



# PARLIAMENT OF INDIA RAJYA SABHA

DEPARTMENT-RELATED PARLIAMENTARY STANDING COMMITTEE  
ON SCIENCE AND TECHNOLOGY, ENVIRONMENT, FORESTS AND  
CLIMATE CHANGE

## THREE HUNDRED FORTY EIGHTH REPORT

Action taken by the Government on the Recommendations/Observations contained in the Three Hundred Sixteenth Report of the Department-related Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change on 'Air Pollution in Delhi and National Capital Region'.

*(Presented to the Rajya Sabha on 1<sup>st</sup> December, 2021)*  
*(Laid on the Table of Lok Sabha on 1<sup>st</sup> December, 2021)*



Rajya Sabha Secretariat, New Delhi  
December, 2021/Agrahayana, 1943 (Saka)

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## CONTENTS

|     |  | PAGES |
|-----|--|-------|
| 1.  | COMPOSITION OF THE COMMITTEE   | (i)   |
| 2.  | INTRODUCTION   | (ii)  |
| *3. | ACRONYMS   | (iii) |
| 4.  | REPORT   | 1-29  |
|     | Chapter I.    Recommendations/Observations which have been<br>accepted by the Government   | 2-20  |
|     | Chapter II.   Recommendations/Observations which the Committee<br>does not desire to pursue in view of the Government's<br>replies     | 21-23 |
|     | Chapter III.  Recommendations/Observations in respect of which<br>replies of the Government have not been accepted<br>by the Committee | 24-26 |
|     | Chapter IV.  Recommendations/Observations in respect of which<br>Final Replies of the Government are still awaited                     | 27-28 |
| 5.  | FURTHER RECOMMENDATIONS/ OBSERVATIONS-<br>AT A GLANCE  | 29    |
| *6. | MINUTES  |       |

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*\* To be appended*

**COMPOSITION OF THE COMMITTEE**

**(2021-22)**

*(Constituted w.e.f. 13<sup>th</sup> September, 2021)*

1. Shri Jairam Ramesh – **Chairman**

**RAJYA SABHA**

2. Shri Anil Baluni
3. Shrimati Vandana Chavan
4. Shrimati Seema Dwivedi
5. Ms. Indu Bala Goswami
6. Shri Joginipally Santosh Kumar
7. Shri Parimal Nathwani
8. Shri Bhaskar Rao Nekkanti
9. Shri Nabam Rebia
10. # Vacant

**LOK SABHA**

11. Shri Guharam Ajgalley
12. Shri Pradan Baruah
13. Shri E.T. Mohammed Basheer
14. Shri Jashvantsinh Sumanbhai Bhabhor
15. Shri Sudarshan Bhagat
16. Shri Anantkumar Hegde
17. Shri S. Jagathrakshakan
18. Shri Mohammed Azam Khan
19. Shrimati Jyotsna Charandas Mahant
20. Dr. Swami Sakshiji Maharaj
21. Shri Asaduddin Owaisi
22. Shri Kotha Prabhakar Reddy
23. Dr. Jayanta Kumar Roy
24. Shrimati Satabdi Roy (Banerjee)
25. Shri Francisco Sardinha
26. Shri Anurag Sharma
27. Shri Mahesh Sahoo
28. Dr. M.P. Abdussamad Samadani
29. Shri Kirti Vardhan Singh
30. Dr. Ramapati Ram Tripathi
31. Shri Ram Shiromani Verma

**SECRETARIAT**

Shri Pradeep Chaturvedi, Joint Secretary  
Dr. (Smt.) Subhashree Panigrahi, Director  
Shri Rakesh Anand, Additional Director  
Smt. Monica Baa, Additional Director  
Shri Deepak Bhorla, Under Secretary  
Shri Harish Kumar, Committee Officer

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#Prof. Manoj Kumar Jha ceased to be the member of the Committee consequent upon his resignation from the Committee w.e.f. 11<sup>th</sup> October, 2021

## INTRODUCTION

I, the Chairman of the Department-related Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change, having been authorised by the Committee to present the Report on its behalf, do hereby present this Three Hundred Forty Eighth Report on the recommendations/observations contained in the Three Hundred Sixteenth Report on “Air Pollution in Delhi and National Capital Region” of the Ministry of Environment, Forest and Climate Change, which was presented/laid in both the Houses of Parliament on 7<sup>th</sup> August, 2018.

2. There were 39 recommendations/observations in the Three Hundred Sixteenth Report of the Committee. Action Taken Notes on the recommendations/observations of the Committee were received from the Ministry on 21<sup>st</sup> September, 2020.

3. In the meeting held on held on 30<sup>th</sup> November, 2021, the Committee considered the draft Report and adopted the same.

NEW DELHI;  
30<sup>th</sup> November, 2021  
Agrahayana 09, 1943 (Saka)

( **JAIRAM RAMESH** )  
Chairman,  
Department-related Parliamentary Standing Committee on  
Science and Technology, Environment, Forests and Climate Change,  
Rajya Sabha

## **REPORT**

The Action Taken Report (ATR) of the Committee deals with the action taken by the Government on the recommendations/observations contained in Three Hundred Sixteenth Report on 'Air Pollution in Delhi and National Capital Region'. The Report was presented to Rajya Sabha and laid on the Table of Lok Sabha on the 7<sup>th</sup> August, 2018.

2. Action Taken Note (ATN) has been received from the Ministry of Environment, Forest and Climate Change in respect of thirty six of the thirty nine recommendations/observations contained in the Three Hundred Sixteenth Report. This has been categorized as follows:-

**Chapter I: Recommendations/Observations which have been accepted by the Government:**

**Para:- 4.8, 4.9, 4.10, 4.11, 4.12, 4.14, 4.16, 5.12, 5.13, 5.14, 5.15, 5.16, 6.6, 6.8, 6.9, 7.7, 7.9, 8.5, 9.3, 10.7, 10.8, 10.9, 11.2, 11.5, 12.7, 12.8 13.2, and 14.1**  
**Total recommendations -28. Accepted.**

The Committee is pleased to note that the Ministry has accepted its recommendations as mentioned in Chapter-1 of the Report.

**Chapter II: Recommendations/Observations which the Committee does not desire to pursue in view of the Government's replies:**

**Para:-2.6, 2.11, 3.2, 5.11, 5.17 and 9.2**

**Total recommendation - 06. Not to be pursued further.**

The Committee is convinced with the explanations furnished by the Ministry and, therefore, does not want to pursue the recommendations further.

**Chapter III: Recommendations/Observations in respect of which replies of the Government have not been accepted by the Committee:**

**Para:- 6.7 and 13.3.**

**Total recommendations -02. Not convincing replies.**

The Committee expresses its concern over the non-implementation of its recommendations contained in Chapter-III and desires that the Ministry should furnish convincing action taken steps in respect of those recommendations.

**Chapter IV: Recommendations/Observations in respect of which final replies of the Government are still awaited:**

**Para: 7.8, 8.2 and 8.3**

**Total recommendations-03. To be pursued further.**

The Committee desires that the Ministry should furnish pointed and detailed Action Taken Notes in respect of the further Recommendation/Observation made by the Committee in Chapter III and IV of the Report.

3. The details of the ATR have been analyzed in the succeeding Chapters.

## CHAPTER-I

### RECOMMENDATIONS/OBSERVATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

#### CROP RESIDUE BURNING

##### Recommendation/Observation

1.1 *The Committee notes that despite a series of measures taken by the Governments of Haryana, Punjab and Uttar Pradesh, including the statutory ban on stubble burning in the years 2003, 2013 and 2015 respectively, the air pollution situation in Delhi and NCR has not improved much and, in fact, it has been deteriorating further. It is further worrisome to note that despite the statutory ban imposed by these States on the crop residue burning, many such instances have been brought to the notice of the Committee from these States. Satellites images have also showed that paddy burning in Punjab, Haryana and Uttar Pradesh had increased after Diwali during the year 2017 adding to the problem of air pollution in Delhi and NCR. The Committee expresses its strong reservations towards the failure of these State Governments in implementing the statutory ban on stubble burning in letter and spirit. Although the concerned State Governments have listed number of measures taken by them to tackle the issue, the Committee is of the view that the required action has been taken by the State Governments rather late. The Committee is of the opinion that weak enforcement of the statutory ban by these State Governments coupled with laxity towards the sensitivity and gravity of the matter has also adversely affected the ongoing efforts to tackle the issue of air pollution in Delhi and NCR. The Committee recommends that the Ministry of Environment, Forest and Climate Change should also take the Ministry of Agriculture and Farmers Welfare on board in the matter and impress upon the concerned State Governments of Haryana, Punjab and Uttar Pradesh to ensure that the laid down guidelines and statutory provisions are implemented in letter and spirit. (Para 4.8)*

##### Action Taken

1.2.1 In pursuance to Budget 2018 announcement regarding ‘a special Scheme to support the efforts of the governments of Haryana, Punjab, Uttar Pradesh and the NCT of Delhi to address air pollution and to subsidize machinery required for in-situ management of crop residue’, a new Central Sector Scheme on ‘Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi’ for the period from 2018-19 to 2019-20 is being implemented with the total outgo from the Central funds of Rs. 1151.80 crore (Rs. 591.65 crore in 2018-19 and Rs. 560.15 crore in 2019-20).

1.2.2 Under this Scheme the agricultural machines and equipments for in-situ crop residue management such as Super Straw Management System (SMS) for Combine Harvesters, Happy Seeders, Hydraulically Reversible MB Plough, Paddy Straw Chopper, Mulcher, Rotary Slasher, Zero Till Seed Drill and Rotavators are promoted with 50% subsidy to the individual farmers and 80% subsidy for establishment of Custom Hiring Centres of these machines.

1.2.3 Under the above stated scheme, during 2018-19, the funds amounting to Rs.269.38 crores, Rs. 137.84, Rs.148.60 crores and Rs.28.51 crores have been released as 100% share of GoI to the State Governments of Punjab, Haryana, Uttar Pradesh and Central Agencies respectively for distribution of in-situ crop residue management machinery to the farmers under subsidy, establishment of Custom Hiring Centres (CHCs) of in-situ crop residue management machinery and undertaking Information, Education and Communication (IEC) activities for creating awareness among farmers.

1.2.4 As per the analysis of paddy residue burning in Punjab, Haryana, & UP in 2018 using Satellite Remote Sensing carried out by Consortium for Research on Agro ecosystem Monitoring and Modeling from Space (CREAMS) Laboratory, Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute, New Delhi, overall, about 15% and 41% reduction in number of burning events were observed in current year (2018) as compared to that in 2017 and 2016, respectively.



1.2.5 About 11%, 29.5 % and 24.5% reduction in number of burning events were observed in current year (2018) as compared to that in 2017 in the States of Punjab, Haryana and Uttar Pradesh respectively.

1.2.6 In 2018, 2.96 Mha area was planted in Punjab, out of which 1.51 Mha (51%) area was burnt. Out 1.04 Mha area planted in Haryana, 0.23 Mha (22%) area was burnt.

1.2.7 Air Quality Index (PM) in Punjab was 273 during November, 2017 which was significantly reduced to 132 during November, 2018 (reduction of 50 % in air quality).

1.2.8 1374 villages in Punjab (out of about 8000 villages where rice is being grown, which constitute about 17%) were declared as Zero Stubble Burning Villages during 2018.

1.2.9 Overall for the three states, about 23 Million tons of GHGs (Green House Gases) and Particulate matter (PM) was estimated to be emitted from paddy residue burning in 2018. The total pollutants emitted by burning paddy residue during 2017 were about 28 Million tons which signifies an 18.3% reduction in pollution in 2018 over 2017.

### **Recommendation/Observation**

1.3 *The Committee also firmly believes that the unscientific methods to deal with the crop stalk and solid waste in the neighbouring States of Delhi namely, Punjab, Haryana and Uttar Pradesh have aggravated the problem of the air pollution in Delhi and NCR. The Committee, therefore, recommends that more scientific approach should be adopted to address the issue of stubble burning in these States. The Committee also recommends that the State Governments should further sensitise and educate the farmers of their respective States about the adverse impact of stubble burning on the environment, ecology and bio-diversity of Delhi and NCR. The Committee also believes that for scientific disposal of the waste, segregation and identification of waste is equally important and best suited approach needs to be evolved to yield the desired results in this direction.*

(Para 4.9)

### **Action Taken**

1.4 Ministry of Environment, Forest & Climate Change (MoEF&CC) in supersession of Municipal Solid Waste (Management and Handling) Rules, 2000, has notified the Solid Waste Management Rules, 2016. The Rules prescribe that no waste generator shall throw, burn or bury the solid waste generated by him, on streets, open public spaces outside his premises or in the drain or water bodies. Further, the Rules direct the waste generators to segregate the waste at source and hand over the segregated waste to authorised waste pickers or waste collectors. Under the duties and responsibilities of local authorities and village Panchayats, the Rules direct street sweepers not to burn tree leaves collected from street sweeping and store them separately and handover to the authorised waste collectors. The Rules mandate the Urban Local Bodies to frame Bye-Laws incorporating the provisions of Solid Waste Management Rules, 2016 and ensure timely implementation.

### **Recommendation/Observation**

1.5 *The Committee notes that the State Governments of Punjab and Haryana run subsidy schemes to promote disposal of the agricultural residues in a scientific manner instead of burning it. However, the subsidy schemes of these State Governments have not helped much to address the issue of stubble burning. The Committee is surprised to note that no scientific study has been undertaken by any of the concerned State Governments or by the Central Government to ascertain the level of damage that has been caused to the environment on account of stubble burning. The Committee, therefore, recommends that the Ministry of Environment, Forest and Climate Change, Government of India, in consultation with the concerned State Governments of Haryana, Punjab and Uttar Pradesh, should undertake a scientific study to assess the environmental impact of crop burning on Delhi and NCR and the methodology to mitigate it in a time-bound manner. The Committee notes that Government of Punjab has also suggested some scientific solutions for converting paddy straw into other useful items. The Committee recommends that the Ministry of Environment, Forest and Climate Change should, in*

*consultation with other concerned Ministries of Government of India, explore as to how the paddy straw can be used to convert this challenge into a new possibility.* (Para 4.10)

### **Action Taken**

1.6 Central Pollution Control Board has awarded a study to NEERI on “Assessment of contribution of stubble burns in Haryana and Punjab States on Air quality of Delhi” under Environment Protection Charge (EPC) funds. Further, Ministry of Agriculture and Farmers Welfare has constituted an Expert Committee vide its order dated 12.11.2018 comprising of members from MoEF&CC, CPCB and other departments to explore ex-situ solutions for prevention of crop residue burning.

### **Recommendation/Observation**

*1.7 The Committee is constrained to note that in terms of the orders of NGT, the State Governments of the Haryana, Punjab and Uttar Pradesh are penalising the farmers for burning crop residues. However, the Committee is of the opinion that instead of being penalised, the farmers should be provided with some practical solutions instead of crop burning. It is of paramount importance that technological and scientific solutions coupled with financial assistance should be made available to the farmers to motivate them not to burn their crop residues. The Committee is of the considered view that it would help minimise the problem of stubble burning in these States.* (Para 4.11)

### **Action Taken**

1.8.1 To stop burning of crop residue that may lead to higher level of air pollution in Delhi NCR especially during adverse meteorological conditions in early winter in North India, the Central Government has approved a new Central Sector Scheme on ‘Promotion of Agricultural Mechanization for in-situ management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi for the period from 2018-19 and 2019-20 with an outlay of Rs.1151.80 crore. This year’s allocation of Central funds of Rs.591.65 crore has been released to the concerned States except Delhi.

1.8.2 Under this scheme, there is financial assistance on purchase of eight straw management implements (50% of the cost of the implement for individual farmers; and 80% of the cost of implements for Custom Hiring Centre (CHC) by Co-operative Societies of farmers, groups or SHGs, FPOs and Private Entrepreneurs). Name of the implements are i) Super Straw Management System (Super SMS) to be attached with Combine Harvester; ii) Happy Seeder; iii) Paddy Straw Chopper/Mulcher; iv) Shrub Master / Cutter cum Spreader; v) Hydraulic Reversible M.B. Plough; vi) Rotary Slasher; vii) Zero Till Seed cum Fertilizer Drill; viii) Rotavator.

1.8.3 The State Governments, out of these funds released during 2018-19, have provided 4552 Nos. Super Straw Management Systems, 12158 Happy Seeders, 4425 Hydraulic Reversible MB Plough, 316 Shrub Masters & Cutter Cum Spreaders, 6163 Paddy Straw Choppers & Mulchers, 760 Rotary Slashers, 6870 Zero Till Seed Drills and 20519 rotavators to farmers and Custom Hiring Centres. Establishment of ‘Custom Hiring Centres’ on larger scale have been promoted to offset the adverse effects of economies of scale arising due to small landholding and high cost of individual ownership of the machines. Accordingly, 7960 numbers of Custom Hiring Centres of in-situ crop residue management machinery have been established in these three States.

1.8.4 The Scheme is also being implemented in 2019-20 and so far the funds amounting to Rs.273.80 crores, Rs.194.06 crores, Rs.105.28 crores and Rs.15.00 crores have been released to the Government of Punjab, Haryana, Uttar Pradesh and ICAR, respectively, for distribution of in-situ crop residue management machinery to the farmers under subsidy, establishment of Custom Hiring Centres (CHCs) of in-situ crop residue management machinery and undertaking Information, Education and Communication (IEC) activities for creating awareness among farmers.

## **Recommendation/Observation**

1.9 *The Committee notes the measures being taken by the respective State Governments to curb the menace of crop residue burning. The Committee, however, is of the considered view that awareness needs to be created amongst the farmers highlighting the negative and adverse impact of crop residue burning not only on environment, human health, ecology, etc., but on the fertility of soil also. The Committee recommends that the Ministry of Environment Forests and Climate Change and the concerned State Governments should launch a massive awareness programme for the above purpose. Educational messages in this regard should also be publicised on audio, TV and print media so as to reach the maximum numbers of farmers in these States. The concerned State Governments should also run awareness campaign in schools in order to educate children about ill effects of crop residue burning.* (Para 4.12)

## **Action Taken**

1.10.1 ICAR KVKs in the states of Punjab, Haryana and Uttar Pradesh had put tremendous effort for creating awareness and demonstration of the crop residue management technologies in the villages to avoid straw burning during 2018-19 as detailed below:

- Number of field demonstration conducted for crop residue management implements/machines: 8601
- Number of farmers trained for using crop residue management implements machines: 8760
- Number of awareness programmes (camp/ kishan mela etc.) conducted at Panchayat/Block/District level: 1190
- Number of radio jingles/ Scroll messages on TV/ audio-visual clips displayed: 140
- Number of TV programmes/ panel discussions conducted on Doordarshan/ DD-Kisan and other private channels : 69
- Number of advertisement and publicity brought out through print media: 1066
- Number of columns/ articles in newspaper magazine published: 435
- Number of programs conducted on mobilization of school & college students through awareness/ essay completion etc.: 302
- Number of hoardings fixed for awareness: 1200
- Number of posters/banners/display: 6558
- Number of publicity materials/ leaflets distributed: 4,11,945

1.10.2 The funds provided during 2018-19 includes funds to the tune Rs.16.80 crores, Rs.21.64 crores, Rs.12.84 crores and Rs.28.51 crores to the States Punjab, Haryana, Uttar Pradesh and other Central Agencies, respectively, for undertaking various Information, Education and Communication (IEC) activities for awareness on in-situ crop residue management. As per the reports received from the State Governments and Central Agencies, the following IEC activities have been conducted:

- Demonstrations of different in-situ crop residue management machinery in about 18555 acres area with the participation of more than 19000 farmers.
- Training of 22525 farmers
- 1254 advertisements in the print media
- 22582 awareness camps/kisan melas at block/village/panchayat levels.
- 134544 hoardings/wall paintings at prominent location such as Mandis, Panchayat, Markets and schools etc.
- 31256 columns/articles have been published in various magazines/ journals/ newspapers.
- More than 24,94,576 leaflets/pamphlets distributed in villages.
- 710 schools have been mobilized with participation of around 69000 students.
- 127 panel discussions have been organized on various TV channels. The State Governments have broadcasted radio jingles on daily basis.

1.10.3 The DAC&FW has telecasted 8 different scrolls on in-situ crop residue management on DD News and DD Kisan Channels.

1.10.4 DAC&FW has also telecasted two films, one each of 3.5 minutes duration and 1.5 minutes duration on DD Kisan, DD News, DD National and regional channels of Doordarshan such as DDK Hisar, DDK Jalandhar and DD Gorakhpur

1.10.5 During 2019-20 the funds amounting to Rs.15.06 crores, Rs.12.20 crores, Rs.8.62 crores and Rs.11.60 crores have been provided to the States Punjab, Haryana, Uttar Pradesh and other Central Agencies, respectively for conducting the similar IEC activities to create awareness about ill effects of crop residue burning and benefits of in-situ management of crop residues.

#### **Recommendation/Observation**

1.11 *The Committee welcomes this move of the Government and hopes that the suggestions made by the Sub-Committee would be implemented at the earliest. The Committee hopes that with the allocation of Rs.1151.80 crore made for in-situ management of crop residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi would also address the financial needs of the concerned State Governments in promoting the scientific disposal of agricultural residues.*

(Para 4.14)

#### **Action Taken**

1.12.1 About 28,490 different types of crop residue management implements/machines were procured by farmers/ cooperatives/ CHCS during 2018-19. In Punjab, out of 2.3 million ha to be managed under paddy crop, about 1.03 million ha (44%) has been covered under mechanized solutions of crop residue management during 2018. Similarly, in Haryana, out of 0.681 million ha to be managed under paddy crop, about 0.25 million ha (36%) has been covered under mechanized solutions of crop residue management during 2018.

1.12.2 Under the above stated scheme, during 2018-19, the funds amounting to Rs.269.38 crores, Rs.137.84, Rs.148.60 crores and Rs.28.51 crores have been released as 100% share of GoI to the State Governments of Punjab, Haryana, Uttar Pradesh and Central Agencies, respectively.

1.12.3 The available budget under the scheme for 2019-20 is Rs. 600 crores and so far the funds amounting to Rs.273.80 crores, Rs.194.06 crores, Rs.105.28 crores and Rs.15.00 crores have been released to the Government of Punjab, Haryana, Uttar Pradesh and ICAR, respectively.

#### **Recommendation/Observation**

1.13 *The Committee welcomes the move of NTPC to procure farm stubble for its thermal units. The Committee feels that this move would not only incentivize the farmers to not to burn the farm stubble and get some monetary benefit out of it but would also help mitigate the problem of the air pollution in Delhi and NCR to a large extent.*

(Para 4.16)

#### **Action Taken**

1.14.1 Balers and Rakes are used for collection of straw for further use including making pellets and briquettes for use in thermal power plants.

1.14.2 The financial assistance for balers @ 40% to 50% of the cost limited to Rs.1.60 lakhs to 9.00 lakhs depending on the size of balers is available under the Sub-Mission on Agricultural Mechanization (SMAM). This scheme is also implemented in the States of Punjab, Haryana and Uttar Pradesh in addition to the Crop Residue Management Scheme.

### **VEHICULAR EMISSION**

#### **Recommendation/Observation**

1.15 *The Committee is surprised to note that despite the orders/directions from the Courts/Tribunal, the desired progress has not been achieved on this count. The Committee urges upon the Ministry of Environment, Forest and Climate Change and the concerned State Governments to ensure strict compliance of the orders/directions of Hon'ble Supreme Court of India, Hon'ble Delhi High Court, and National Green Tribunal for the purpose.*

(Para 5.12)

## **Action Taken**

1.16 The Ministry of Road Transport & Highways (MoRTH) has been taking all possible measures to ensure strict compliance of the of orders/directions of Hon'ble Supreme Court of India, Hon'ble Delhi High Court and National Green Tribunal for the purpose through amendments in Motor Vehicle Rule, 1989.

## **Recommendation/Observation**

1.17 *The Committee takes note of the decision of the Government of India to skip BS-V and leapfrog directly from BS-IV to BS-VI for all vehicles in April, 2020 and to advance the proposed use of BS-VI fuel from the year 2026 to 2020. The Committee appreciates this decision and hopes that all the modalities required for switching from BS-IV to BS-VI would be completed within the stipulated timeframe set for the purpose.* (Para 5.13)

## **Action Taken**

1.18.1 BS-VI fuel has been introduced in NCT of Delhi from 1st April, 2018.

1.18.2 In line with the directions issued by Ministry of Petroleum and Natural Gas, supply of BS-VI auto fuel has been started in 10 Districts of NCR & 3 Districts/cities outside NCR (Karauli, Dhaulpur & Agra City) w.e.f. 01.04.2019 and 07 Districts/cities of NCR will be covered w.e.f. 01.10.2019. These standards will be adopted throughout the country from 1st April 2020 along with the roll out of BS-VI vehicles.

## **Recommendation/Observation**

1.19 *The Committee feels that the problem of vehicular emission should be seen from the prism of vehicular technology, fuel quality, stringent vehicular emissions norms, inspection and maintenance of the vehicles and traffic management. The Committee is of the opinion that these parameters should be taken into consideration by all the concerned State Governments as well as Central Government while drafting any strategy to mitigate the problem of air pollution. The Committee, therefore, recommends that the Ministry of Environment, Forest and Climate Change should take up this issue with the Concerned Union Ministries/Departments/Agencies in consultation with the automobile industry so that an effective and long term solution can be found out to address the problem. The Committee also recommends that Government of India should consider the ITM Proposal submitted by Delhi Police and made adequate funds available so that the system could be introduced and contribute towards reducing vehicular air pollution by providing technology based traffic solutions.* (Para 5.14)

## **Action Taken**

1.20.1 MoRTH is in support of recommendation and has taken proactive steps like:

- Promoting use of alternate fuels by issuing notifications specifying mass emission standards for flex-fuel (E85 or E 100), Ethanol (ED 95), Biodiesel, Compressed Natural Gas, LNG and flex- fuel Methanol M15 or M 100 and Methanol MD 95 Vehicle.
- MoRTH has issued notification mandating all vehicle manufactures to give a detailed declaration about emission level of vehicles.
- MoRTH has issued as advisory to the State Governments for proper functioning of PUC centre.
- The linkage of PUC data with the VAHAN database of the Ministry has been notified.

1.20.2 National E-mobility Program launched in 2018 to take steps to have more than 30% of electric vehicles.

1.20.3 Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) for early adoption and market creation of hybrid and electric vehicles is being implemented.

1.20.4 National Policy on Biofuels has an indicative target of 20% of ethanol blending in petrol and 5% blending of biodiesel in diesel by 2030.

1.20.5 Status of Intelligent Traffic Management System (ITMS): On 13th January, 2018, approval was conveyed to Delhi Police for hiring of Consultant for preparation of the Detailed

Project Report (DPR) for the ITMS project and for implementation support. On 03/08/2018, “In Principle” approval for ITMS project was conveyed to Delhi Police. When the ‘Expression of Interest’ (EOI) was invited by Delhi Police first time, only one firm submitted documents with requisite pre-qualification criteria. Therefore, EOI was invited again by Delhi Police with the modified pre-qualification criteria and response was received from four firms.

1.20.6 Due to lack of competition in Global tender floated twice, proposal for nomination of Centre for Development of Advanced Computing (C-DAC) to undertake the ITMS project on turnkey basis is under consideration.

1.20.7 Status of pilot ITMS: In the meantime, the following pilot projects have been/ are being implemented:

- Installation of 3D Radar-based Red Light Violation Detection (RLVD) System: Central Control Room at Traffic HQ Todapur has been established and made operational. The RLVD system has been installed at 24 junctions and approval/sanction for installation of this system in 06 more intersections have been conveyed to Delhi Police on 11.08.2020.
- Installation of Gantry-mounted Radar-based over speed Detection Camera at 100 locations: Central Control Room at Traffic HQ Todapur has been established and made operational. 100 cameras have been installed and approval/sanction for installation of this system at 25 more locations have been conveyed to Delhi Police on 11.08.2020.
- Portable Tripod-mounted Radar: Procured 55 portable Tripod-mounted Radar and distributed to the field functionaries for undertaking enforcement action against over-speeding vehicles.
- New e-challan system: New e-challan system has been implemented w.e.f. 17.06.2019 in collaboration with NIC.

### **Recommendation/Observation**

1.21 *The Committee further opines that the problem of air pollution is encompassing everything which is related covertly or overtly to human beings and any leniency on the part of Government in tackling the issue will have cascading effect on the health of its citizens. The Committee feels that worst situations demands stringent solutions. Therefore, the Committee recommends that the Ministry of Environment, Forest and Climate Change, in consultation with Ministry of Road, Transport and Highways along with the Ministry of Heavy Industries and Public Enterprises, should chalk out a mechanism for phasing out of the polluting vehicles at the earliest.* (Para 5.15)

### **Action Taken**

1.22.1 MoRTH has already issued instructions to vehicle manufacturers to give a detailed declaration about vehicle emission level. Moreover, Ministry has issued advisory to State Governments for proper functioning of PUC Centre. The Data of PUC Centre is also linked with VAHAN database of Ministry.

1.22.2 Hon‘ble Supreme Court vide order dated 29.10.2018 has passed the following orders with regard to old polluting vehicles: “The Transport Departments of NCR will immediately announce that all the diesel vehicles more than 10 years’ old and petrol vehicles more than 15 years’ old shall not ply in NCR in terms of the order of the National Green Tribunal dated 07.04.2015. The order of the National Green Tribunal was challenged in this Court and the Civil Appeal was dismissed. Vehicles violating the order will be impounded. The list of such vehicles should be published on the websites of the Central Pollution Control Board (CPCB) and the Transport Departments of NCR. Similarly, a meaningful advertisement should be published in a local newspaper for the convenience of the owners of the vehicles.” In compliance of the above orders, CPCB has already provided a link on its website where the information of such vehicles is updated.

### **Recommendation/Observation**

1.23 *The Committee is happy to note that the construction of Eastern Peripheral Expressway has been completed and the completion of Western Peripheral Expressway is likely to be*

completed by 30<sup>th</sup> September, 2018. The Committee hopes that all the work related with the completion of Western Peripheral Expressway will be completed within the given timeline. The Committee is of the considered view that the completion of Western Peripheral Expressway and the already completed Eastern Peripheral Expressway would play an important and crucial role in mitigating the problem of air pollution in Delhi and National Capital Region. The Committee also recommends that the Ministry of Environment, Forest and Climate Change in consultation with the concerned State Governments should undertake a massive plantation drive along both the sides of these Expressways so that they can play their role in mitigation of vehicular emission. Since the matter concerns to one and all, the Committee also recommends that Ministry of Environment, Forest and Climate Change should urge upon the Central PSUs to play a role too and contribute from their CSR funds for plantation activities and the Ministry should play a role of a mentor for the purpose. (Para 5.16)

### **Action Taken**

1.24.1 Western Peripheral Expressway (WPE) has been made operational on 19.11.2018.

1.24.2 MoRTH has adopted Green Highways (Plantation, Transplantation, Beautification and Maintenance) Policy, 2015. The policy of planting trees alongside NH is being implemented in the said policy.

### **ROAD DUST**

#### **Recommendation/Observation**

1.25 *The Committee notes that road dust is one of the major sources of air pollution in Delhi and NCR. Dust on roads, construction sites, etc. adds to the particulate pollution and a mitigation plan for road dust is extremely essential for solving the problem of air pollution in Delhi and NCR. The Committee takes note of the action plan of the Ministry of Environment, Forest and Climate Change regarding control of road dust/re-suspension of dust and other fugitive emissions. However, the Committee is of the view that the action taken by the concerned State Governments of this Region so far has not helped much in addressing the issue. Further action on some of these points is yet to be taken up with full vigour. The Committee feels that though vacuum cleaning of the roads dust may play an important role in addressing the issue of road dust as an immediate step but for the long term solution to the problem, innovative solutions are required to be taken by the Government. The Committee also recommends that the Ministry of Environment, Forest and Climate Change must impress upon all the concerned State Governments to aggressively take action on all the action points for control of road dust/re-suspension of dust and other fugitive emissions.* (Para 6.6)

### **Action Taken**

1.26.1 Directions dated September 15, 2018 were issued to all Municipal Corporations and State Boards of Delhi & NCR to prepare targeted action plans for sources such as road & construction dust, ensuring mechanized sweeping on roads especially with heavy traffic and water sprinkling on unpaved roads.

1.26.2 “Clean Air Campaign” was organized from November 01, 2018 to November 10, 2018 where in 52 joint teams including members from Ministry of Environment, Forest & Climate Change, Central Pollution Control Board and Government of Delhi and NCR States (Noida, Gurugram, Greater Noida, Faridabad and Ghaziabad) took on-spot ground actions to control air polluting activities. Complaints redressal mechanism is facilitated through Sameer App, E-mail, Facebook page, Twitter handle, and web-based complaint lodging.

1.26.3 Sprinkling of water at construction site, cleaning service road by broomer machine, covering of construction material during transportation, no grinding of cutting of stone/concrete in open area, etc. are some of the measures taken for control of road dust/re-suspension of dust and other fugitive emission during road construction.

1.26.4 A pilot project has been awarded to EPRI, Pune on “Control of road dust using dust suppressant” under EPC funds. The demonstration has been carried out at 03 sites in Delhi.

## **Recommendation/Observation**

1.27 *The Committee also takes note of the number of mechanised road sweeping machines currently being used to curb the road dust in Delhi/NCR and feels that the impact of using such machines invisible only in selected areas of Delhi. Thus there is an urgent need to increase the number of mechanised road sweeping machines. The Committee is also of the considered view that adequate funds be made available to the concerned Government agencies so that the plans to procure more machines is fructified and the process of procurement is not stalled or delayed for want of funds.* (Para 6.8)

## **Action Taken**

1.28.1 The number of Mechanized Road Sweeping Machines (MRSMs) has increased to 60 in Delhi.

1.28.2 NCR cities Ghaziabad, Noida, Gurugram and Faridabad are also using MRSMs.

## **Recommendation/Observation**

1.29 *The Committee also observes that the continuous digging of roads and other areas for various municipal works in Delhi and NCR is highly irrational and exhibits a classic example of the concerned Government agencies working in silos without having any co-ordination amongst them. It is a well known fact that one part or the other part in Delhi and NCR is under digging activities by a 21 Government agency and as soon as the work is completed some other agency starts digging work related to them on the same site causing not only a great amount of inconvenience to the public at large but also does burden the public exchequer. This also adds to the air pollution in Delhi. The Committee, therefore, recommends that all the concerned civic agencies should collectively draw up plan of developmental activities for the next five years and undertake developmental works simultaneously so that no repetitive digging of the roads etc. is undertaken and their contribution to air pollution is minimised.* (Para 6.9)

## **Action Taken**

1.30.1 Regarding dust mitigation measures, all SPCBs/PCCs including those of Delhi NCR were communicated (February, 2018) for their information about the Central Government's notification of "The Environment (Protection) Amendment Rules, 2018" vide G.S.R. 94(E) 2018 dated 25th January, 2018 where regarding dust mitigation measures following entries were made - i) "Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance" and ii) "Mandatory Implementation of Dust Mitigation Measures for all Construction and Demolition Activities". For effective implementation of the above Rules, they are advised to incorporate the above guidelines as a part of consent mechanism.

1.30.2 Further, they have been asked to identify the cities and towns where value of PM10 or PM2.5 exceeds the limits prescribed in National Ambient Air Quality Standards and the list of identified cities and towns may be forwarded to this Office.

1.30.3 Delhi Cantonment Board is in process of taking up of surveying of all the services along main roads through Survey of India so that the same can be uploaded on Geospatial Delhi Limited (GSDL) Portal in order to minimize digging. It is further informed that digging in Delhi Cantonment Area is bare minimum as Cantonment is a restricted Area and preference is given to trenchless technology and open digging is permitted only in exceptional cases.

1.30.4 Delhi Cantonment Board has directed all the executing agencies to follow all the instructions issued by Hon'ble NGT from time to time for combating air pollution such as.

1.30.5 The Contractor shall not store/dump construction material or debris on metalled road.

1.30.6 The contractor shall take appropriate protective measures like raising wind breakers of appropriate height on all sides of the plot/area to ensure that no construction material/dust fly outside the plot area.



1.30.7 The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered.

1.30.8 The Contractor shall compulsorily use wet jet in grinding and stone cutting.

1.30.9 The Contractor shall ensure that all DG sets comply emission norms notified by MoEF&CC. Further violations are being prosecuted for environment compensation.

1.30.10 Dust mitigation measures for all construction and demolition activities as notified on 25.01.2018 by MoEF&CC, GOI is being implemented.

1.30.11 SDMs alongwith Tehsildars (Executive Magistrate), Department of Revenue, Govt. of NCT of Delhi and Assistant Engineer of Public Works department (PWD) have been authorized to take action against violations. Penalty is being imposed in accordance with the directions of Hon'ble National Green Tribunal.

1.30.12 All local bodies and DDA have also been asked to apprise public in general and owners and builders in particular who have got their building plans sanctioned for following dust control measures.

1.30.13 DPCC has imposed fine on construction projects who have obtained Environmental Clearance (built up area more than 20,000/- sq. mtr.). With respect to Construction Projects with built up area more than 20,000 sqm, 68 notices were issued and penalty of Rs.3.36 crore was imposed. (since 01.01.2018 till August 2020).

1.30.14 Dust suppressant: Directions have been issued to different local bodies to use dust suppressant on construction sites and dusty patches of the road.

1.30.15 Anti Smog gun: The Delhi Government has identified major construction projects having potential of generating dust and consequent air pollution and accordingly directions have been issued to the project proponents of the major projects to install anti smog guns on site to arrest dust emissions. 20 major projects have already deployed Anti Smog Guns and at 13 projects installation of anti smog guns are under pipeline.

1.30.16 Complaints uploaded on SAMEER APP are being redressed by the concerned agencies/departments.

1.30.17 To Control local Sources of Air Pollution at source, 13 hotspots namely Okhla Phase II, Dwarka, Bawana, Narela, Mundka, Punjabi Bagh, R K Puram, Wazirpur, Rohini, Vivek Vihar, Anand Vihar, Jahangir Puri and Mayapuri have been identified in Delhi in consultation with EPCA and CPCB as the said spots have higher air pollution levels in comparison to other areas of the city. Specific action plans have been drawn up for identifying and mitigating the local sources of air pollution so that there is immediate impact on the improvement in the air quality around these hotspots. The Dy. Commissioners of respective MCD Zones have been made responsible as Nodal Officers for the execution of the action plan(s). These specific action plans have been prepared covering the local air pollution sources such as identifying and clearing the Construction and Demolition waste, illegal garbage and plastic dumps, filling up of potholes and unpaved stretches, intensified night patrolling to prevent garbage burning and mechanized road sweeping and water sprinkling on dusty patches through scientifically designed sprinklers. Regular review of the status of the above hotspots is carried out. Special drive has been launched to increase green cover on the road sides and vacant spaces in these hotspots. Directions have been given to the nodal officers of each hotspot to continuously take action as per the plan and adopt additional measures in the coming winter months when the air generally quality deteriorates.

1.30.18 Smog Tower:- In compliance with this Hon'ble Supreme Court order dated 13.01.2020 in WP (C) 13029/1985, Smog Towers have to be installed at Anand Vihar Bus Terminal and Baba Kharak Singh Marg, Connaught Place. DPCC is in process of installation of Smog Tower at Connaught Place with IIT Bombay & TPL. Other Smog Tower at Anand Vihar Bus Terminal is being done by CPCB. The main focus is to set up a large air cleaning system in Delhi and assess its performance in reducing PM2.5 & PM10 concentrations.

## **CONSTRUCTION ACTIVITIES**

### **Recommendation/Observation**

1.31 *The Committee feels that construction activities provide daily earning to the poor and weaker sections of the society. Banning construction activities results in loss of livelihood to the 26 poor and the needy, especially labourers. A World Bank report also stated that India's labour losses due to air pollution in the year 2013 stood at about \$55.39 Billion or about 0.84% of its Gross Domestic Product (GDP). The said losses could be even more due to the air pollution situation prevalent during the last few years. The Committee recommends that instead of banning construction activities, which deprive the poor of their daily earnings, efforts should be made for the stringent enforcement of the construction guidelines and international best practices.*

*(Para 7.7)*

### **Action Taken**

1.32.1 Direction has been issued to construction agencies dated September 15, 2018 to prepare targeted action plans for air pollution sources and to implement these plans and on October 29, 2018 to NCR SPCBs to initiate criminal prosecution against the construction agency who fail to take corrective action for control of pollution.

1.32.2 After inspection of C&D sites within Delhi NCR, the Pollution Control Board/Committee of Delhi, Haryana, Uttar Pradesh and Rajasthan were informed (February, 2018) about observations made by the teams and asked to ensure the executive agencies to implement the various provisions of "The C&D W M Rules, 2016" and compliance be reported to CPCB.

### **Recommendation/Observation**

1.33 *The Committee, therefore, recommends the Ministry to sensitise the concerned State Governments in the Region to strictly follow the guidelines/norms specified by CPCB in order to prevent pollution caused by construction activities. The measures taken by DMRC to control dust emission and creative touch given to construction waste from construction sites are highly commendable. Instead of dumping the constructional waste here and there, the wastes are dumped at pre-designated and approved sites by the Government. The measures adopted by the DMRC by following the C&D waste rules and the guidelines should be adopted and followed by other agencies involved in construction activities. Strict implementation of the C&D waste rules and guidelines should also be enforced by the concerned law enforcement agencies of Delhi and NCR. The Committee strongly believes that good construction site practices can help to the great extent in controlling and preventing air pollution in the Region. The Committee also feels that Environment Risk Assessments for all the construction activities and materials being used and likely to cause air pollution must be made in consonance with the laid down norms/regulations. The Committee recommends that the construction industry should also be encouraged to use eco-friendly construction methods, materials and technologies.*

*(Para 7.9)*

### **Action Taken**

1.34.1 Direction has been issued to construction agencies dated September 15, 2018 to prepare targeted action plans for air pollution sources and to implement these plans and on October 29, 2018 to NCR SPCBs to initiate criminal prosecution against the construction agency who fail to take corrective action for control of pollution.

1.34.2 After inspection of C&D sites within Delhi NCR, the Pollution Control Board/Committee of Delhi, Haryana, Uttar Pradesh and Rajasthan were informed (February, 2018) about observations made by the teams and asked to ensure the Executive Agencies to implement the various provisions of "The C&D W M Rules, 2016" and compliance be reported to CPCB.

1.34.3 NCT of Delhi has C& D waste processing capacity of 2500 Tonnes Per Day (TPD) and a capacity addition of 2000 TPD is being done.

## **LANDFILL SITES**

### **Recommendation/Observation**

1.35 *The Committee recommends that the Ministry of Environment Forests and Climate Change must impress upon the Government of NCT of Delhi to take immediate necessary measures to fix the problem relating to the landfill sites of Delhi and, if required, take help of agencies like CSIR-IIP and CSIR-NEERI in the matter.* (Para 8.5)

### **Action Taken**

1.36 Following actions for proper implementation of Solid Waste Management Rules, 2016 and management of landfill sites in Delhi Region have been taken.

1. Directions issued to Delhi Pollution Control Committee (DPCC) u/s 18(1) (b) of the Water /Air Act to direct authorities of Delhi for implementation of SWM Rules, 2016.
2. Directions issued on 11.09.2017 u/s 5 of the Environment (Protection) Act, 1986 to the Secretary-in-charge, State UD Departments of all States/UTs for constitution of State Level Advisory Body (SLAB) and convening its six-monthly meeting.
3. Directions issued on 22.09.2017 under section 5 of Environment (Protection) Act, 1986 to East Delhi Municipal Corporation (EDMC), South Delhi Municipal Corporation (SDMC), North Delhi Municipal Corporation, New Delhi Municipal Corporation, and Delhi Cantonment Board (DCB) and under section 18(1)(b) to DPCC for implementing SWM Rules, 2016 including ensuring of structural stability of landfill sites.
4. Directions issued on 05.10.2017 under Section 5 of the Environment (Protection) Act, 1986 to the Commissioners of Municipal Authorities of 53 Metro-cities and 18 State Capitals for implementation of Solid Waste Management Rules, 2016.

## **FIRE CRACKERS**

### **Recommendation/Observation**

1.37 *The Committee, however, feels that much more needs to be done in this regard. The Committee, therefore, recommends that the Central Government in consultation with the concerned State Governments should chalk out a mechanism whereby the cracker manufacturers are allowed to manufacture only low polluting crackers. The Committee also recommends that the Central Government should also consider issuing firm guidelines with regard to the chemicals to be used in crackers by the manufacturers for minimising their adverse impact on the environment and human health.* (Para 9.3)

### **Action Taken**

1.38 Petroleum and Explosives Safety Organisation (PESO) will give certificate for reduced emission crackers and then only these can be introduced in the market.

## **IMPORTANCE OF TREES IN REDUCING POLLUTION VIS-À-VIS FELLING OF TREES IN DELHI**

### **Recommendation/Observation**

1.39 *The Committee is of the view that trees are the most important and essential part of our environment. The rising population, industrialization, deforestation, and urbanization has caused problems like climate change, global warming, rising pollution, loss of natural habitats for animals, effects on the water cycle, effects on the carbon cycle and so many other diverse effects on the environment. Cars, Trucks, Diesel engines, Railways, Motorcycles, and other vehicles all over the world release millions of tonnes of carbon dioxide gas. Trees contribute to the environment by providing oxygen, improving air quality, climate amelioration, conserving water, preserving soil, and supporting wildlife. During the process of photosynthesis, trees take in carbon dioxide and produce the oxygen we breathe. Trees have a great role to play in reducing pollution. Not only do they provide nourishment for the entire food chain as well as the earth itself, but they are a safe and effective solution to some of our biggest environmental problems, improving both outdoor and indoor environments. Trees control climate by moderating the effects*

*of the sun, rain and wind. Trees also lower the air temperature and reduce the heat intensity of the greenhouse effect by maintaining low levels of carbon dioxide. Hence it is imperative to cut down on excessive carbon dioxide emissions, go in for massive afforestation, increase the forest cover, etc. Plantation, protection and conservation of trees and forest is the only way of human survival on earth.* (Para 10.7)

### **Action Taken**

1.40.1 Forest Policy Division at MoEF&CC has proposed new National Forest Policy, 2018 which proposes policy prescription on the issues of clean air and carbon sequestration. Thrust has been given on promoting urban greens, agro forestry, city forests, integrating climate change mitigation and adaptation measures, achieving the NDC targets and tree plantation outside forests on mission mode and afforestation on degraded forests, etc.

1.40.2 India's Nationally determined Contributions (NDCs) under United Nations Framework Convention on Climate Change (UNFCCC) include creation of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent of additional tree and forest cover as carbon sink by 2030.

1.40.3 About 32 lakh trees are being planted in NCT of Delhi in current year.

### **Recommendation/Observation**

1.41 *Maintenance of ecological balance and preservation of environment is essential for the very survival of life on earth. At the same time, we need to raise standards of living of the people for which the economy needs to grow rapidly and tourism needs to be promoted. The challenge before us, therefore, is to strike the right balance between the two imperatives as a holistic national enterprise. While, on the one hand, Delhi is waging a war against air pollution, on the other, trees, which play a very vital role in reducing one of our biggest environmental problems, are being indiscriminately felled in the name of developmental projects. This felling of trees has also adversely affected the biodiversity of Delhi. The Committee notes that the number of trees proposed to be cut in the above proposals involving development plans in Delhi is too large. The Committee, therefore, recommends that the aforementioned development projects should be revisited and the project proponents of these developmental projects should be requested to submit revised proposals with minimal requirement of tree felling. In view of the critical air pollution scenario in Delhi, all possible efforts should be made for preserving the trees at these sites. Further, the possibility of translocation the maximum number of trees should also be explored. The Committee also recommends that in future also, whenever any developmental/re-developmental project comes up, efforts should be made for minimum felling of trees at the planning stage itself.* (Para 10.8)

### **Action Taken**

1.42.1 Govt. of Delhi has "The Delhi Preservation of Trees Act, 1994" (DPTA, 1994) under which section 8 provides "Restrictions on felling and removal of trees:- Notwithstanding anything contained in any other law for the time being in force or in any custom or usage or contract and except as provide in this Act or the rules made there under, no person shall fell or remove or dispose of any tree or forest produce in any land, whether in this ownership or permission of the Tree Officer Forest land or land with tree cover should not be -treated merely as a resource."

1.42.2 Provided that if the tree is not immediately felled. There would be grave danger to life or property or traffic, the owner of the land may take immediate action to fell such tree and report the fact to the Tree Officer within twenty-four hours of such felling.

1.42.3 DPTA, 1994 provides a complete procedure for obtaining permission to fell, cut, remove or dispose of a tree (u/s 9) and also provides duties of Tree Authority (u/s 7).

1.42.4 Further, some relevant policy directions of the National Forest Policy, 1988 needs to be taken into consideration: -

1.42.5 Maintenance of environmental stability through preservation and, where necessary, restoration of the ecological balance that has been adversely disturbed by serious depletion of the forests of the country.

1.42.6 Increasing substantially the forest/tree cover in the country through massive afforestation and social forestry programmes, especially on all denuded, degraded and unproductive lands.

1.42.7 Green belts should be raised in urban/industrial areas as well as in arid tracts. Such a programme will help to check erosion and desertification as well as improve the microclimate.

1.42.8 No forest should be permitted to be worked without - the Government having approved the management plan, which should be in a prescribed format and in keeping with the National Forest Policy. The Central Government should issue necessary guidelines to the State Governments in this regard and monitor compliance.

1.42.9 Forest land or land with tree cover should not be -treated merely as a resource readily available to be utilised for various projects and programmes, but as a national asset which requires to be properly safeguarded for providing sustained benefits to the entire community. Diversion of forest land for any non-forest purpose should be subject to the most careful examinations by specialists from the standpoint of social and environmental costs and benefits.

1.42.10 As per the recommendations of the committee on the reworking of the proposals and revision of the development plans; NBCC and CPWD have reworked their concept plans on the above principles for all six GPRA colonies i.e. Netaji Nagar, Sarojini Nagar, Mohammadpur, Kasturba Nagar, Srinivaspuri and Thyagraj Nagar. This reworking has resulted in following changes:

1.42.11 Reduction in Dwelling Units: 739 numbers of DUs have been reduced; thereby numbers of DUs have come down from 25,667 to 24,928, as given here under:

| GPRA                 | Type wise Reduction in Quarters |      |      |      |      | Total |
|----------------------|---------------------------------|------|------|------|------|-------|
|                      | II                              | III  | IV   | V    | VI   |       |
| Netaji Nagar         | 2                               | 2    | 35   | 41   | 38   | 118   |
| Sarojini Nagar       | 61                              | 110  | 128  | 77   | 76   | 452   |
| Mohamadpur           | 22                              | 15   | -    | -    | -    | 37    |
| Kasturba Nagar       | -                               | -    | -    | 59   | 36   | 95    |
| Srinivaspuri         | -                               | -    | -    | -    | -    | -     |
| Thyagraj Nagar       | 9                               | 23   | 5    | -    | -    | 37    |
| Total Reduction      | 94                              | 150  | 168  | 177  | 150  | 739   |
| Qtrs in Old Proposal | 7905                            | 7636 | 5734 | 2347 | 2045 | 25667 |
| Qtrs in New proposal | 7811                            | 7486 | 5566 | 2170 | 1895 | 24928 |
| % age reduction      | 1.19                            | 1.96 | 2.92 | 7.54 | 7.33 | 2.88  |

1.42.12 Further changes in layout plan Changes were made in the Concept Plan, Architectural design, re-alignment of location of towers, buildings around trees and retention of existing road network. The parking space has been considered in an additional underground floor, surface parking/Podium and by making localized basement/reducing the ground coverage with the aim to bring down the number of trees being affected.

| GPRA           | Plot Area in Acres | No. of Existing trees | Affected trees as per original design | Affected tree which may be translocated as per revised design |
|----------------|--------------------|-----------------------|---------------------------------------|---|
| Netaji Nagar   | 254.64             | 11913                 | 8893                                  | 3500  |
| Sarojini Nagar | 110.00             | 3906                  | 2490                                  | 1600  |
| Mohamadpur     | 8.03               | 562                   | 433                                   | 213   |
| Kasturba Nagar | 52.81              | 1203                  | 723                                   | 405   |
| Srinivaspuri   | 73.14              | 2763                  | 1336                                  | 1239  |
| Thyagraj Nagar | 13.30              | 349                   | 100                                   | 40  |
| Total          | 511.92             | 20696                 | 13975                                 | 6997  |

## **Recommendation/Observation**

1.43 *The Committee notes that recently eight metro pillars in Delhi were covered with evergreen plants that remain green throughout the year, giving the pillars the look of vertical gardens. Delhi Metro has a wide network in Delhi and vertical gardens on metro pillars is a unique idea. The Committee, therefore, recommends that the concerned agencies should explore the possibility of erecting such vertical gardens on metro pillars, flyovers and other strategic structures, which would not only beautify these structures but also can be a good medium of increasing the green cover of Delhi. In light of the existing environmental crisis in Delhi, these vertical gardens could be one step forward in helping the citizens of Delhi to breathe a little easy since these vertical gardens serve the dual purpose of improving air quality by trapping dust and pollutants and absorbing heat from the surroundings to provide a cooling effect.* (Para 10.9)

### **Action Taken**

1.44.1 262 pillars of flyovers/over-bridges have been covered with vertical gardens in NCT of Delhi.

1.44.2 Greening of spaces below flyovers at 38 places has been done in NCT of Delhi.

## **AIR POLLUTION DURING SUMMERS**

### **Recommendation/Observation**

1.45 *Depletion of forests is one of the main causes of air pollution in the country. Delhi and its surrounding areas are not so green now as they used to be earlier. There was a thick green belt around Delhi but the same has gradually receded. This green belt acted as a wall to protect Delhi from dust and pollution from neighbouring States. The Committee feels that the absence of greenbelts permits such dust storms from neighbouring States to enter Delhi. The Committee recommends that a massive tree plantation exercise should be undertaken, in a time-bound manner, on the borders of Delhi with Haryana, Rajasthan and Uttar Pradesh so that they not only absorb the pollution causing particulate matter but also act as a natural barrier and shield the city from frequent dusty winds from the neighbouring States.* (Para 11.2)

### **Action Taken**

1.46.1 Transplantation of Trees: It was proposed to avoid cutting of trees to the maximum extent and instead transplant the affected trees, within the site or in the vicinity, in a phased manner. The executing agencies were directed to engage specialized agencies for such transplantation ensuring survival rate to the maximum. The Transplantation procedure was directed to be commensurate with the construction so that the green cover of the area is not reduced.

1.46.2 It may also be mentioned that Delhi Forest Department is in the process of finalizing a policy for Tree Transplantation which aims to minimize tree felling, tree preservation plan for all projects and transplantation of 80% of the trees to be affected by any project. The policy is awaiting approval from the cabinet.

1.46.3 While Developmental Projects are inevitable fallout of rapid urbanization especially in a rapidly growing metropolis like Delhi, it is also submitted that the Forest and Tree cover of Delhi has shown an increasing trend through the years. As per the State of Forest Report 2019 the Forest and Tree cover has gone up from 283 sq km (19.12% of total Geographic area) in 2005 to 324.44sq km (21.92% of total Geographic area) in 2019. Moreover no forests under the very dense category in 2005 now Delhi has 6.72 sq km of forests under very dense category in 2019.

### **Recommendation/Observation**

1.47 *The Committee is of the view that IIRS, Dehradun has conducted Air Quality Studies and Air Quality monitoring using Satellite data and ground instrumentations and has the infrastructural set up to issue real time alerts on the worsening air quality due to various factors. The Committee recommends that the Ministry of Environment, Forest and Climate Change should also coordinate with the IIRS, Dehradun and SAFAR programme of Indian Institute of Tropical Meteorology, Pune in the matter to get real time alerts on the worsening air quality in Delhi and*

*NCR due to various factors so that immediate damage control exercise could be undertaken and necessary corrective measures could be initiated by all the concerned agencies. (Para11.5)*

### **Action Taken**

1.48 Air Quality Early Warning System for Delhi has been implemented in October, 2018 in association with Ministry of Earth Sciences. The system provides live air quality, active fire counts, AOD, 3-day forecast, etc.

## **IMPACT OF AIR POLLUTION ON HEALTH**

### **Recommendation/Observation**

1.49 *The Committee is extremely perturbed to note the replies of the Ministries of Environment, Forest and Climate Change and Health and Family Welfare with respect to the alarming impact of air pollution on the health of the residents of Delhi and NCR. The Committee firmly believes that, as accepted by the Ministries of Health and Family Welfare and Environment, Forest and Climate Change, polluted air in Delhi and NCR is a significant risk factor for a number of pollution-related diseases and health conditions including respiratory infections, heart disease, Chronic Obstructive Pulmonary Disease (COPD), stroke, lung cancer, difficulty in breathing, wheezing, coughing, asthma and worsening of existing respiratory and cardiac conditions resulting in increased medication use, increased doctor or emergency room visits, more hospital admissions and premature deaths. Infants, children and asthmatic patients are the most vulnerable in such conditions. The Committee is also deeply concerned to note that during the period from 2013 to 2017, a total of 981 casualties have taken place due to Acute Respiratory Infection (ARI) in Delhi. The Committee is of the view that the adverse health effects of poor air quality in Delhi and NCR and its toll on human life calls for immediate short and long term solutions to the problem. The Committee is also surprised to note that Ministry of Health and Family Welfare was not taken on board in the High Level Task Force on Air Pollution which is, in a way, indicative of the ignorance as well as denial about the negative impact of air pollution on human health. The Committee recommends that considering the severe health hazards of air pollution, Ministry of Environment, Forest and Climate Change should take immediate corrective and preventive strategic steps in consultation with the Ministry of Health and Family Welfare to mitigate the air pollution. (Para12.7)*

### **Action Taken**

1.50.1 The Ministry of Environment, Forest & Climate Change (MoEF&CC) has constituted a Working Group to evaluate and apprise environmental health projects. The recommendations of the Working Group are to be considered for approval by the Apex Committee under the chairmanship of Secretary, MoEF&CC and Co-Chairpersonship of DG, Indian Council of Medical Research (ICMR).

1.50.2 The reconstituted Working Group in its first meeting held on 30th January, 2017 recommended, inter alia, for initiating a study for National Environmental Health Profile with a view to create a database on pollution and health and to make an assessment of human health/economic risks associated with environmental exposures.

1.50.3 The Ministry of Environment, Forest & Climate Change has initiated a National Environmental Health Profile study entitled 'Study on air pollution and its effects on Health: 20 City Multi-Site study' which will be conducted by the Medical Institutes of 20 cities & SPCBs.

### **Recommendation/Observation**

1.51 *Further, Ministry of Health and Family Welfare should also aggressively start an awareness campaign to educate the people about the adverse health effects of air pollution and the ways and means to minimise its adverse impacts. (Para12.8)*

## **Action Taken**

1.52.1 The National Environmental Health Profile is aimed at evaluating the quantum of health manifestation of environmental exposure in the country. The study is envisaged to be initiated with 20 cities in 4 zones of the country viz., North, South East and West. Further, 5 cities have been selected in each zone, with one city in each zone as a control/ referral city which is a comparatively cleaner one. Inter-relationship between pollution and mortality/ morbidity is to be analyzed and this requires pollution data of the 20 cities as well as data on morbidity and mortality. Trends in air pollution will be assessed vis-à-vis mortality/ morbidity data for each city to evaluate the quantum of health manifestations and to identify gaps to take up further systematic studies. The duration of study is proposed to be 3 years.

1.52.2 High Level Task Force for management of air pollution in Delhi and NCR has Director, AIIMS as its member.

## **IMPACT ON INDIAN ECONOMY**

### **Recommendation/Observation**

1.53 *The Committee expresses its deep concerns in the matter. The Committee firmly believes that if corrective preventive measures are not put in place by the Government, the situation will worsen which will also take a toll on our foreign exchange earning capacity in so far as tourism sector is concerned. As already stated in the report, a World Bank report has stated that India's labour losses due to air pollution in the year 2013 stood at about \$55.39 Billion or about 0.84% of its Gross Domestic Product (GDP). The Committee observes that since the air pollution situation has only worsened during the last few years, the said losses may have crossed 1% by now.* (Para 13.2)

## **Action Taken**

1.54.1 Various regulatory and technical solutions in addition to integrated control strategies have been taken by CPCB for improving overall air quality in Delhi NCR. The results have been encouraging with gradual improvement noted in present year compared to previous years. Some of the important actions taken towards air quality management in Delhi NCR are as presented below:

1.54.2 Strengthening of ambient air quality monitoring network in Delhi NCR to provide information to public and assess the impact of actions against air polluting activities in ambient air quality.

1.54.3 Directions were issued to various agencies to ensure strict implementation of Comprehensive Action Plan (CAP) for Air Pollution Control in Delhi NCR. Graded Response Action Plan prepared by CPCB is implemented in Delhi NCR based on air quality situation

1.54.4 Air Quality Early Warning System for Delhi has been implemented in October, 2018 in association with MOES. The system provides timely alerts to implementing agencies.

1.54.5 A complaint redressal mechanism has been established for taking swift action on complaints received through SAMEER app, email and social media platforms (twitter and Facebook accounts).

1.54.6 Directions issued under the Environment (Protection) Act, 1986 and the Air (Prevention and Control of Pollution) Act, 1981 to implementing agencies (SPCBS, Construction Agencies Municipal bodies, Traffic police and transport department and agriculture department in Delhi and NCR) for taking action against air polluting activities.

1.54.7 Strict enforcement against air polluting activities through field teams deployed during critical winter months for monitoring and providing ground feedback about air polluting activities.

1.54.8 Pilot projects have been initiated to assess air pollution mitigation technologies.

1.54.9 Status of Air Quality: Overall improvement in air quality of Delhi was noted in 2018 as compared to 2017. Total number of Good, Satisfactory and Moderated days increased to 159 in



2018 as compared to 152 in 2017. Accordingly, the number of Poor, Very Poor and Severe days decreased to 206 in 2018 as compared to 213 in 2017.

## **GENERAL OBSERVATION**

### **Recommendation/Observation**

1.55 *Pollution prevention is a major global concern because of its harmful effects on people's health and the overall environment. Air Pollution has assumed gigantic proportions in our country and Delhi, the capital of India, is not lagging behind. Growing urbanization, rapid industrialisation and increasing population etc. during the last few years have also adversely impacted the air pollution scenario of Delhi and NCR. In such a scenario, the measures taken by Ministry of Environment, Forest and Climate Change for prevention and control of air pollution have so far not been commensurate with the magnitude of the problem. In view of the foregoing, the Committee recommends that the Ministry, on its part, must prepare both short and long term plans, put forth futuristic projections and ensure that all the measures planned are holistically implemented in coordination with the concerned State Governments. There are many scientific organisations of Government of India such as CSIR-Indian Institute of Petroleum, Dehradun; Indian Institute of Remote Sensing; Dehradun; Indian Institute of Tropical Meteorology, Pune; CSIR-National Environmental Engineering Research Institute, Nagpur which can help in contributing towards finding solutions to many aspects associated with the air pollution problem of Delhi. Improving air quality in Delhi and NCR demands sustained and coordinated government action at all levels and Ministry of Environment, Forest and Climate Change should seek the cooperation of all concerned agencies and stakeholders who can contribute towards addressing the problem of air pollution in Delhi and NCR.* (Para14.1)

### **Action Taken**

1.56.1 MoEF&CC has been working in close coordination with other ministries, State Governments of NCR States and eminent academic as well as research institutions to address the problem in holistic manner.

1.56.2 A Graded Response Action Plan has been developed for implementation in Delhi and NCR under different Air Quality Index (AQI) categories. It lists out actions along with responsible agencies in accordance with the air pollution levels to prevent and deal with critical air pollution situations and emergencies. MoEF&CC notified its implementation through Environment Pollution (Prevention & Control) Authority vide S.O. 118 (E) dated January 12, 2017.

1.56.3 Comprehensive Action Plan-With an objective of improving air quality in the National Capital Territory of Delhi and National Capital Region States of Haryana, Rajasthan and Uttar Pradesh, a time bound source specific Comprehensive Action Plan (CAP) has been evolved. It identifies timelines and implementing agencies for actions identified. As mentioned above, a total 55 agencies have been directed under section 3 and 5 of E (P) Act, 1986 on January 25, 2018, March 06, 2018 and June 22, 2018 to ensure strict implementation of Comprehensive Action Plan for air pollution control in Delhi NCR.

1.56.4 Expression of Interest for Projects/ Studies has been invited on Improvisation & Management of Air Quality in Delhi NCR under Environment Protection Charge (EPC) funds in compliance of the Hon'ble Supreme Court Orders. The project and activities identified being funded under EPC funds in Delhi-NCR are broadly classified under following thrust areas: capacity building with regard to infrastructure enhancement, mass awareness on air pollution, R&D Activities with respect to air quality management & vehicular pollution control, health impact studies vis-à-vis air pollution in Delhi-NCR, specific projects to control pollution in Delhi – NCR & Punjab.

1.56.5 Pilot studies based on new technologies have been funded by EPC funds for mitigating air pollution. These are Wind Augmentation and Purification Units (WAYU) by NEERI, PARIYANTRA Filtration Units by Manav Rachna International Institute of Research and Studies

and Application of dust suppressants for dust containment at roads and construction sites by EPRI & NEERI

1.56.6 Many scientific organizations of Govt. of India such as NEERI, CRRI, IITs have been awarded project under EPC funds that aim at addressing air pollution in Delhi and NCR.

## CHAPTER-II

### RECOMMENDATIONS/OBSERVATIONS WHICH THE COMMITTEE DOES NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES

#### MEASURES TAKEN FOR MITIGATING AIR POLLUTION

##### Recommendation/Observation

2.1 *The Committee takes note of the new initiatives being taken by the Government of NCT of Delhi. The Committee appreciates the initiatives brought to the notice of the Committee and hopes that the intended benefits would be realised and these initiatives further will pave way to mitigate the air pollution problem in Delhi and NCR to a greater extent. (Para 2.6)*

##### Action Taken

2.2 CAAQMS data indicated marginal improvement in air quality of Delhi in 2018 (Jan– Dec 03) compared to 2017 (Jan – Dec 03), such as increase in number of ‘Good’ to ‘Moderate’ days to 158, compared to 150 in 2017, and reduction in number of ‘Poor’ to ‘Severe’ days from 187 in 2017 to 179 in 2018, despite usual seasonal pattern wherein minimum pollutant levels are observed during monsoon, moderate levels during summers and high concentration of pollutants in winters.

##### Recommendation/Observation

2.3 *The Committee notes that while GRAP is an emergency plan to respond to the daily air pollution levels, CAP is a comprehensive action plan that mandates short, medium and long term action for each source of pollution for more systemic reforms in Delhi and NCR. The Committee further notes the action taken/proposed to be taken by the Ministry of Environment, Forest and Climate Change to mitigate the air pollution and hopes that the GRAP and CAP will be implemented in letter and spirit with the close co-ordination with the concerned State Governments of NCR. The Committee believes that the synergy between the concerned State Governments would definitely help in getting rid of the problem of air pollution in Delhi and NCR. The Committee is also of the view that both the plans i.e. GRAP and CAP need to be implemented together given the air pollution level in Delhi and NCR. Further, a robust monitoring system should be evolved to ensure that the National Ambient Air Quality Standards are met and the negative impact of air pollution on the health of the residents of this Region is minimised. (Para 2.11)*

##### Action Taken

2.4.1 Task Force on Graded Response Action Plan (GRAP) has been constituted in pursuant to the Hon’ble Supreme Court’s Order dated December 02, 2016 in the matter of M. C. Mehta Vs. Union of India regarding air quality in National Capital Region Delhi. The members of Task Force include representatives from CPCB, Delhi Pollution Control Committee (DPCC), State Pollution Control Boards of NCR States, India Meteorological Department (IMD) and Dr. T.K. Joshi, Health expert.

2.4.2 In pursuant to Hon’ble Supreme Court’s Order dated December 13, 2017 in WP (Civil) No. 13029 of 1985 in the matter of M. C. Mehta Vs. Union of India, a Comprehensive Action Plan for Air Pollution Control in Delhi NCR was finalized. A total 55 agencies have been directed under section 3 and 5 of E (P) Act, 1986 on January 25, 2018, March 06, 2018 and June 22, 2018 to ensure strict implementation of Comprehensive Action Plan (CAP) for air pollution control in Delhi NCR. They include Ministry of Petroleum & Natural Gas (MoPNG), Ministry of Road Transport & Highways (MoRTH), Ministry of Housing & Urban Affairs MoHUA), Delhi Police, Delhi NCR–Chief Secretaries, Environment Departments, Transport Departments, Urban Local Bodies, Industry Departments, etc.

## **AIR QUALITY MONITORING STATIONS**

### **Recommendation/Observation**

2.5 *The Committee welcomes the plan of the Government of India for increasing the existing monitoring network by adding 48 more of such stations by December, 2018. The Committee hopes that the target set by the Government will not only be achieved within the stipulated time but the increased number of monitoring stations would also help in further strategising the action plans to combat the increasing air pollution in Delhi and NCR.* (Para 3.2)

### **Action Taken**

2.6 In total, there are 93 ambient air quality stations (52 Continuous Ambient Air Quality Monitoring Stations and 41 manual monitoring stations) in Delhi NCR. Additional 22 manual and 17 CAAQMS are proposed to be setup by Haryana while 9 CAAQMS are being setup by UP. All these stations are likely to be commissioned by the end this financial year.

## **VEHICULAR EMISSION**

### **Recommendation/Observation**

2.7 *The Committee is of the considered opinion that given the health hazards due to the increasing volume of PM 2.5 in the air of Delhi/NCR; it is imperative for the concerned State Governments as well as the Central Government to understand the gravity of the situation and make all concerted efforts to bring down the PM 2.5 level in the Region by making all possible efforts to control vehicular pollution.* (Para 5.11)

### **Action Taken**

2.8.1 Hon'ble Supreme Court vide order dated 29.10.2018 has passed the following orders with regard to old polluting vehicles:

“The Transport Departments of NCR will immediately announce that all the diesel vehicles more than 10 years' old and petrol vehicles more than 15 years' old shall not ply in NCR in terms of the order of the National Green Tribunal dated 07.04.2015. The order of the National Green Tribunal was challenged in this Court and the Civil Appeal was dismissed. Vehicles violating the order will be impounded. The list of such vehicles should be published on the websites of the Central Pollution Control Board (CPCB) and the Transport Departments of NCR. Similarly, a meaningful advertisement should be published in a local newspaper for the convenience of the owners of the vehicles.” In compliance of the above orders, CPCB has already provided a link on its website where the information of such vehicles is updated.

2.8.2 Proactive steps viz. promoting environment friendly vehicle (electric vehicle, hybrid electric vehicle, e-rickshaw, etc.), promoting alternate fuels, declaration of emission levels and & proper functioning of PUC Centres, etc are some of the measures taken for control vehicular pollution.

### **Recommendation/Observation**

2.9 *The Committee notes that with the expansion of Delhi Metro network, a large number of people are commuting by Delhi Metro. A large number of people are also using other modes of public transport. However, in spite of the increased availability of public transport, the dependence on personal vehicles, particularly cars and two-wheelers, has not gone down and a substantial population is still using personal vehicles for local commuting. This not only adds to the congestion on the roads but also contributes to the hazardous levels of air pollution. The Committee is of the view that the primary reasons for dependence on personal vehicles are inadequate public transport facility and absence of last mile connectivity. Also, the Delhi Metro network needs to be further expanded so that a larger section can utilize this facility. The issue of last mile connectivity also needs to be addressed to ensure that people refrain from using personal vehicles and do not hesitate to utilize the public transport to the maximum. These measures would certainly help in reducing the air pollution in Delhi.* (Para 5.17)

## **Action Taken**

2.10.1 Augmentation of public transport is part of Comprehensive Action Plan.

2.10.2 For promotion of electric vehicles, the Government has exempted the battery operated vehicles and vehicles running on Ethanol & Methanol fuel from requirement of permits.

## **FIRE CRACKERS**

### **Recommendation/Observation**

2.11 *The Committee further observes that each year during Diwali, cheap firecrackers are burst, often manufactured using toxic chemicals, turning Delhi in to a 'Gas Chamber'. The Hon'ble Supreme Court in the year 2017 has directed to suspend and not renew the licences for possessing, stocking and selling of fire crackers in Delhi. The Committee appreciates the efforts made by the Central Government and the Government of NCT of Delhi in this direction in the form of banning the import of Chinese crackers and confiscating the available stocks. (Para 9.2)*

### **Action Taken**

2.12 Hon'ble Supreme Court vide Order dated 23.10.2018 has permitted production of fire crackers with reduced emissions (improved crackers and green crackers) and further vide Order dated October 31, 2018 banned sale of fire crackers other than crackers with reduced emissions (improved crackers and green crackers).

## CHAPTER-III

### RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

#### ROAD DUST

##### Recommendation/Observation

3.1 The Committee also observes that in some parts of the NCR, roads are broken, poorly maintained and partially paved surfaces which in turn have been resulting in adding to the problem of road dust. The Committee, therefore, recommends the Ministry to take up the matter with the concerned State Governments and the Central Government for paving of unpaved roads/streets in the Region and ensure that the civic agencies of the Region involved pay due importance to the maintenance of the roads/streets and complete the task in a fixed time frame.

(Para 6.7)

##### Action Taken

3.2.1 All the roads under the management of Delhi Cantonment Board are paved and are in good condition. Delhi Cantonment Board has stated using 8% waster plastic of total volume of bitumen for repairing the roads and with warranty of 5 years (Defect liability period). Further all Asphaltic dense concrete work are being undertaken under supervision of Indian Institute of Technology (IIT)/ Central Road Research Institute (CRRI).

##### 3.2.2 Consolidated statement about Action Taken by Agencies from March, 2020 to till August 2020:

Stretch of Roads where action has been taken for mitigation of unpaved Roads/Pits/Potholes (in Sqm)

|    |                      |        |
|----|----------------------|--------|
| 1. | SDMC                 | 10804  |
| 2. | North DMC            | 13444  |
| 3. | EDMC (till 31.01.20) | 445    |
| 4. | NDMC                 | Nil    |
| 5. | DCB                  | 450    |
| 6. | DSI IDC              | 161461 |
| 7. | PWD                  | 4209   |

Number of Mechanical Road Sweepers (MRS) and Water Sprinklers (WS) to control road dust:

|   |  |
|---|--|
| Existing Mechanical Sweepers = 60                                 | Existing Water Tankers/Sprinklers: 269 |
| SDMC = 24   | SDMC= 83                               |
| North DMC = 18  | North DMC= 130                         |
| EDMC = 10   | EDMC=40                                |
| NDMC = 7  | NDMC=14                                |
| PWD = NIL (Road sweeping is being done by Municipal Corporation). | PWD= NIL                               |
| DCB = 01  | DCB =02                                |
| Total = 60  | Total =269                             |

## **Further recommendation/Observations**

3.3 The Committee observes that the Ministry has only furnished the action taken by Municipal Corporations of Delhi along with other Departments/agencies of the NCT of Delhi. The action taken by other respective Governments of NCR in the matter has not been furnished by the Ministry. The Committee would again like to remind the Ministry that till the time paving of unpaved roads/streets in the NCR Region is done along with the proper maintenance of the roads/streets, road dust would continue to remain an area of concern and other efforts being made by various wings of these Governments to mitigate air pollution may not yield the desired results. This issue must get due attention of all the concerned Governments and sincere efforts taken in this direction would go a long way in addressing the problem of air pollution in the Region. The Committee, therefore, recommends that the Ministry of Environment, Forest and Climate Change must sensitise the concerned State Governments about the action to be taken in this regard.

## **FIRE CRACKERS**

### **Recommendation/Observation**

3.4 *In view of the foregoing, the Committee feels that the Ministry of Environment, Forest and Climate Change, Government of India should impress upon the Ministries of Railways and Civil Aviation to join hands in sharing money in order to mitigate the problem of air pollution in Delhi and NCR.*  
(Para13.3)

### **Action Taken**

3.5.1 Railway is most eco-friendly mode of surface transport with minimal effect on environment. In fact, the carbon footprint in road transportation as compared to rail is nearly 12 times for freight and over 3 times for passengers.

3.5.2 Notwithstanding, with its massive push towards sustainable development, Indian Railways have been taking up a number of steps in the recent past to reduce carbon emissions. This includes switching to bio-fuels, solar and wind energy.

3.5.3 Most of the stations on Indian Railways have been fitted with LED lightings and also have solar panels. Railways have taken up the work to replace all CFL/FL light fittings with energy efficient LED lights in all AC/TL/EMU/MEMU coaches. Production units are providing energy efficient LED lights in all newly manufactured coaches since Dec'16. Coaches have also been fitted with solar panels to reduce pollution.

3.5.4 The HOG technology has been recently introduced in trains fitted with LHB coaches and hauled by electric traction. This technology caters to the power needs of the coaches such as coach lighting, air-condition, etc by substituting the earlier technology of having two power cars in the trains known as (End of Generators) EOG. The HOG system does not require any diesel oil consumption and as such will reduce air pollution and also noise pollution. In addition, it also provides uninterrupted illumination in the coaches.

3.5.5 A major push is towards electrification of its routes. Most of the trains coming to Delhi from surrounding areas and running within Delhi have been electrified and hence are pollution free. Through its concentrated efforts, IR has already improved its emission intensity by nearly 25% in year 2017-18 (for which figures are available) as compared to base year of 2014-15. The emission intensity in tonnes CO<sub>2</sub>/ million GTKM was 12.3892 in 2014-15 which has reduced to 9.3027 in 2017-18. IR is well on its way to achieve reduction in emission intensity by 32% by year 2029-30 in terms of NDC.

3.5.6 Since Indian Railway is already taking a number of steps toward sustainable development, it may not be feasible for it to spare funds for the above subject.

### **Further recommendation/observations**

3.6. The Committee notes that although the Ministry has responded regarding the inability of the Ministry of Railways to spare funds for pollution mitigation in Delhi and

**NCR, no response has been furnished in respect of Ministry of Civil Aviation. After making recommendations/observations, the Committee expects a pointed reply from the Ministry in respect of the said recommendations/observations. The Ministry should, therefore, furnish the response in respect of Ministry of Civil Aviation to the Committee at the earliest.**



## CHAPTER-IV

### RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH FINAL REPLIES OF THE GOVERNMENT ARE STILL AWAITED

#### CONSTRUCTION ACTIVITIES

##### Recommendation/Observation

4.1 *The Committee notes the steps initiated by the concerned State Governments to mitigate air pollution due to construction activities in Delhi and NCR and hopes that these steps would be scrupulously implemented to achieve the desired results. The Committee also observes that noxious vapours from paints, thinners, oils, cleaners, etc. are environmentally hazardous chemicals which are widely used at the construction sites and have been contributing to raise the levels of air pollution in the Region. The Committee hopes that the concerned agencies would also take the required steps to contain the air pollution contribution from these chemicals. (Para 7.8)*

#### LANDFILL SITES

##### Recommendation/Observation

4.2 *The Committee is unhappy to note the existing capacity of the Government of NCT of Delhi to treat the municipal solid waste scientifically is just about 54 per cent of the total requirement leaving a gap of 46 per cent to be bridged. This apathy of the civic bodies entrusted with the task of management of municipal solid waste is totally unwarranted. The Committee notes that there have been frequent incidents of landfill fires in Delhi during the last few years which spew toxic gases and have been adding to the rising pollution levels in Delhi. The laissez-faire of the civic bodies of Delhi also gets reflected in the fact that the height of Ghazipur landfill site has reached as high as 2765 metres which is just 8 metres less than the height of the national monument Qutub Minar. Similarly, the other two landfill sites in Delhi have also been declared exhausted but the untreated waste is still being dumped there. The Committee is of the considered opinion that unprocessed municipal waste of 4800 TPD is a threat to the environment, ecology and flora and fauna of Delhi and NCR and there is urgent need for augmenting the capacity to treat the municipal solid waste scientifically to the desired level. The Committee while taking note of the proposed capacity addition plan of the Government of NCT of Delhi by setting up new waste-to-energy plants and enhancing the processing capacity of the existing plants hopes that the timeline fixed to complete the proposed action plan would be realised. (Para 8.2)*

4.3 *The Committee had visited CSIR-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur in April, 2018. During its discussion with the representatives of NEERI, the Committee was informed that the NEERI had, in May, 2016, offered their expertise to deal with the issue of frequent fires on landfill sites in Delhi to the Government of NCT of Delhi but they had not received any response to their communications. The Committee is surprised to note that despite the offer of NEERI to support Government of NCT of Delhi in the matter, no action has been taken thereon. The Committee also requested the Chief Secretary, Government of NCT of Delhi to apprise the Committee of the action taken on the offer made by CSIR-NEERI, Nagpur. However, a response in the matter is still awaited. The Committee is of the view that considering the gravity of the situation, the non-responsive attitude of the Government of NCT of Delhi is not the least desirable. The existing landfill sites in Delhi are adding to the pollution level in Delhi and require immediate attention of the Government. (Para 8.3)*

##### Further recommendation/Observations

4.4 **The Committee is perturbed to note that even after a lapse of more than two years since the Report of the Committee was presented in Parliament, the Ministry of Environment, Forest and Climate Change has failed to furnish any reply with regard to above mentioned three (3) recommendations/observations of the Committee. The said recommendations/observations of the Committee seem to have not been given due importance and weightage. This casual and insincere attitude of the Ministry is totally**

**unwarranted and uncalled for. The Committee, therefore, desires that the Ministry should furnish a consolidated reply to recommendations/observations contained in the above paras at the earliest for the consideration of the Committee.**

## RECOMMENDATIONS/ OBSERVATIONS - AT A GLANCE

### CONCLUDING OBSERVATIONS

#### Further recommendation/Observations

The Committee observes that the Ministry has only furnished the action taken by Municipal Corporations of Delhi along with other Departments/agencies of the NCT of Delhi. The action taken by other respective Governments of NCR in the matter has not been furnished by the Ministry. The Committee would again like to remind the Ministry that till the time paving of unpaved roads/streets in the NCR Region is done along with the proper maintenance of the roads/streets, road dust would continue to remain an area of concern and other efforts being made by various wings of these Governments to mitigate air pollution may not yield the desired results. This issue must get due attention of all the concerned Governments and sincere efforts taken in this direction would go a long way in addressing the problem of air pollution in the Region. The Committee, therefore, recommends that the Ministry of Environment, Forest and Climate Change must sensitise the concerned State Governments about the action to be taken in this regard. (Para 3.3)

The Committee notes that although the Ministry has responded regarding the inability of the Ministry of Railways to spare funds for pollution mitigation in Delhi and NCR, no response has been furnished in respect of Ministry of Civil Aviation. After making recommendations/observations, the Committee expects a pointed reply from the Ministry in respect of the said recommendations/observations. The Ministry should, therefore, furnish the response in respect of Ministry of Civil Aviation to the Committee at the earliest.

(Para 3.6)

The Committee is perturbed to note that even after a lapse of more than two years since the Report of the Committee was presented in Parliament, the Ministry of Environment, Forest and Climate Change has failed to furnish any reply with regard to above mentioned three (3) recommendations/observations of the Committee. The said recommendations/observations of the Committee seem to have not been given due importance and weightage. This casual and insincere attitude of the Ministry is totally unwarranted and uncalled for. The Committee, therefore, desires that the Ministry should furnish a consolidated reply to recommendations/observations contained in the above paras at the earliest for the consideration of the Committee. (Para 4.4)