

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

.....

APPLICATION NO. 118 OF 2013

IN THE MATTER OF:

Vikrant Kumar Tongad
R/o Village Bhanouta
Post Kheri, Distt. Gautam Budh Nagar
Uttar Pradesh-203207

.....Applicant

Versus

1. Environment Pollution (Prevention & Control) Authority
Through its Chairperson
Parivesh Bhawan, CBD-cum-Office Complex
East Arjun Nagar
Delhi - 110032
2. Union of India
Through The Secretary
Ministry of Environment and Forest
CGO Complex, Lodhi Road,
New Delhi-110003
3. State of Uttar Pradesh
Through Chief Secretary
Government of Uttar Pradesh
Secretariat, Lucknow-226001
Uttar Pradesh
4. Uttar Pradesh Pollution Control Board
Through its Member Secretary
Picup Bhawan
2nd Floor, B-Block
Vibhuti Khand, Gomti Nagar,
Lucknow-226010
5. State of Haryana
Through the Chief Secretary
4thFloor, Haryana Civil Secretariat,
Sector-1, Chandigarh-160001
6. Haryana Pollution Control Board
Through its Member Secretary
C-11, Sector-6, Panchkula-248 011
Haryana

7. State of Punjab
Through its Chief Secretary
Government of Punjab
Civil Secretariat
Chandigarh-160017
8. Punjab Pollution Control Board
Through its Member Secretary
Vataran Bhawan, Nabha Raod
Patiala-147001
Punjab
9. Union of India
Through its Secretary
Ministry of Agriculture
Krishi Bhawan
Dr. Rajendra Prasad Road
New Delhi-110001
10. Central Pollution Control Board
Through the Member Secretary
Parivesh Bhawan, East Arjun Nagar,
New Delhi-110032

.....Respondents

COUNSEL FOR APPLICANT:

Ms. Maneka Kaur, Advocate

COUNSEL FOR RESPONDENTS:

Ms. Panchajanya Batra Singh, Advocate with Mr. R.N. Jindal,
Director, MoEF&CC for Respondent No. 2

Mr. Vijay Bahadur, AG, Ms. Savitri Pandey and Ms. Azma
Parveen, Advocates for Respondent No. 3

Mr. Pradeep Misra and Mr. Daleep Kr. Dhayani, Advocates for
Respondent No. 4

Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advocate for
Respondent Nos. 5 & 6

Ms. Gurinderjit, Advocate, Mr. Shiv Mangal Sharma, AAG with
Mr. Shrey Kapoor and Mrs. Saurabh Rajpal, Advocates for State
of Rajasthan (Respondent No. 8)

JUDGMENT

PRESENT:

Hon'ble Mr. Justice Swatanter Kumar (Chairperson)

Hon'ble Mr. Justice M.S. Nambiar (Judicial Member)

Hon'ble Dr. D.K. Agrawal (Expert Member)

Hon'ble Mr. Bikram Singh Sajwan (Expert Member)

Hon'ble Mr. Ranjan Chatterjee (Expert Member)

Reserved on: 19th October, 2015

Pronounced on: 10th December, 2015

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?

JUSTICE SWATANTER KUMAR, (CHAIRPERSON)

The applicant claims to be a public spirited person who has been working in the field of environmental conservation etc. He is a resident of Gautam Budh Nagar, Uttar Pradesh and has stated that his primary concern in this application is the adverse effects of burning of agricultural residue in various parts of the country which travels to NCT Delhi and pollutes the air and more specifically creates smog. According to the applicant, the provisions of Air (Prevention and Control of Pollution) Act, 1981 (for short 'Air Act') and Environment (Protection) Act, 1986 (for short 'Act of 1986') provide standards for emission and require that the ambient air quality must be of specified values. To ensure prevention of air pollution as well as in the interest of public health, the Act of 1986, specifically provides for and in fact, places an obligation upon Ministry of Environment and Forests (for short 'MoEF') to issue directions in respect of complaints or otherwise against the violators. The directions or measures could be taken with regard to standards for the quality of the environment in its various aspects for omission or discharge of environmental pollutants from various sources, restriction of areas in which any industry, operations or processes or class of industries shall be carried out, the Ministry is empowered to direct closure of the activity, industry or plant in the event if it is causing pollution. The primary concern of the Ministry is to declare a National Policy and implement the same.

Crop agriculture residue burning is a common feature in NCT Delhi and even in the surrounding states like Uttar Pradesh, Punjab, Rajasthan and Haryana. These states, particularly, Uttar Pradesh, Rajasthan, Haryana and Punjab and areas of Delhi have two or more growing seasons-one from May to September and another from November to April. The farmers often set fire to fields to clear the residue of the crop/plants. The standing straw is burnt to clear the fields. This practice is even prevalent in other parts of the country. He has relied upon the National Aeronautics and Space Administration pictures released on 5th November, 2012 which show large amount of smoke emerging from the fields of Punjab, particularly, coming towards Delhi. Though Punjab comprises of only 1.6 per cent of India's land surface, but it has high production because of fertile soils and adoption of agricultural advances from Green Revolution. The smoke from agriculture residue burning can harm the human health, aggravating heart and lung diseases. The applicant submits that he had visited the agriculture fields of Greater Noida on 5th May, 2013 and found that the practice of straw burning is being done in these areas which is polluting the habitation area of Noida and NCT Delhi. He has placed on record some photographs as well.

2. The applicant has also relied on a study titled "Impact of agriculture crop residue burning on atmospheric aerosol loading-a study over Punjab State, India" published in February, 2010 by Copernicus Publications on behalf of European Geosciences Union which states that Biomass burning is one of the significant global

sources of atmospheric aerosols and trace gas emissions, which have a major impact on climate and human health. He also states that in urban areas, carbonaceous aerosols associated with vehicular combustion are major sources of pollution and radioactive effect of carbonaceous aerosols constitutes one of the largest uncertainties in climate modelling. In addition to aerosol particles, biomass burning due to forest fires and crop residue burning are considered a major source of carbon dioxide (CO₂), carbon monoxide (CO), methane (CH₄), volatile organic compounds (VOC), nitrogen oxides and halogen compounds. The greenhouse gases CO₂ and CH₄ directly influence the global warming, while changes in oxidizing capacity to CO variability could perturb the growth rates of greenhouse gases. While relying on a recent study by Gustafsson et al. (2009) he states that biomass burning is one of the main causes for dense “brown clouds” (BC) in South Asia and 50-90% of the South Asian Black Carbon originates from fossil fuel combustion. Smoke particles from biomass burning have direct radioactive impact by scattering and absorbing shortwave radiation and indirect radioactive impact by serving as cloud-condensation nuclei (CCN) and changing the cloud microphysical and optical properties.

The applicant has averred that agricultural crop residues are burnt during the months of October and November each year in the Indo-Gangetic Plains (IGP) which has significant impact on greenhouse gas emissions and aerosol loading (Badarinath et al., 2009). The IGP is a very important agro-ecoregion in South-Asia,

which occupies nearly one-fifth of the total geographic area in four countries (Pakistan, India, Nepal and Bangladesh). The IGP in India covers 20% geographical area and contributes 42% to the total food grains production and holds nearly 40% of the total population (Tripathi et al., 2005). In the IGP region of India, 12 million hectares is accounted for rice-wheat crop rotation and harvesting of these crops with combine harvesters is very popular with the farmers of Punjab, Haryana and western Uttar Pradesh. These combine harvesting techniques in rice-wheat system leaves behind large quantities of straw in the field. The crop residues are subjected to open burning on account of high labour wages and anxiety of the farmers to get the crop produce collected and marketed at the earliest.

3. The applicant has also relied on a study titled “Valuing the Health Effects of Air Pollution from Agricultural Residue Burning” done by “Institute for Social and Economic Change (ISEC)” and “Department of Policy Studies, TERI University”, which measured the value of health effects of air pollution for rural Punjab, where air pollution problem occurs from crop residue burning. It reports that the rice and wheat system (RWS) is one of the widely practiced cropping systems in northern India. About 90-95 percent of the rice area is used under intensive rice wheat system (RWS) in Punjab. Widespread adoption of green revolution technologies and high yielding variety of seeds increased both, crop as well as crop residue. It is also averred by the applicant that in the last few decades, intensive mechanization of agriculture has been occurring

and combine harvesting is one such input, particularly in the RWS. It is notable that in the RWS, a short period of time is available between rice harvesting and wheat plantation and any delay in planting adversely affects the wheat crop. This coupled with combine harvesting compels the farmers to burn the residue to get rid of stubble left out after the harvest. It is estimated that 22289 Gg of rice straw surplus is produced in India each year out of which 13915 Gg is estimated to be burnt in the field. It is stated that the two states namely Punjab and Haryana alone contribute 48 percent of the total and are subject to open field burning. Burning of straw emits emission of trace gases like CO₂, CH₄, CO, N₂O, NO_x, SO₂ and large amount of particulates which cause adverse impacts on human health. It is estimated that India annually emits 144719 Mg of total particulate matter from open field burning of rice straw. It has come to conclusion that total annual welfare loss in terms of health damages due to air pollution caused by burning of rice straw in rural Punjab amounts to 76 million rupees.

4. There are instances and reports which suggest that the smoke from agriculture residue burning can travel several kilometres. In the month of October, November and December 2012 the smog created in Delhi is attributed to the burning of rice straw in agricultural fields. A daily News paper 'Times of India' dated 06.11.2012 reports on the practice of burning of agricultural residue as under:

"It's an environmentally disastrous practice that the state government has shown little urgency in tackling. Among the fallout of this mass-burning is smog that spreads ill-health through the region, making its way as far as Delhi

and beyond. This year, the smog has been particularly severe in Delhi because of reinforcing factors such as cyclone Nilam, lower-than-usual temperatures and calm winds. Numbers associated with the burning are staggering and shocking. More than 20 million tonnes of straw is set afire within a fortnight that farmers get to prepare their fields for the wheat crop, filling the air with toxic soot and smoke. An estimated 12 megatonnes of CO₂, a greenhouse gas, is released in the air. It causes loss of nitrogen content of soil worth Rs. 250 crore. Besides, the soil loses its fertility and farmer-friendly insects and micronutrients.”

5. The applicant has placed on record copies of the various studies that he has referred in the application. According to the applicant, Central Pollution Control Board, the State Pollution Control Boards, the State Governments and even the Ministry have failed to discharge their statutory obligations in stopping and/or controlling the Air Pollution and adverse public health impacts as a result of agriculture crop residue burning. Thus, he apprises that this practice should stop forthwith and further directions be issued to the concerned authorities to develop the mechanism for disposal of agriculture crop residue and authorities should be directed to do regular monitoring in relation to agriculture residue burning. On merits, there is hardly any contention raised by any of the States. In principle, the States also agreed that agriculture residue burning is not a practice which could be continued. Each of the States have admitted that they are not only trying their best to stop such practice but have even made various attempts to take up the matter with the farmers as to the evils of crop residue burning and its adverse environmental impacts upon the air. They have, in fact, stated that they are in the process of initiating the programs for alternative utilization methods of agriculture residue crop by bio-

mass based power plants, using the residue crop as a raw material for other activities. State of Haryana has stated that it had also issued a notification dated 16th September, 2013 prohibiting burning of left over straw in the entire State of Haryana. High Court of Punjab and Haryana at Chandigarh had directed to constitute a High Powered Committee under the Chairmanship of Chief Secretary which held its meeting on 4th March, 2009 and it was decided that Agriculture Department would promote demonstration and custom hiring of suitable agriculture machinery and promote use of straw bailer for bale making as a long term solution of this problem. The State of Punjab had also prepared a Draft Policy for “Management and Utilization of leftover paddy and wheat straw/stubble” and a meeting to deliberate upon the policy was held on 7th August, 2015. However, no final view in that regard had been taken. State of Uttar Pradesh vide its notification dated 3rd November, 2000 had declared the entire State of Uttar Pradesh as an Air Pollution Control Area under Section 19(1) of the Air Act. It was also stated that ban on burning of agricultural waste was under serious consideration of the State.

6. MoEF has stated that open field burning of plant material and crop remnants has been a long standing traditional agricultural practice of farmers in India. Department of Agriculture and Cooperation in the Ministry of Agriculture has taken a policy decision for extending the financial assistance to the farmers for procuring Happy Seeder vide letters dated 21st April, 2010 and 3rd September, 2010. Furthermore, an affidavit on behalf of MoEF,

where it was stated that agriculture falls in entry 14 in List-II in the Seventh Schedule of the Constitution and also that regional complexities and better policy formulation can be done at the local levels. MoEF has issued advisory as envisaged in the policy of the Ministry of Agriculture to various State Governments and Union Territories. Under this, corrective approach rather than a coercive one is to be used and awareness should be raised in regard to that.

7. In view of the stand taken by the parties, particularly, by the respondents in the application, the Tribunal vide its order dated 11th February, 2014 had directed the Ministry of Agriculture to hold the meeting with the States, particularly, State of Punjab, Haryana, Central Pollution Control Board (for short, 'CPCB') and the National Academy of Agricultural Sciences, New Delhi and prepare composite and complete guidelines for preventing and controlling the pollution resulting from burning of agricultural remnants in the open fields. Thus, it was an obligation of the Ministry to place on record the said modalities within the time frame given. Time to comply with this direction was extended from time to time. On 10th September, 2014, the Tribunal noticed that the meeting had not been held and there was no compliance to the orders of the Tribunal. The Tribunal observed that inter-relation between the Ministry and the Cooperation on such national issues was expected to be more effective and result oriented. Thus, the tribunal directed the Additional Secretary, Ministry of Agriculture to call a meeting within one week where representatives from all States were directed to be present and committee was directed to finalize the Draft National

Policy in regard to residue agriculture burning in open. The CPCB was also directed to be impleaded as one of the respondent in the main application. On 25th September, 2014, the Tribunal was informed vide letter dated 2nd September, 2014 that definite progress has taken and minutes had been recorded of that meeting. Thus, further time was granted to prepare the final report. During the process of hearing and the meeting, the State of Haryana had even submitted some more documents which were directed to be treated as base documents and other States were to examine the possibility of its adoption. It was specifically directed that the agriculture residue waste should be utilized for other purposes including power generation. The committee was directed to examine this aspect as well. On 22nd May, 2015 State of Rajasthan had also filed its action plan on record and they were directed to furnish the copy to MoEF. On 10th September, 2015 counsel of MoEF had submitted final recommendation on record.

8. In a report published in 'The Hindustan Times' stating burning of crop residue in nearby states leads to a blanket of smoke over Delhi, it was specifically mentioned that carbon dioxide levels in the air shoot up by 70 per cent. The concentration of carbon monoxide and nitrogen dioxide raises by 7 per cent and 2.1 per cent, respectively, triggering respiratory and heart problems.

Also, it was stated that soil loses 6-7 kg nitrogen per ton, 1-1.7 kg phosphorus, 14-25 kg potassium and 1.2-1.5 kg sulphur due to stubble burning. In total, the loss of nutrients is around 1.5 lakh

tons per annum. It also noticed other adverse impacts of crop residue burning in open environment, particularly, air pollution.

9. All other States, except Uttar Pradesh had agreed to the report and implement the same. However, the State of Uttar Pradesh had some reservations and it had filed its own policy. The State of Uttar Pradesh filed the action plan for crop residue management in the NCR of Uttar Pradesh and different measures have been stated in this action plan. The State of Rajasthan, vide its Notification dated 27th August, 2015 had prohibited agriculture residue burning in the entire State of Rajasthan. State of Rajasthan had also prepared an action plan of its Agriculture Department to ensure that such practice is stopped immediately.

10. The Ld. Advocate General, appearing for the State of Uttar Pradesh submitted that the State of Uttar Pradesh had decided to issue directions with regard to ban on burning of agricultural residue in the fields openly. In view of this statement, nothing material survives as far as the State of Uttar Pradesh is concerned as the State's Action Plan read with the statement of Ld. Advocate General would bring it clearly in conformity with the official guidelines prepared by the Ministry of Agriculture.

11. At this stage, we may also notice that a Writ Petition was filed before the High Court of Punjab and Haryana at Chandigarh by Capt. Sarabjit Singh being Writ Petition No. 10138 of 2006 titled *Capt. Sarabjit Singh v. State of Punjab and Ors.*, where the Punjab and Haryana High Court noticed the serious adverse impacts of

residue crop burning and the need for formulation of a policy to ban the same. The High Court disposed of this matter vide judgment dated 16th April, 2012. The High Court did not pass any specific orders and felt that all the alternatives would bring the activity of burning in control. However, it also noticed that in relation to technical measures like easy availability of rotavator, zero-till drill and happy seeder or financial assistance could discourage the farmers to continue crop residue burning. On 15th October, 2015 a copy of the letter of the MoEF Secretary to Chief Secretaries of all the States dated 15th September, 2015 was placed on record. It will be useful to reproduce the said letter:

“D.O. No.Q-16017/43/2008-CPA September 15, 2015

Dear Chief Secretaries,

You may kindly refer my earlier D.O. letter dated 2nd October, 2014 (Copy enclosed), requesting to issue advisory on open burning of crop residues in multimedia mode at the State as well as local level to farmers to halt the burning of crop residue and biomass in fields.

2. You are aware that Government of India through Ministry of Agriculture, Cooperation and Farmers Welfare has drawn ‘National Policy for Management of Crop Residues (NPMCR)-2014’ which envisages adoption of technical measures including diversified uses of crop residue, capacity building & training along with formulation of suitable law/legislation. The above policy also envisages to use satellite based remote sensing technologies to monitor crop residue management, with active involvement of National Remote Sensing Agency (NRSA) and Central Pollution Control Board (CPCB).

3. A workshop on ‘Agricultural stubble burning-issues and options’ was jointly organized in Chandigarh on 8th January, 2015 by this Ministry, in collaboration with Government of Punjab to curb the practice of stubble burning and to come up with different alternatives. The officials of Government of Punjab, Government of Haryana, Government of NCT of Delhi, Government of Uttar Pradesh and UT Administration of Chandigarh and concerned departments participated in the workshop. In the workshop apart from others, the following recommendations were made:-

- i) There may be satellite based monitoring mechanism through State Remote Sensing Agency (SRSA) by respective State Governments for stubble burning in open field, weeds/top soil biomass burning along roads/highways and canals and sms mechanism to concerned patwaris, BDOs and Police Stations;
- ii) Ministry of Agriculture, Cooperation and Farmers Welfare shall take up add-on programme and National Remote Sensing Centre (ISRO) for monitoring of stubble burning through satellite during October-November and April-May, every year at National level;
- iii) Central Pollution Control Board (CPCB) in association with State Pollution Control Boards of Punjab, Haryana and Uttar Pradesh may establish ambient air monitoring stations in respective States so as to capture and build data base on stubble burning and crop residue burning under National Air Monitoring Programme (NAMP) (i.e. 20 in Punjab, 10 each in Haryana and Western U.P. on priority).

4. Keeping the above in view, I request you to use satellite data and State machinery for monitoring, prevent and control of stubble/the agricultural residues burning in the fields in coordination with CPCB and ISRO. It may kindly be ensured that agricultural residues are put to alternative use for energy generation, producing ethanol, paper and packaging material etc. to the benefit of farmer's community as well as to protect environment. I may draw your attention to the fact that this was identified as one of the priority areas for action during the recent National Conference on Application of Space technology in Administration and Governance on 7th September, 2015 under the Chairmanship of Hon'ble Prime Minister.

I would appreciate if I am apprised of the action taken by you in this regard.

With regards,

Yours sincerely,
(Ashok Lavasa)"

From the above letter, it is clear that MoEF has endorsed the National Policy for Management of Crop Residues, 2014. Various issues have been addressed and finally it was requested to States to use available data and state machinery for monitoring,

preventing and controlling of stubble and residue burning in cooperation with CPCB and ISRO.

12. The National Policy for Management of Crop Residues 2014, dealt with different aspects including adverse effect of crop residue burning, strategy intervention of curbing crop burning, financial resource, mobilization for management of crop residue and monitoring mechanism to give effect to this policy. It is necessary that the States should also evolve systems to ensure providing of financial and mechanical assistance to the farmers to act in conformity with the National Policy for Management of Crop Residues 2014 as well as the State Action Plans.

13. The agriculture residue burning causes serious environmental hazards. It pollutes the air as excessive matters combine with other pollutants, causing serious issues in relation to public health. Ambient Air Quality in the major cities of all these states, particularly, in NCT Delhi has been found to be more damaging to human health. Before this problem attains dimensions of irresolvable issues, it is necessary that immediate steps are taken to prevent and control impacts of this menace. In the present day, it is not acceptable to advance an argument that crop burning is a necessity. There are clear and specific technical alternative resolutions available to utilization instead of agriculture residue burning. Of course, residue, i.e., the agriculture residue, rice and wheat straw can be a raw material for manufacturing of boards, rough paper and particularly power

sector. All the State Governments have given a specific statement before the Tribunal and most of them have already issued Notifications prohibiting and banning agriculture residue burning in open. The States' Action Plans are in consonance with the National Policy for Management of Crop Residues framed by the Ministry of Agriculture in 2014. Furthermore, this policy has been prepared in consultation with the State Governments and most of the States, the respondents in the present application, have already adopted the said Policy. What is now expected of the State Government and its various authorities is to ensure implementation thereof with utmost sincerity. First, effort should be to educate the farmer community and then there should be serious implementation of the National Policy for Management of Crop Residues framed by the Ministry of Agriculture, 2014 and the Action Plans. There should also be proper attempt on behalf of the State to provide technical or financial assistance to the farmers to encourage them to stop crop residue burning. Still, the class of people who persist with default and do not comply with the directions should be dealt with by taking coercive and punitive steps and this has to be done as last resort. Under Section 3 and 5 of the Act of 1986, the Central Government is entitled to take measures and issue directions, which must be complied with to achieve the object and purpose of the said Act. State of Haryana has stated on record that they had even taken prosecution action against 32 persisting defaulting farmers and

the cases are pending before the Courts of competent jurisdiction under the Act of 1986.

It has been widely reported from time to time that the farm fires/residue crop burning by the farmers is one of the major sources responsible for depletion of air quality of NCR Delhi in particular. Media has made serious attempts in this regard. The Times of India reported on different dates that smog envelopes NCR, air quality falls as Punjab farmers' burn paddy. Referring to NASA's data, it was stated that farm fires in Punjab, that began to register in satellite images around 10th October, have increased in intensity since 30th, October. Smog in Delhi from 30th October, night leading to visibility dropping from 2km to 700-800m at airport. Air quality has fallen sharply to very poor. Again it was reported on 3rd November, 2015 that widespread crop burning had began years back but now, has serious effect on the air ambient quality. Cumulative fire data farmers burning in the region their paddy stubble showed definite depletion in air quality. It was, particularly, during the period 1st October to 30th November. It was not so widespread in the earlier years but the problem had gone alarming in the year 2002 and continues to be a major health hazard. Satellite images, however, reveals that the problem had already reached alarming proportions as early as 13 years ago. Reference has also been made to the letter issued by Secretary, Environment laying emphasis to take measures in the respective states to stop crop residue burning. Though it is

stated to be the cheapest method but it proves very expensive in terms of environment and public health.

14. In view of the above discussion and the stand taken before us by the different State Governments and the Ministry, we dispose of this application with the following directions:

- a. The National Policy for Management of Crop Residue, 2014 prepared by the Ministry of Agriculture, Government of India shall in conjunction with the Action Plan prepared by the States of Rajasthan, Uttar Pradesh, Haryana and Punjab shall be implemented in all these States now, without any default and delay.
- b. All these State Governments and NCT Delhi shall immediately take steps to educate and advise the farmers through media, Gram Panchayats and Corporations that crop residue burning is injurious to human health, causes serious air pollution and is now banned or prohibited by law. They shall also be educated that the agriculture residue can be extracted and utilized for various purposes including manufacturing of boards, fodder, rough paper manufacturing and as a raw material for power generation etc.
- c. Every State Government to this application shall evolve the mechanism for collection of crop residue, its transportation and utilization for appropriate purposes.

Such mechanism shall be implemented directly under the control of the State Authorities.

- d. In the event of any conflict or contradiction between the National Policy for Management of Crop Residue, 2014 and the Action Plan prepared by the State Governments, the National Policy for Management of Crop Residue 2014 shall prevail.
- e. In cases of persistent defaulters of crop residue burning, an appropriate coercive and punitive action could be taken by the concerned State Government including launching of prosecution under Section 15 of the Act of 1986.
- f. Where on the one hand State Governments are directed to provide incentives for farmers for not burning agriculture residue in the open and on the other hand they are required to take into consideration passing of such direction, including withdrawal of assistance provided to the farmers if they persist with the defaults.
- g. All the States which have issued Notification prohibiting agriculture crop residue burning shall ensure that the Notifications are enforced rigorously and proper action is taken against the defaulters. Any person or body that is found offending this direction would be liable to pay Environmental Compensation as follows:

- Small land holders having an area less than 2 Acres shall pay Environmental Compensation of Rs. 2500/- per incidence.
 - Land holders having land area more than 2 Acres but Less than 5 Acres shall pay Environmental Compensation of Rs. 5000/- per incidence.
 - Land holders having land area more than 5 Acres shall pay Environmental Compensation of Rs. 15000/- per incidence.
- h. Every State will provide Machines, Mechanism and Equipments or its cost to the farmers to ensure that agricultural residue in the field in these states are removed, collected and stored at appropriate identified sites in each district.
- Such equipments like happy seeders would be provided to small farmers having land area less than 2 Acres free of Cost.
 - For the farmers possessing area of more than 2 Acres but Less than 5 Acres, the cost for such machines is to be Rs. 5000/-.
 - For land owners having land area more than 5 Acres the cost for such machines is to be Rs. 15,000/-.
- These costs are for each crop growing season only once.
- i. We hereby direct and prohibit agricultural residue burning in any part of the NCT of Delhi, State of

Rajasthan, State of Punjab, State of Uttar Pradesh and State of Haryana.

- j. All the Pollution Control Boards of these states shall monitor the ambient air quality of the major cities, particularly in NCT of Delhi and submit the data to the Tribunal.
- k. We direct the District Magistrate of all the Districts in these states to constitute a special team to monitor and physically inspect the sites to ensure that there is no agriculture crop residue burning in their respective jurisdictions.
- l. This shall be done on regular intervals and inspection reports should be submitted to the respective Pollution Control Boards which in turn would provide comparative statement based on these inspections and air quality samples to the Tribunal.
- m. We hereby direct all the State Governments and the Pollution control Boards should ensure that small land holding farmers are provided with the aid and machines for extracting agricultural crop residue in their respective fields and transport them to the designated sites in the respective districts where either it is used as a fuel in the plants or it is used for manufacturing of Straw/Fiber Boards and it can also be converted into a manure wherever it is possible.

- n. The District Magistrates shall further ensure from the Gram Panchayat that farmers are educated by holding special program of public hearing, circulating pamphlets and by practically demonstrating to the farmers the amount of pollution caused and consequential harm to public health, including that of their children from agricultural residue burning in open, as well as the possible ways for disposing agricultural crop residue by even providing benefit in terms of money. In some of the policies declared by the States, even some incentive and aid can be provided. Let the States implement this with greater sincerity and effectiveness.
- o. All the State Governments shall, if they have not already done, create an alert system so as to bring to the notice of the Concerned Authorities that in a particular part of the jurisdiction of the State, agricultural crop residue burning has commenced so as to enable them to take effective and immediate measures by use of satellite imagery or otherwise.
- p. We direct all the State Governments to bring this order to the notice of the farmers of each State. The District Magistrate, Secretary Environment and Member Secretary of the respective Pollution Control Boards shall be personally responsible for implementation of these directions.

- q. The State Governments should in coordination with Indian Space Research Organization (ISRO), National Remote Sensing Agency (NRSA) and State Remote Sensing Agency (SRSA) develop real time monitoring mechanism for monitoring the place, date and time of burning of agricultural residues within their respective States and evolve communication mechanism for giving SMS alerts to all the district level functionaries in respect of the instances of agricultural residue burning within their jurisdiction.
- r. We also direct that a copy of this judgment be circulated to the Chief Secretaries of the States for compliance in accordance with law and accordingly for preparation of Action Plan and compliance thereof in accordance with law.
- s. All the District Administrative Officers including District Magistrate, Superintendent of Police, Officers of the regional office of the Pollution Control Boards and the Environmental Department of the districts including Corporations, Municipalities etc. would be responsible for carrying out these directions in their true spirit and substance, without default.

15. The application is disposed of with no order as to costs.

**Justice Swatanter Kumar
Chairperson**

**Justice M.S. Nambiar
Judicial Member**

**Dr. D. K. Agrawal
Expert Member**

**Mr. Bikram Singh Sajwan
Expert Member**

**Mr. Ranjan Chatterjee
Expert Member**

New Delhi
10th December, 2015

NGT