reasons are negligence on the part of local villagers, tourists etc. Further, the role of local land mafia and other mafia who have been engaged in cutting wood for commercial purposes is subject to investigation and where it is indicated, action will be taken under relevance provisions of law.

20. It is agreed that burning of forest floor litter, especially pine needles, releases a large amount of smoke in the atmosphere, and pollutes it. The SPCB Uttarakhand, has deputed teams for 6 stations in the hilly area of the State to measure the air quality in the fire season. The results

are awaited and as per State of India's Forest report, 2015, Uttarakhand has 3800000 Hectares of Forests, of which about 4015.50 hectares were impacted by forest fires. i.e. approximately 0.1% of the total forest in Uttarakhand.

21. The said department also proposes to prepare Biological Check Dams using pine needles on a large scale. This will reduce the biological fuel load in the pine forest. The alternative use of pine needles-like energy Production, fuel brickettes, etc. are being seriously contemplated.

22. In compliance of the order dated 04.08.2016, an affidavit has been filed on behalf of State of Uttarakhand, through Principal Chief Conservator of Forest. It has been deposed in the affidavit that MoEF, in para 6 of the affidavit dated 27.06.2016, has wrongly stated that the State of Uttarakhand is yet to submit the Crisis Management Plan. It is submitted that the State of Uttarakhand had submitted its Crisis Management Plan to MoEF i.e. to Assistant Inspector General of Forest, Ministry of Environment and Forest, on 17.06.2016 and also through email on the same date.

23. A reply affidavit on behalf of State of Uttarakhand has been filed in response to the affidavit filed by MoEF.

It is submitted on behalf of State of Uttarakhand that it has already submitted its response on 16.08.2016 to the affidavit dated 27.06.2016 filed by MoEF whereby it was

wrongly stated, in para 6 of the affidavit, that the State of Uttarakhand had not submitted its Crisis Management Plan to MoEF. The respondent State had already submitted its Crisis Management Plan to MoEF on 17.06.2016. The “Crisis Management Plan” submitted by respondent State of Uttarakhand covers all the aspects/parameters instructed by MoEF& CC except Forest Fire Plan in set performa, which is to be submitted by October 2016 as per the direction given by MoEF & CC vide letter dated 20-01-2016 for the coming fire season. This information has already been sent to MoEF & CC vide letter no 221/27-7 dated 20-09-2016.

- 24.** During the course of instant proceedings, the Tribunal issued direction to the State of Himachal Pradesh and Uttarakhand to submit before the MoEF the Crisis Management Plan for forest fire, prevention and control, as prepared by them. As per the ministry this matter was pending since 2010, therefore, MoEF was directed to file the details to the States which have not responded to their reminder and not submitted the crises management plan. Further, they were directed to file the causes for such fire which they have found as a result of their studies as well as the action plan prepared for prevention and control of forest fire in the country, as disclosed by them by a public declaration on 10th May, 2016.

25. On 27th January, 2017 the counsel for MoEF had submitted a chart to show the status of CMP submitted by different states, out of which CMP of 4 States have been approved and the rest are pending. The Ministry was ordered to act with expeditiousness and ensure protection of forest from fires. The officer of MoEF&CC, present in person had also assured that immediate steps would be taken to finally dispose of all the CMPs. Further he had assured that with reference to the national guidelines issued by the Ministry of MoEF for protection of forest from fire, he would prepare directions under Environment (Protection) Act 1986 which needs to be issued to the States, Pollution Control Boards and particularly the forest departments of the respective States.

26. In view of the submissions made by learned counsels for MoEF and the officer present, the Tribunal had issued following directions on 8th November, 2016:

1. *By 30th January, 2017, the mail shall be sent by him to all the State Governments through their Chief Secretaries and the Secretary concerned and the Department concerned of the State Government pointing out the pendency of their CMPs and the deficiencies thereof.*
2. *In the mail sent to them, the date on which the concerned Officers, who are to be the Senior Officers of their Departments, would be called for meeting along with the time. Time for meeting shall be provided with effect from 6th February, 2017 everyday and on day-to-day basis.*
3. *Immediately, thereafter, upon furnishing of all the requisite information it should be ensured by all concerned without delay and default that final orders of approval or rejection of the CMP should be*

passed by the Ministry of Environment, Forest and Climate Change.

4. *With reference to the National Guidelines for protecting forest fires, directions shall be prepared by Ministry of Environment, Forest and Climate Change and placed before the Tribunal which Ministry may propose to exercise in terms of the power vested in it in terms of Section 3 and 5 of the Air (Prevention and Control of Pollution) Act, 1981 read with Environmental (Protection) Act, 1986 and Forest (Conservation) Act, 1980.*

27. In rejoinder to the reply of State of Uttarakhand it has

been submitted by the applicant that the reply affidavit filed by respondent no. 2 is not a site specific report. But is trying to project an ideal text book like chapter on firefighting management without dealing with the ground realities pertaining to State of Uttarakhand. It is important to mention that, there is tremendous geographic/altitudinal variation within the State. The terrain ranges from 200 meters to nearly 7817 meter, above sea level.

- 28.** As there is variation in gradients within the State of Uttarakhand, when it comes to tackling forest fires, effective guidelines need to be put in place to ensure that there is a distinct plan of action which is enforceable for different parts of the State. For example, the action plan which is effective for tackling forest fires at the lower plains cannot be the same which can be implemented at inaccessible heights, in low visibility areas, etc.

- 29.** The ecological importance of the State of Uttarakhand, has not been understood by the forest officials appointed

by the department of respondent no.2. The State comprises of 13 districts and the town of Kedarnath falls within Rudraprayag District, one of such district. As such, providing fire management plans for one such town does not indicate the manner in which fires are tackled in the fire-seasons throughout the State of Uttarakhand. Therefore the concerned forest officials adopted a lackadaisical approach and did not appreciated the gravity of the situation so as to frame a comprehensive and site-specific Fire Management Plan.

30. The State of Uttarakhand, the lesser Himalayan Region comprises of nearly 51% of the total geographical area and most of the forest fires that have been reported by the department are from the reserve forest areas in the State. The applicant has submitted that within the state of Uttarakhand, villages, Civil Forest and Van Panchayats are an integral part of the ecosystem and the forest Department has completely neglected the said population. With the focus of forest department being on dousing forest fires in the reserve forest area, this merely indicates that there is no provision of funds at village level or for the civil forests or van Panchayats.

31. When one deals with the aspect of training and sensitizing villagers, which is an integral part of participatory Management, it needs to be kept in mind that large scale out-reach programs need to be carried

out. As such, the data pertaining to the meetings held are negligible and it appears that the meetings must have been carried in a perfunctory manner without any real involvement by the forest department, or at the onset of the fire season. Even if respondent no.2 states that meetings were held, a sample of such meetings including the agenda discussed and resolutions passes, if any, should have been filed.

32. Applicant alleged that there exists a grave mistrust and disconnection between the villagers and the forest department. No attempt has been made by the department to remove the mistrust and ameliorate any difficulty that works inter-se the villagers and the officers of the forest department. The policy of revenue generation, although important, works in isolation to the National Forest Policy of Participatory Management.

33. Within the forest department, the higher level officers have been facilitated with several avenues of promotions in their cadre, but for the field staff, Forest guards and Foresters, no promotion avenues have been set into place and no recruitment drives have been conducted. Forest guards are the backbone of the forest department. Currently, it has been noticed that there are 3650 posts of forest guards in Uttarakhand, out of which 30% are lying vacant because their service rules have not been amended since 2011. This is only because of the

indifferent attitude of the forest department. This would naturally indicate that there is high degree of pessimism seeping in at lower level of Forest Guards, and Foresters, who feel disillusioned with the manner in which the forest department carries on its operations.

- 34.** On having received the rejoinder filed by applicant, request was made on behalf of State of Uttarakhand that as new facts have been incorporated in the rejoinder, they may be given permission to file a sur-rejoinder. Liberty to file sur-rejoinder was granted by the Tribunal on 27.05.2016.

The sur-rejoinder affidavit was filed on behalf of state of Uttarakhand, through their Principal Chief Conservator of Forest. While denying the allegations made in the rejoinder, it has been deposed that each forest division has prepared a site specific fire management plan. A consolidated forest fire management plan for each district was prepared and it was discussed at length in the district level fire management committee consisting of officers of different department and headed by District Magistrate.

- 35.** It has also been submitted that the forest officials are qualified and professionally trained to manage the affairs of forest management. Each forest division and district also has site specific fire management. They are duly prepared in time and are in place for each forest division.

Further it is stated that forest fire incidents in one Panchayat and civil forest were also reported by the forest department as nodal agency, though these forest areas are under the administrative control of the revenue department. The details of each and every fire incident of reserve forest, Van Panchayat and civil forest areas are in public domain, as available on website of the forest department of the State.

- 36.** It is deposed that meetings of the district and field level had actually been held. The meetings at the village and the field level are largely informative in nature and the main purpose of such meetings is to create awareness among the stakeholders. Such meetings were mainly conducted in those villages and blocks which were located in forest fire sensitive zone or forest fringe areas, although awareness programs like rallies, pad yatras, sanitization announcement, street plays etc. were carried out in many villages. Appeal on television channels and newspapers found mass circulation.

In pursuance of National Forest Policy, 1988, forest department has been working closely with the local communities to actively involve them in forest management activities, including forest fire management through many programs like strengthening of Van Panchayat, Women Nursery Development Scheme,

HmaraDhanYojna, Hmara School HmaraVrikshaYojna etc.

37. It has also been submitted that efforts are made to encourage peoples' participation in different aspects of forest management which is evident from para 2.9 of Uttarakhand Forest Policy, 2011. As per the policy, the primary emphasis of the forest department is on conservation rather than revenue generation. Reserve forest areas are being managed, as per the management plan/working plan duly approved by Government of India. Further it has been submitted that 65% of the geographical area of Uttarakhand is not under the control of forest department. As per the statistics of the year 2014-15 of Uttarakhand Forest Department, 45.4% of the geographical area of the State is reserve forest. In cases of encroachment, illegal felling of trees and other forest offences, action is taken in accordance to the provision of the Indian Forest Act, 1927 and other related Acts and Rules.

38. It has been deposed that as far as felling of 176 trees in Pandit G.B Pant High Altitude Zoo, Nainital is concerned, an enquiry was conducted and it was found that 261 trees of oak species of 0-10cm and 10-20cm diameter classes and 03 trees of deodar of 0-10cm diameter class were removed from time to time, by orders of DFO, Nainital forest division from the enclosures of the

herbivores in Nainital Zoo, as a part of thinning for enrichment of habitat within the enclosures and removal of dry and debarked trees.

Central Zoo Authority in its direction for renewal of recognition of Nainital Zoo had also directed for thinning of trees within the enclosures for improvement of habitat.

In case of illegal felling of 31 trees in Kapilishvar block of Nainital forest division, it is stated that an enquiry was conducted wherein it was found that 31 chir pine trees have been felled. In this regard disciplinary proceedings have started against the erring officials.

39. It is also submitted that the posts of Forest Guard, Forester, Deputy Ranger and Forest Ranger have also been increased for restructuring of the forest department in 2006. Increase in number of posts during restructuring of the department are done with an object of intensive forest management and reduction of forest area (beat) under each Forest Guard. Reorganization of forest beat (manned by Forest Guard) has been done vide order dated 11.12.2008, whereby forest beats have been increased from 1162 to 1569. Therefore, average beat size have now come to be of about 1546 hectares.

40. It has been deposed that the forest department had undertaken all necessary action for managing the forest fire. In view of the high vulnerability of forest fire due to extremely high temperature and low humidity, during the

last week of April, 2016, services of M-1-17 helicopters were taken additionally, which were provided by Government of India. It has been further submitted that extensive use of jhapa, as suggested, has been done in controlling forest fire in Uttarakhand. This has been most effective means to beat the forest fire. Counter fires were also resorted to control the high intensity forest fire in inassessable and difficult terrain.

- 41. In compliance of the order dated 04.05.2016, the State of Himachal Pradesh submitted an affidavit through its Principal Secretary Forest.** It was deposed that preparatory meeting was taken up by Hon'ble Forest Minister at Dharamshala and two video conferences were held by Principal Chief Conservator of Forests in preparation of forest fire prevention and management and for motivating the staff to be proactive in managing forest fires.
- 42.** Further in view of MOU signed by GIS Cell of Himachal Pradesh Forest Department at Shimla, forest fire alerts are directly received from National Remote Sensing Centre (NRSC) Hyderabad. These fire alerts are received twice a day when the satellite overpass. These fire alerts depict the exact position of forest fire. The transmission of these messages helps in early detection of forest fires and their control.

- 43.** It has been deposed that Himachal Pradesh forest department has prepared a “Forest Fire Risk Zonation map of Himachal Pradesh”. The map is divided into three fire zones namely Highly Sensitive beats, Moderately Sensitive and less Sensitive beats. Greater emphasis is paid in preventive steps in the highly sensitive beats, followed by Moderately sensitive beats.
- 44.** Himachal Pradesh forest department is managing the forest fires through the centrally sponsored scheme: Intensification of Forest Management Scheme (IFMS). The main objective of this scheme is to control forest fires in the State of Himachal Pradesh.
- 45.** State forest department has devised a calendar of activities to be followed during forest fire season and it has been circulated among all the field functionaries for carrying out the activities to control and combat the forest fires according to the schedule prepared from 15th March to 15th July, every year.
- 46.** State of Himachal Pradesh has also filed an affidavit through their Chief Conservator of Forest in compliance of the order dated 4th August 2016. It has been submitted that the Crisis Management Plan on forest fires in Himachal Pradesh has been sent to Assistant Inspector General of Forest (Forest Protection Division), Govt. of India, MoEF, vide letter No. Fts (BLP) Forest Fire 2016-17/1783 dated 17-08-2016 and through E-mail on

the same day. Therefore the State of Himachal Pradesh has already submitted the Crisis Management Plan to MOEF & CC, complying the order of the Tribunal.

47. A reply affidavit has been filed on behalf of Ministry of Environment and Forest, respondent No. 1, through its Assistant Inspector General of Forest. It has been deposed that the original application has been pursued and its contents have been understood. Further, it is submitted that this affidavit is being filed to indicate the basic stand and role of the Ministry in the present matter. It relates to forest fire reported in the newspapers in the State of Uttarakhand and its extension and effect in the forest of State of Himachal Pradesh.

48. The deponent has denied all the allegations and contentions raised against the Ministry in the present application and it has been submitted that the same may be deemed to be specifically traversed and denied.

49. It has been deposed that forest is a Concurrent List subject in the Seventh Schedule of the Constitution of India. The responsibility of management of forest including forest fire control and management lies with the State Government. However, the Ministry had alerted the States prior to onset of the current fire season, vide its letter dated 20th November, 2015.

50. Further, it has been deposed with regard to the issue of rising forest fire in the State of Uttarakhand. It has been

submitted that as per the information received from the Government of Uttarakhand 1681 fires have been reported during the current fire season i.e. upto 4th May, 2016, effecting 3738.94 hectares of area causing an estimated damage of Rs. 18,01,695. As per the latest information received from the State of Uttarakhand 2060 fires have been reported upto 30th May, 2016 effecting 4412.45 hectares causing an estimated damage of Rs. 46,10,925. The most effected districts are PauriGarhwal, Nainital, Almora, Rudraprayag, Chamoli, Pithoragarh, Tehri and Dehradun. As per the information received from Government of Himachal Pradesh 1304 fires have been reported upto 2nd June 2016 effecting 11774.55 hectares of land causing an estimated damage of Rs. 1,35,80,596.

- 51.** It has been submitted that Ministry has also issued guidelines to all States/UTs for preparation of State Level Crisis Management Plan (CMP) for forest fire, vide letter dated 29th January, 2010 and various reminders have been issued. The latest reminder was issued on 16th September, 2013. So far 15 States and UTs have prepared Crisis Management Plan. The State of Uttarakhand and Himachal Pradesh are yet to submit the same. In the review meeting held in the month of May 2016, with the State/UTs, the matter was discussed as

part of the agenda. The States which have not submitted their plan were requested to expedite and submit it soon.

52. An additional affidavit has been filed by Ministry of Environment and Forest on 29th of August 2016 in furtherance of the directions given by the Tribunal on 4th August, 2016. It has been deposed that as forest is a Concurrent List subject in Seventh Schedule of the Constitution, the response of management of forest including forest fire control and management lies with the State Government. The Ministry had alerted the States, prior to onset of the current fire season, vide letter dated 30th November, 2015 and had also asked them to utilize the inputs of the study by Forest Survey of India Dehradun titled “Vulnerability of India’s forest to fire” wherein certain districts were identified to be more vulnerable to forest fire.

53. Further it has been submitted that the Ministry has issued guidelines to all States/UTs for preparation of State Level Crisis Management Plans (CMPs) for forest fire, vide letter no 1-6/2006-FPD dated 29th January, 2010 and various reminders have been issued, the latest of which was on 23rd May, 2016. So far 17 states and UTs have prepared Crisis Management Plans (CMPs). State of Uttarakhand has submitted CMP on 10th June, 2016 and State of Himachal Pradesh has submitted CMP on 17.08.2016.

- 54.** In pursuance of the order of the Tribunal dated 4th August 2016 the Ministry had once again issued reminders to the remaining States for submitting CMP. Even the States who had submitted their CMPs earlier had also been asked to update it for the current year.
- 55.** As per the aforesaid report of Forest Survey of India the forest fire occurrence in India is more anthropogenic in nature than natural. People living in and around forest areas generally burn understory vegetation and grass in forest for stimulating fresh undergrowth of fodder for their livestock. Deciduous and dry forest of the lowland and the coniferous forest in the lower and middle elevations are regularly burnt.
- 56.** As per the direction of the Tribunal dated 08th November, 2016 the Ministry of Environment and Forest filed an additional affidavit on 17.12.2016. It has been deposed on behalf of the Ministry that it had been issuing advisories to State/UTs on forest fire preparedness, for effective prevention and management of forest fire. The last advisory was issued on 17.11.2016. The Ministry had also issued guidelines to all States and UTs for preparation of State Level Crisis Management Plan for forest fire on 29th January 2010 and subsequent reminders on 27.06.2013, 16.09.2015, 23.05.2016 and 12.08.2016.

It has been submitted that so far 33 States/UTs have submitted their Crisis Management Plan and as per direction of the Tribunal dated 08th November, 2016 the same are under examination by the Ministry for approval of competent authority. The Ministry has once again issued reminders to the States of Jammu & Kashmir and Lakshadweep Islands have not submitted their Crisis Management Plan so far, to submit the same immediately as per the guidelines of 4th November, 2016. The State/UTs who have already submitted their Crisis Management Plan have also been asked to update the same for the current year, vide letter dated 4th November, 2016.

Meeting for effective prevention and management of forest fire for the ensuring fire season was scheduled on 14th December 2016 with the nodal officers/ senior officers dealing with forest protection matters of States/UTs. Communication in this regard to all the concerned had been sent on 28th and 29th November, 2016.

57. Subsequently on 17th March 2017, the Ministry of Environment of Forest had filed their written submissions in compliance of orders dated 25.01.2017 and 27.01.2017. It was submitted that in compliance of first, second and third directions, the answering respondents had immediately sent mail to all State Governments and

Union Territories on 30.01.2017. The dates of meetings were fixed w.e.f. 06.02.2017. The respondent has also sent the approved format for preparation of Crisis Management Plan (CMP) for forest fire.

58. The MoEF has received CMPs from 33 states and Union Territories. These CMPs were examined and 30 of them were found to be complete and in order. The same have been approved by the Ministry.

59. In an effort to get complete CMPSs from all the states/UTs, the MoEF& CC has conducted several rounds of meetings with the states/UTs and has also sent several letters, reminders and emails to them.

60. Out of the remaining six states/UTs, the draft CMPs received from Jharkhand, Rajasthan and West Bengal were examined in the Ministry. The deficiencies have been communicated to the states with a request to send the revised plan, duly incorporating the details as per the observation of the Ministry, at the earliest and the same is still awaited.

61. In respect of remaining three states/UTs, namely Gujarat, J&K and Lakshadweep Islands, the matter is being pursued to finalize and submit CMP at the earliest. In compliance of fourth direction, it is stated that the Ministry has prepared the draft direction to be issued to all States & UT Governments and the competent authority has approved the same.

62. A **reply** to the original application has been filed on behalf of **Himachal Pradesh Pollution Control Board, Respondent No. 6** wherein preliminary submissions have been made stating that the present application in general relates to issues of forest fires which does not fall within the mandate of the respondent Board. Hence their application deserves to be dismissed qua the replying respondent. Further, it has been submitted that the department of forest, Government of Himachal Pradesh has the mandate to protect the forest from fires which has not be arrayed as party respondent.

63. The contents of the application relates to issues of damage to the ecology due to forest fire in the State of Uttarakhand and Himachal Pradesh which pertains to forest department and it is the concerning agency to take preventive/mitigative action under Indian Forest Act, 1927 and Forest Conservation Act, 1980. It has also been deposed that the answering respondent Board has been created and functioning under the provisions of Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 in which there is no mandate to the respondent Board to regulate and control the forest fires. The forest department of Government of Himachal Pradesh is the nodal department to regulate and control the forest fire

under Indian Forest Act, 1972 and Forest Conservation Act, 1980.

Therefore on behalf of Himachal Pradesh Pollution Control Board, respondent no. 6 it has been prayed that the present application be dismissed, qua them.

- 64.** On having received the rejoinder filed by applicant, a request was made on behalf of State of Uttarakhand that as new facts have been incorporated in the rejoinder, they may be permitted to file a sur-rejoinder. Liberty to file sur-rejoinder was granted by the Tribunal on 27.05.2016.

A reply affidavit has been filed on behalf of Central Pollution Control Board, respondent no. 4, through its Additional Director, Dr. Sanjeev Agarwal. It has been deposed that the most common hazard in forest is forest fire. Forest fires are as old as forest themselves. They pose a threat not only to the forest but also to the entire regime of flora and fauna disturbing the biodiversity, the ecology and environment of a region. The Himalayan forests, particularly Garwhal Himalayas have been reported burning regularly during the last few summers, with loss of vegetation cover of that region.

- 65.** It has been further submitted that forest fire season is not similar in the entire Country. It depends upon various factors such as type of vegetation, the climate, etc. Though the major forest fire season in the country varies from February to June, but some forests are not

safe from fires throughout the year. Control of forest fires is the mandate of State Government particularly the forest department.

66. It is also submitted that the recent initiative/ achievements by the Government of India is regarding real time monitoring. The Forest Survey of India (FSI) has been monitoring forest fires across the country on real time basis by using MODIS satellite data and GIS based technology. From year 2012, FSI under collaboration program with NRSC/ISRO, started disseminating fire signals on real time basis.

67. Forest fire is a natural disturbance process that accelerates or triggers ecosystem change, shapes long term vegetation distributions and characteristics, impacts productivity and biodiversity and moves carbon among terrestrial and atmospheric pools (i.e, the carbon cycle). Photosynthetic fixation of carbon dioxide (CO₂) by green plants and other autotrophs sustains life on earth by moving carbon from atmospheric to terrestrial pools, and by helping to regulate the global climate (Braakman and Smith, 2012; Lenton et. al., 2012)

68. Forest fires essentially are 'quasi-natural', which means that they are not entirely caused by natural reasons (like volcanoes, earthquakes and tropical storms), but are caused by human activities as well. The causes vary around the world. For example, in Canada, the US and

Australia, lightning strike is a major source of fires, while in Mexico, South America, Africa, Southeast Asia, Fiji and New Zealand, these fires can be attributed to activities such as animal husbandry, agriculture, etc.

69. In India, as per the Forest Fire Disaster Management Report published by National Institute of Disaster Management, more than 95 % of the forest fires are due to manmade causes. While the majority of the forest fires are caused by human beings deliberately or due to negligence, the anthropogenic causes of forest fires include shifting cultivation carried out by farmers, setting fires to produce new flushes of grass in the dry season, fires started by poachers and smugglers to hide the stumps of illicitly felled trees, fires set by villagers to clear off path of dry litter, facilitating collection of non-timber forest products by igniting fire, setting agricultural fields on fire after a harvest, fires set by villagers residing in or near the forest to keep the wild animals away from their crop and cattle, disposing un-extinguished cigarettes, bidis, and match sticks in the forest areas, un-extinguished camp fires, sparks from transformers installed in the forest area etc. The non-maintenance of fire lines—a gap in vegetation or other combustible material that acts as a barrier to slow or stop the progress of a forest fire, a practice followed since the

inception of scientific forestry in India, is yet another reason.

Forest fires have an adverse impact on the ambient air of the region. The 1997 Indonesian forest fire is a case in point. It is estimated that this fire had released between 0.81 and 2.57 giga-tonnes of carbon dioxide into the atmosphere, which ranges from 13% to 40% of the global carbon emissions caused by burning of fossil fuels.

(P.P Sanghal: Financial Express May 24, 2016)

- 70.** Forest fires in forested ecosystems are one of the primary mechanisms that regulate patterns of carbon storage and release. Wildfires in forested regions are a critical link in the global carbon cycle, as forests store about 45 % of terrestrial carbon and may sequester up to 25 % of annual anthropogenic carbon emissions. When wildland fires occur, biomass is converted to carbon emissions, water, and energy, with the amount of biomass consumption and carbon release dependent on wildland fire extent and combustion characteristics; these in turn are driven by pre-disturbance site conditions and productivity, and the organizing influence of climate. Thus, release of carbon from wildland fires is climate- and disturbance regime-dependent and is highly ecosystem specific.

Current research suggests that climate changes may increase wildfire frequency, extent, and amount of high severity fire. Changes in fire regimes may be

accompanied by persistent shifts in vegetation composition and structure, and concomitant shifts in carbon storage and sequestration potential.

71. Emissions released by forest fires include CO₂, carbon monoxide (CO), and methane (CH₄), organic aerosols and black carbon, non-methane organic compounds, nitrogen oxides (NO_x), and Sulphur dioxide (SO₂). The Chemical composition of smoke is also related to the amount of smouldering and flaming combustion that occurs during the fire; for example, flaming combustion typical of burning of fine woody fuels, grass, litter, and foliage produces CO₂, nitrogen oxide (NO), and nitrogen dioxide (NO₂), among others, while smouldering combustion of large diameter woody fuels and ground fuels produces CO, CH₄ and ammonia (NH₃).

72. Fire emissions contribute to climate change by: (1) increasing greenhouse gas concentrations, thereby increasing atmospheric radiative forcing, (2) increasing aerosol concentrations, thereby increasing reflectivity of incoming solar energy, and (3) changing the earth's albedo by depositing more light absorbing particles (e.g., black carbon) at the earth's surface. Emission estimates identify CO₂ as the gas most heavily emitted by biomass burning; CO₂ is also the dominant greenhouse gas contributor to global climate change because of its heat absorbing characteristics and very long residence time in

the atmosphere (Lacis et al., 2010). Anthropogenic emissions of CO₂ since the Industrial Revolution, as a by-product of combustion of carbon-containing fuels, have contributed to a 40% increase in the atmospheric concentration of carbon dioxide from 280 to 392.6 parts-per-million (ppm) in 2012. Biomass emissions are the second largest source of trace gases (after fossil fuel emissions) and the largest source of primary fine carbonaceous particles in the global troposphere. (William T. Sommers et al: Forest, Ecology and Management, 317 (2014))

- 73.** In addition to emissions of CO₂ and other greenhouse gases, forest fires emit aerosols including black carbon that affect the efficiency of both atmospheric and surface absorption of solar energy, with resultant cooling and or warming effects. Black carbon (BC) in smoke particles displays some different radiation and climate effects by warming the middle and lower atmosphere, leading to a more stable atmosphere. Black carbon also plays a key role in the smoke-snow feedback mechanism. In the air black carbon absorbs solar radiation and warms up the atmosphere, worsening snow melting and interfering with cloud and rainfall. Forest fires have a devastating effect on the region's glaciers. In fact, glaciers of Uttarakhand, which are the life line of major north Indian rivers, have been covered by 'black carbon' (due to incomplete

combustion of fossil fuels/biofuels and fires), causing them to melt faster. According to some studies, this has already led to a rise in temperature by 0.2 degrees Celsius across northern India; this can have a detrimental effect on the monsoon rainfall, besides the heavy loss of valuable timber biodiversity and medicinal plants wealth. Furthermore, the streams formed from melted glaciers, which get contaminated due to the presence of black carbon, then flow into the major north Indian rivers thereby causing further pollution. A Report published by Ministry of Environment and Forest and Climate Change on black carbon in 2011 found significant impact of the South Asia's black carbon emissions on the Mount Everest region. As per the Report, the black carbon concentrations over the Himalayas and on glaciers cannot be neglected and requires systematic investigation. According to some studies, this has already led to a rise in temperature by 0.2 degrees Celsius across northern India; this can have a detrimental effect on the monsoon rainfall, besides the heavy loss of valuable timber biodiversity and medicinal plants wealth.

- 74.** One of the significant causes of forest fires is the presence of Chir Pine forest which dominate the Himalayan eco-system. The hills support both Chir pine and Oak forests and it is the forests under Chir pine that

are affected by forest fires due to the presence of highly combustible needles which fall on the forest floor during winter and the resin content in Chir pine trees and stumps and dead branches on the forest floor and as a consequence thereof the frequency of the forest fire has increased alarmingly. Forest fires do enormous damage by destroying the entire ecosystem of insects, butterflies and reptiles; they also lead to deaths of thousands of larger animals and create various health hazards like asthma and other respiratory diseases for human beings. Forest fires besides killing the animals and the associated biodiversity, also destroy their habitat posing a serious risk and their survival in the long run.

- 75.** The State of Uttarakhand and HP despite a semblance of Forest Fire Management Plans have failed to take preventive steps required as a precautionary measure. The result is loss of forest biodiversity, degradation of environment and air quality in particular thereby affecting public health besides leading to a long term effect of climate change. Precautionary principle is one of the basic principles of environmental jurisprudence and is linked to Article 21 which provides for right to clean environment as a fundamental right.

Supreme Court of India in *MC Mehta vs Union of India* [(1997) 3 SCC 715] held as under:

“The precautionary principle has been accepted as a part of the law of the land. Article 21, 47, 48A and 51A (g) of the Constitution of India give a clear mandate to the State to protect and improve the environment and to safeguard the forests and wild life of the Country. It is the duty of every citizen to protect and improve natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures. The precautionary principle makes it mandatory for the state Government to anticipate prevents and attacks the causes of environmental degradation. We have no hesitation in holding that in order to protect the two lakes from environmental degradation it is necessary to limit the construction activity in the close vicinity of the lakes.”

76. Despite the National Forest Policy 1988 which in Section 4.8.2 acknowledges the high occurrence of forest fires in the Country and thereby mandates special precautions to be taken during the fire season through improved and modern management practices, the State authorities have miserably failed in preventing an avoidable natural disaster despite the so called Forest Fire Management Plans being in place with all its attendant components and activities provided therein.

The Supreme Court in *Indian Enviro-Legal Action Vs Union of India* [(1996) 5 SCC 281] held that

“Enactment of a law but tolerating its infringement is worse than not enacting a law at all... Continued tolerance of such violations of law not only renders legal provisions nugatory but such tolerance by the Environment authorities encourages lawlessness and adoption of means which cannot or ought not to be tolerated in any civilized society... Violation of Anti-Pollution laws not only adversely affects the existing quality of life but non enforcement of the legal provisions often results in ecological imbalance and degradation of environment the adverse effects of which will have to be borne by the future generations.”

77. The Central Government has also been a mute spectator in this natural calamity and ecological disaster which keeps repeating itself with greater intensity and devastation year after year. Except for routinely clearing the Forest Fire Management Plans and releasing funds mechanically, the impact of its policies and scheme on the ground has rarely, if any, been made. This despite the fact that Sub section 1 of Section 3 of the EP act 1986 confers powers on the Central Government to take all measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. This despite the fact that Sub section 1 of Section 3 of the EP act 1986 confers powers on the Central Government to take all measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution.

78. The applicant has also relied on the history of lack of trust between the villagers and the Forest Department to argue that villagers set the forests to fire in the hope of getting better grass growth during subsequent months for the purpose of grazing. While this has been the past history right from the British era however the Forest

Department disputes by arguing that a number of scheme of participatory management of forests have been initiated in the last few years which have given benefits to villagers thereby bridging the gulf of mistrust that used to exist. The schemes like Van Panchayats, women's nursery, HamaraPed, Hamara DhanYojana, Hamara School hamaraVrikshyojana etc. have been able to bring the Forest Department and the local people together.

79. We have heard the learned counsel for the parties and carefully perused the record. The Forest Department has argued that they have a comprehensive fire management plans in place which is implemented in true letter and spirit. The Plan not only has the pre-fire alert system but there are several activities like mapping of areas that are vulnerable to fire and setting up stations at such locations, involvement of villagers in fire prevention and control setting up a cell not only at the state level but each District level/Division level cutting of fire lines prior to the fire season and engaging villagers in the fire prevention and control if the fire dies take place, Adequate financial resources are made available to the department within the budgetary resources available to the forest department for the purpose. However we are not convinced that despite all these measures which the Department claims to have put in place, there is still forest fires occurring year after year with greater ferocity

and extent of damage that is caused to the forests and the biodiversity but increasing release of emissions in to the environment.

80. The Forest Department has also argued that the state has about 71% area under forest out of which 26% of the forests are pine forests which due to the fall of pine needles on the forest floor prior to the fire season are highly combustible and that of despite the attempts of the forest department to take all preventive steps like fire line cutting and even using the pine needles for the manufacture of briquettes, the forests fire did still occur. One of the reasons for high incidence of fire during the year 2016 was the extremely low rainfall thereby causing a serious moisture deficit in the soil and in the forest areas in general, thereby making conditions conducive to the occurrence and spread of forest fires. Similar arguments have been advanced by the State of Himachal Pradesh.

We do see merit in this argument but are constrained to observe that a better advance planning and implementation of the Fire Management Plan and Crisis Management plan for Forest fires could have prevented the large scale fires that engulfed the Himalayan States of Uttarakhand and Himachal Pradesh.

81. In view of the aforesaid facts and circumstances we dispose of this application with the following directions:

- i. The MoEF & CC should in consultation with the States formulate National policy/Guidelines for forest fire prevention and control, which should be updated periodically. It should also issue directions under Section 5 of the Environment Protection Act, 1986 to the States to prepare and implement forest fire management plan for effective prevention and control of forest fires in the respective States. First lot of such policy should be issued within 3 months from the date of passing of this judgment.
- ii. Considering that forest fires can create serious environmental hazard and disaster, we direct that the Chief Secretary of the State shall along with concerned State Departments review implementation of the Forest Fire/ Crisis Management Plan of the State to take effective steps, so as to prevent and control forest fires and execute relief, rehabilitation and restorative measures, in the event of forest fires. They shall ensure that adequate resources and manpower are placed at the disposal of the concerned Department for the aforesaid purposes.
- iii. The financial resources, manpower, transport/vehicle and firefighting equipment should be made available to the Forest Department both at the State and district/Division level, at the beginning of the

Financial Year so that Forest Fire Management Plan could be implemented in totality and effectively.

- iv. The department should, as a part of the Management Plan, carry out forest fire vulnerability mapping of the entire forest area, identify highly hotspots of fire in vulnerable areas and locations where stations for fire prevention and control could be set up and necessary manpower and equipment provided for monitoring and disseminating alerts for timely intervention.
- v. In order to ensure effective participation of people living in villages close to the forests in prevention and control of forest fires, the labour for fire prevention and control should be sourced preferably from the same area and special incentive provided to such labour force considering the risks and hazard associated with forest fire control measures.
- vi. The Forest Fire Management Plan should be prepared with active partnership of the village level Panchayati Raj Institutions, Van Panchayats and should be revised every year based on the experience gained.
- vii. The satellite based Forest Fire Alert System should be strengthened in collaboration with National Remote Sensing Agency (NRSA) and the Forest Survey of India and the field staff trained in prevention and control. Use of social media, print and electronic media and a dedicated web site should be created for

the purpose of information dissemination and the officers to be contacted in the event of Fire.

- viii. A Sufficiently Senior Officer, at Least of the level of Chief Conservator of Forests, should be designated to oversee the Fire prevention and control at the state Head Quarters. He should be able to coordinate with other Government Agencies in the event of outbreak of Fire and mobilize resources and manpower. The cell should commence its functioning and operational preparedness at least two months before the commencement of fire season so that it can plan its operation and mobilize resources, manpower and machinery besides carrying out mock drills well before the fire season.
- ix. MoEF should while approving the Fire Management Plans/Crisis Management Plan of various states disseminate the best practices to the states based, on the experience both within the Country and abroad.
- x. A network of automated surveillance or watch towers /observation posts should be set up at strategic locations to provide regularly, on a real time basis, data for forest fire alerts for timely interventions of fire incidences.
- xi. Mock drill exercises need to be taken up for effective disaster risk reduction and management and training

of front line staff in the field in fire control and handling disaster

xii. Dedicated team of Official at the State district and Range level with adequate funds, infrastructure and manpower which should be in place at least two months before the fire season so that mock drills, planning and deployment of personnel and machinery is organized and proper liaison with villagers established in time.

82. Accordingly, this Original Application is disposed of with no order as to cost.

83. As the main application is decided today, the Miscellaneous Application does not survive for consideration. Accordingly, M.A No. 397/2017 is dismissed with no order as to cost.

.....
Justice Swatanter Kumar
(Chairperson)

.....
Justice Raghuvendra S. Rathore
(Judicial Member)

.....
Bikram Singh Sajwan
(Expert Member)

New Delhi.

Dated: 3rd August,2017