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PARLIAMENT OF INDIA
RAJYA SABHA

DEPARTMENT-RELATED PARLIAMENTARY STANDING COMMITTEE ON SCIENCE & TECHNOLOGY, ENVIRONMENT & FORESTS

TWO HUNDRED SIXTY FIRST REPORT

ON

POLLUTION IN TIER-II CITIES OF PUNJAB - LUDHIANA AND AMRITSAR

(PRESENTED TO THE RAJYA SABHA ON THE 21ST JULY, 2015)
(LAID ON THE TABLE OF THE LOK SABHA ON THE 22ND JULY, 2015)

RAJYA SABHA SECRETARIAT
NEW DELHI

JULY, 2015/ ASHADHA, 1937 (SAKA)

C O N T E N T S

• ***To be appended at printing stage***

MEMBERS OF THE DEPARTMENT-RELATED PARLIAMENTARY STANDING COMMITTEE ON SCIENCE & TECHNOLOGY, ENVIRONMENT & FORESTS

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* Nominated w.e.f. 25th March, 2015.

REPORT

The Department-related Parliamentary Standing Committee on Science & Technology, Environment & Forests under the Chairmanship of Shri Ashwani Kumar had decided to take up the issue of pollution levels of some of the Tier-II cities of the country. In that series, the Committee undertook its study visit to Ludhiana and Amritsar from 13th to 15th February, 2015.

LUDHIANA

2. On 13th February, 2015, the Committee visited Ludhiana where it first visited Buddha Nallah. The Chairman and Member Secretary, Punjab Pollution Control Board also accompanied the Committee.

2.1 The Committee found that the condition of Buddha Nallah was a cause of grave concern as an environmental challenge. Water of the Nallah was dark black, contaminated with effluents and garbage, emitting strong odour. The Committee found that untreated municipal sewerage and animal waste was draining into the Nallah. On being enquired about the reasons for such a situation of the Nallah which runs through the most populous town of Punjab, the Committee was informed by representatives of the Punjab Pollution Control Board that though the Board had taken up the matter of unauthorized discharge of solid and liquid municipal waste into the Nallah with local authorities, the situation had not improved. Municipal Corporation of Ludhiana had a proposal to install STPs to treat the sewage generated in the town.

3. The Chairman lamented that Buddha Nallah which used to be a fresh water stream getting over flow from River Sutlej had turned into an open sewer line rather than a stream. Once the precious asset to the city of Ludhiana, the Buddha Nallah has become a curse posing serious health hazard to the public.

4. The Chairman, expressing his deep anguish over the sorry state of affairs of the Nallah, commented that notwithstanding the promises and assurances of action by the officials for so long, the condition of Buddha Nallah continued to deteriorate year after year owing to a callous and casual approach of the authorities responsible for conserving and cleaning it. The situation had gone from bad to worse over the years and it was time that some concrete and result bearing efforts were made by the state administration to improve its condition.

5. Thereafter, the Committee visited the Haibowal Dairy Complex. The Committee was informed that there were about 550 dairies in the complex having a total number of about 25,000 cattle. The estimated discharge from Dairies into Buddha Nallah was about 15 MLD. The Committee was also informed that about 550 MTD cattle dung was generated out of which about 170 MTD was used in a biogas power plant of 1 MW capacity. To prevent discharge from drains into Buddha Nallah, the Municipal Corporation of Ludhiana and Punjab Energy Development Agency had prepared a scheme for installation of another biogas power plant to absorb/utilise the remaining quantity of cattle dung, floor washings and cattle washings.

6. When the Chairman asked about the progress made with regard to the setting up of biogas power plant, it was informed that a Detailed Project Report had been prepared and submitted to the Govt. of Punjab. On being asked if any financial allocation for the project had been made, the concerned Authority answered in the negative. The Chairman desired that all necessary steps required to be taken to stop discharge from Dairies into Buddha Nallah needed to be taken in right earnest. The Committee expressed its total dissatisfaction with the approach of the Municipal & State Government authorities. The Chairman said that the people of Ludhiana cannot be expected to wait endlessly for the Government to act.

7. The Committee thereafter held a meeting with NGOs/civil society members on 13th February, 2015 at Ludhiana.

8. In his opening remarks, the Chairman underlined the need to strike a fine balance between environment and development as these were supplementary and complementary to

each other but in our zeal for rapid development, environmental concerns often got overlooked leading to environmental degradation and ecological imbalances.

9. The Chairman also pointed out that Ludhiana was identified by the Central Pollution Control Board in 2009 as one of the most critically polluted industrial clusters in the country with the score of 81.66 on the Comprehensive Environment Pollution Index. He thereafter asked members of civil society organisations and representatives of non-governmental organisations to apprise the Committee of the environmental challenges faced by Ludhiana and the manner in which these could be addressed within a timeframe. They were also asked to suggest measures that could be taken to effectively control pollution & ecological degradation in Ludhiana.

10. Members of the NGOs[1]/civil society raised a number of issues pertaining to the environmental status of Ludhiana. Some of the views expressed by the NGOs were as follows:-

(i) The President, The Ludhiana Electroplaters Association informed the Committee that their Association as a challenge took up the task of installing the Common Effluent Treatment Plant for electroplating industries being set up by Punjab Small Industries and Export Corporation Ltd. (PSIEC). A Special Purpose Vehicle in the name of Ludhiana Effluent Treatment Society was created in 2006 and the treatment plant was started in 2007, after installing additional equipments as the plant was not meant for electroplating industries. All the parameters of Punjab Pollution control Board were met at the time of installation barring Total Dissolved Salts (TDS) which was achieved in 2008. The plant was running on a zero liquid discharge technology with a RO plant and Multiple Evaporator System which treated about 300 Kilo Liter of effluent per day. This plant was unique and first of its kind in India. He further added that with the expansion of electroplating industry, the existing area in which the industries were located, had become inadequate. There was no further scope of expansion of the industry. Therefore, there was an urgent need to relocate existing electroplating industries to some bigger cluster. He suggested that approximately 100 acre vacant land at Bhatian may be considered for shifting electroplating industries.

(ii) The representative of PEHAL-The Beginning stated that with his experience both as a councilor and as a representative of non-governmental organisation, actively involved with the environmental issues faced by Ludhiana, he was of the view that the problem could not be solved by the Govt. alone. Peoples' active participation in making the City neat and clean was very vital. He mentioned that after social/religious gatherings, heaps of thermocol plates are thrown out in the open, which got littered on the streets/roads which present a very shabby picture of the City. Since these plates are non-biodegradable, they continue to be environmental hazard for fairly long time. He, suggested that thermocol plates, tumblers, etc. may be banned. He further stated that the municipal authorities of Ludhiana were also responsible for the pitiable conditions of Buddha Nallah, because municipal waste both solid and liquid was being dumped by them. Whenever there was a hue and cry by the public, the garbage collected at one site of the Nallah was pushed to the other municipal ward. He suggested that there was an urgent need for holistic development of Buddha Nallah. He suggested that green belts all along the Buddha Nallah needed to be developed/ improved. He also informed that in the absence of lining of Buddha Nallah, a lot of municipal solid, plastic, and other hazardous wastes were lying along its banks. Even some slum dwellings had come up at vacant places on the banks of the Nallah. He suggested that the

[1] *A copy each of the representations received is at Annexure-I*

side walls/banks of Buddha Nallah may be concretized, so that hazardous industrial effluents/sewage did not seep into the ground water and pollute it. He also pointed out that heaps of construction material/ debris are dumped here and there along the roads, thus creating a lot of problem for the traffic. This also added to the pollution problem of the City. He suggested that local authorities should take necessary action on these issues.

(iii) The Chairman, Indian Institute of Architect, Ludhiana Centre pointed out that unplanned growth of Ludhiana was the main reason for its present state of being one of the most polluted cities in the country. There was no long-term Master Plan for the city, no proper plan for industrial growth and no proper transport policy. Buildings in the City were being constructed without involving the architects. There were multiple agencies involved in the development of Ludhiana viz. Greater Ludhiana Area Development Authority (GLADA); Ludhiana Improvement Trust (LIT); Ludhiana Municipal Corporation (LMC); Punjab State Industrial Development Corporation (PSIDC); Punjab Urban Development Authority (PUDA); the Punjab State Federation of Cooperative; House Building Societies Ltd. (HOUSEFED), etc. For any project to take off, one has to seek permission/NOC from all these agencies which resulted in delay in completion of the projects and therefore suggested that there should be one agency for Ludhiana on the lines of DDA in Delhi. He also suggested that involvement of architects in preparing master plan and its implementation must be ensured so that adequate provisions for recreational facility/open green space was made in the master plan.

(iv) The representative of Bharat Jan Gyan Morcha informed the Committee that Paryavaran Vahini, a forum which used to facilitate interaction of members of civil society with local district administration/authorities, has been disbanded. As a result, the channel of communication between the two had been broken. Neither the local problems of the people reached the local administration nor did the steps taken by local administration for control of pollution involve the participation of the civil society members. He asserted that the participation and cooperation of the people in the efforts of the Government for making pollution mitigation measures effective was necessary. He, therefore, emphasised that Paryavaran Vahini needed to be revived. He also lamented that crores of rupees have been spent on Sutlej River and Buddha Nallah revival plan, but no concrete results had been achieved. He, therefore, suggested that efforts made in this direction needed to be result oriented so that visible results were achieved in a time bound manner.

(v) The President, Rotary Club, Greater Ludhiana suggested that the adequate parking area needed to be developed in order to contain vehicular pollution. In the absence of parking area, vehicles were parked on the road causing traffic jam and chaos and giving rise to the air pollution. He suggested that to contain noise, the local administration should put blanket ban on honking and also issue challan for making noise pollution.

(vi) The representative of Sambhav Foundation informed the Committee that his organisation had successfully planted over 1,85,000 trees in 2014. He also informed that in the year 2015, the organisation proposed to plant 1 crore trees all over Punjab. Highlighting the reasons for the pathetic condition of Buddha Nallah, he pointed out that despite installation of STPs, reckless discharge of domestic sewerage, industrial effluents, waste water from dairies/ butcheries, etc. into the Buddha Nallah continued unabated mainly because all of them had not been linked to STPs. He also emphasised that to deal with the above problem, the number of STPs needed to be increased and for that purpose the Central Govt. and State Govt. should provide relief/funds and technology to the

industries/ Municipal Corporation of Ludhiana. He also brought to the notice of the Committee the fact that despite Punjab & Haryana High Court ban on diesel powered auto rickshaws, approximately 20,000 auto rickshaws were plying in the City which contributed hugely to the air pollution of the City. He suggested that necessary efforts were needed to be made for installation of adequate numbers of LPG/CNG filling stations in the City, so that vehicles running on these clean fuels are encouraged.

(vii) The representative of VMAD pointed out that despite a ban, the burning of waste of Jhona rice was a major source of air pollution in Punjab, which needed to be effectively tackled. It was also suggested that Punjab Pollution Control Board should declare their annual targets of pollution control in the City and then they should work in close cooperation with the NGOs to achieve the same. They should ensure visible results. It was also suggested that a dedicated fund was needed to be created exclusively for creating awareness and educating youngsters about environment so as to foster the spirit of enlightened citizens. Polythene and poly bags were adding to the garbage causing a lot of problem for the civic authorities as they choked sewerage and drains. She was of the view that production of polythene needed to be banned. Roadside taps running all the time and wasting precious and scarce water needed to be handled.

(viii) Shri Arvind Goel, Resident of Aggar Nagar, Ludhiana raised the issue of solid waste dumping site, Jamalpur at Tajpur Road, Ludhiana for which he claimed that Municipal Corporation of Ludhiana got clearance from the Union Ministry of Environment and Forests by misleading and concealing the facts. He claimed that 30 meter wide green belt was to be provided all along the boundary of the dump site and it was supposed to be 20 kms. away from airport and the waste was to be covered at the end of each working day with a minimum of 10 cm. of soil. He urged upon the Committee to get the matter looked into.

(ix) Shri Ayush Jain, a Social Activist, claimed that most of the environmental rules/norms were being violated with impunity. To support his claim, he cited the instance of illegal mining of sand in Sutlej River and also that some big industrial Houses were discharging contaminated water straight into the ground water through bore well.

11. The Committee also had an interaction with factory owners and officers of the Govt. of Punjab/local authorities of Ludhiana on issues of air, water and noise pollution, haphazard urbanisation, solid waste management, sewerage treatment, etc.

12. The Chairman informed that the Committee was visiting Ludhiana to discuss issues related to air, water and noise pollution, haphazard urbanisation, solid waste management, sewage treatment, etc. in Ludhiana. The Chairman pointed out that it was disturbing to note that Ludhiana, as per a study conducted by WHO in 2011 had earned the dubious distinction of being not only one of the most polluted cities in the country but also the fourth most polluted city in the world. Union Ministry of Environment, Forests and Climate Change had imposed a moratorium on the establishment of new industrial units in the City in 2010, it being included in the list of 43 critically polluted cites in the country. The Committee had acquired first hand information on the condition of Buddha Nallah and was shocked to observe its state of affairs and the overall environment and ecology of Ludhiana. Keeping in view the alarming situation, the Committee directed that the Punjab Pollution Control Board, local civic authorities, law enforcement agencies and all other stakeholders must make collective and concerted efforts within a realistic timeframe to meet the challenge. The Chairman added that a comprehensive Environmental Action Plan be formulated to control pollution in Ludhiana. He asked those present to apprise the Committee of the extent to which qualitative and quantitative improvements had been noticed in the pollution level of Ludhiana as a result of that Plan. The Committee also sought to be apprised of the latest updates,

particularly on the proposed installation and commissioning of two common effluent treatment plants for dyeing clusters, improvement in public transport system, etc. The Committee also wanted to know from the industrialists present about the incentives/cooperation, they received for adopting environment friendly technologies and taking other measures to mitigate pollution caused by the industries.

13. The Chairman, Vardhman Spinning & General Mills submitted that rapid urbanisation and industrialisation had resulted in generation of huge quantity of organic and inorganic wastes which were generally dumped on land or discharged into water bodies without adequate treatment. This caused a lot of environmental pollution and health hazard. The need therefore was to adopt suitable waste processing and treatment technologies which while giving energy also reduced the need for land for their disposal and also suitably reduced transportation of waste to land fill site.

14. The Committee was informed by representatives of BARC that a 2 MT per day capacity Nisarguna biogas plant developed by Bhabha Atomic Research Centre was set up in the Vardhman Textile Unit at Baddi, Himachal Pradesh for processing both municipal and other solid waste generating bio gas and manure therefrom.

15. The representative of Bahadur Ke Textile and Knitwear Association raised the issue of difficulties being faced in setting up of 15 MLD common effluent treatment plant with zero liquid discharge system and 10 MW captive power plant at a cost of Rs. 148.86 crore for dyeing industries. He informed the Committee that for the plant an application for a loan of Rs. 108 crore from a consortium of banks consisting of the State Bank of Patiala; Export Import Bank; and Small Industrial Development Bank of India and also for financial assistance from Govt. of India under the centrally sponsored scheme of common effluent treatment plants for Rs. 20 crore and also for Rs. 5 crore from State Govt. of Punjab was made. The Committee was also informed that no financial assistance from the Govt. or loan from the Banks had been given for the plant.

16. On the issue, presenting the viewpoint of Govt. of India, Advisor, Ministry of Environment, Forests and Climate Change informed that since the project proposal was sent directly to the Govt. of India, it could not be processed because as per procedure, it had to be routed through State Pollution Control Board. He further assured that the project would be expeditiously examined in case it is sent through State Pollution Control Board.

17. Thereafter, Secretary, Science & Technology and Environment made a Power Point presentation covering the issues raised by the Chairman. Some of the major highlights of the presentation were as follows:-

(i) The total length of Buddha Nallah was about 51 Kms., out of which 16.76 Kms. was upstream of Ludhiana, 14 Kms. within Ludhiana City and the balance about 21 Kms. downstream of Ludhiana. Ludhiana City generated domestic waste water in the range of 600 to 740 MLD per day. There were 5 STPs working in Ludhiana with a total installed capacity of 466 MLD. A joint survey conducted by Punjab Pollution Control Board; Municipal Commissioner, Ludhiana; and Punjab Water Supply and Sewerage Board in May, 2014 found that 16 unauthorised outlets were discharging untreated municipal sewage to the tune of 265 MLD into Buddha Nallah.

(ii) About 80 MLD effluents were entering in STP Jamalpur as against its designed capacity of 48 MLD. Because of overloading of the STP and its old technology, namely, Upflow Anaerobic Sludge Blanket (UASB), the treatment efficiency was considerably low. The STP was proposed to be upgraded using new Sequencing Batch Reactor (SBR) Technology. An additional STP of 70 MLD capacity was also proposed to be setup at Jamalpur with an estimated cost of Rs. 70 Crore.

(iii) Technology upgradation of the existing Bhatian STP of 111 MLD capacity was also proposed by using new technology at a cost of Rs. 48 crore. An additional STP of 100 MLD capacity at a cost of Rs. 90 crore was also

proposed to be setup at Bhatian. Punjab Pollution Control Board had been regularly monitoring the quality of water flowing in Buddha Nallah. Bio Chemical Oxygen Demand (BOD) level in the city area of the Nallah ranged from 150 Mg per liter to 250 Mg per liter, while, chemical oxygen demand varied from 450 Mg per liter to 750 Mg per liter.

(iv) A pilot project for the ecological restoration of water quality of Buddha Nallah using an in-situ bioremediation technique funded by Ministry of Environment, Forests and Climate Change was being installed at a cost of Rs. 15.28 Crore. Green infrastructure, Pune was executing the project. This project involved building of 5 porous green bridges to treat the sewage. Out of the proposed 5, 3 green bridges had been commissioned. The work on the remaining two green bridges were going on.

(v) The BOD level downstream of green bridges varied from 54 Mg per liter to 150 Mg per liter, which was far more improved.

18. The Committee was informed that the feasibility of cementing of banks of Nallah was being explored. A DPR in this regard was expected to be submitted by March, 2015 and the total cost of the project would be around Rs. 280 crore. **The Committee suggests that the viability of covering the 14 Km. stretch of Buddha Nallah within Ludhiana City may be explored so as to build a road on it. It might save the citizens of the City from health hazards posed by the highly polluted Nallah and also the possibility of dumping of filth, garbage, etc. into the Nallah could be obviated. The Committee was informed that Master Plan Ludhiana 2021, was finalised in 2007 and the same was in the process of being reviewed.**

19. The Committee recommends that the local/municipal authorities carry out a comprehensive survey and identify encroachments on public land so that, encroachments could be removed to make way for open spaces in accordance with the Master Plan. Open spaces in the form of parks & play grounds need to be developed for the benefit of the elderly and for the Children. It is of the view that all the District authorities should promote and encourage interaction and engagement of the Govt. authorities with the civil society/NGOs on pollution mitigation measures.

SEWAGE TREATMENT

20. With regard to sewage, the Committee was informed that M/s Engineers India Limited (EIL) was engaged by the Govt. of Punjab as consultant, which was in the process of preparing a DPR with regard to identification of the possibilities to stop the discharge of untreated effluent into Budha Nallah and to divert the same to an STP for treatment. This DPR is expected to be submitted by 31.03.2015 on pollution mitigating measures.

21. **The Committee recommends that the proposed DPR be prepared/approved within the given timeframe and steps be taken on priority to complete the project expeditiously. The outlets carrying untreated sewage and falling into Buddha Nallah must be closed or discharge be treated in a time bound manner and an Action Taken Report be submitted to the Committee. Time was of the essence in this regard and pending the use of additional STP's etc., immediate action regarding the covering of Nallah, developing green belts and vigorous enforcement of norms by the PPCB for discharge of waste & dumping of garbage in the Nallah must be undertaken immediately under intimation to the Committees within one month.**

22. In this respect Committee has been informed that there were 17 outlets of Municipal Corporation, Ludhiana which were discharging waste water into Budda Nallah, out of which following 4 outlets have been plugged permanently:

i) Disposal of EWS Colony near Geeta Nagar Bridge along Tajpur Road;
ii) MC Disposal near Atam Nagar/Sunder Nagar;
iii) MC Disposal near New Shivpuri (Opp. Shani Mandir);
iv) MC Disposal at the backside of RamSharnam Satsang Bhawan.

Preliminary DPR for installation of 2 new STPs, has been submitted by M/s Engineers India Limited (EIL) to the Punjab Water Supply and Sewerage Board and the report is under active consideration of Government of Punjab to finalize the same

DAIRY COMPLEX, HAIBOWAL

23. Regarding the Dairy Complex, Haibowal, the Committee was informed that there is a proposal to shift these dairies to a suitable place and to install effluent treatment plant to treat liquid waste generated by the dairy complex. M/s Engineers India Limited has been engaged by the Govt. of Punjab as consultant and is in process to preparation of DPR in this regard which is expected to be submitted by 31.03.2015.

24. In this respect Committee has also been informed that:

(i) Preliminary DPR for installation of ETPs to treat the liquid waste of the dairies at Tajpur Road and Humbran Dairy complex has been submitted by M/s Engineers India Limited (EIL) to Punjab Water Supply and Sewerage Board and Municipal Corporation, Ludhiana. The report is under active consideration of Government of Punjab to finalize the same.

(ii) PEDA has prepared the DPR on Build Operate & Own (BOO) basis for installation of Bio-Methanation Plant for generation of 1 MW electricity or 12000 Cubic meter of Bio-CNG to handle 235 ton of cow dung at Tajpur Road Dying Complex. E-tender has been floated for 18.05.2015 for getting technical bids.

25. **The Committee feels that shifting of dairies may not be a viable solution of the pollution caused by these dairies. It is hoped that the proposal to install an STP has since been submitted. The Committee would like to know whether DPR has since been approved and what further steps have been initiated by the State/Municipal Authority towards the actual operationalisation of the STPs. The Committee would like to be informed about the date of installation of the plants and the award of work under the respective procedures for the aforesaid purpose.**

SHIFTING OF ELECTROPLATING UNITS

25.1 In this respect, the Committee has been informed that:

(i) PSIEC has taken procession of 15 Acre of vacant land at Tajpur Road adjoining to the upcoming CETPS. The development of Industrial Focal Point in this 15 acres of land has been started. The PSIEC has reserved this Industrial Focal Point exclusively for the shifting of 67 Scattered dyeing units presently located in scattered area of Ludhiana.

(ii) DTP, Ludhiana vide its letter dated 13.05.2015 has informed that 273 acres of land has been proposed for establishment of industries, which will be a part of planning of Aeropolis City, Sahnewal. For this project, land will be acquired by GLADA.

25.2 The Committee recommends that land should be developed and made available expeditiously for relocation of tiny/small scale electroplating industries operating in the non designated area of Ludhiana. The Committee would like a time frame to be fixed for the purpose under intimation to the Committee. This may be done within three months.

25.3 In order to prevent throwing/dumping of waste into the canal /river, the committee feels that there should be a railing of suitable height on each bridge as well as along the sides of the canal/river within the city reach. There could also be a water enclosed mess for puja material so that it should not go in the canal/river. From this mess, the waste puja material can be shifted to waste disposal plant. There should be a provision of imposing heavy fine for throwing garbage/plastic bags in canals/rivers, which should be actively and purposively enforced.

25.4 The Committee feels that for effective implementation of a ban on burning of paddy. Govt. should launch a massive awareness campaign amongst farmers and incentives should be given to them for collection of paddy straw at one place or

promoting its alternative use. In this respect, the Committee was informed that the farmers are made aware regarding the preparation of compost/organic manure from the farm waste. Every year two camps are organized at District Block and Village Level in order to educate the farmers regarding the ill effects of stubble burning and to promote new techniques like happy seeder, zero till drill machines. Apparently, much more needs to be done. A detailed plan should be submitted in this regard to the CPCB and the Committee.

25.5 The Committee has been informed that the Punjab Pollution Control Board is creating awareness among the people and educating them to use jute bags instead of plastic bags for carrying vegetables from the market. The advertisements are being given in the leading news papers of the state of Punjab.

25.6 The Committee feels that there is need to encourage people to use jute bags instead of plastic bags for carrying vegetables/household items from the market. The Committee is of the view that the farmers should be made aware regarding the preparation of compost/organic manure from the farm waste. Every year two camps are organized at District Block and Village Level in order to educate the farmers regarding the ill effects of stubble burning and to promote new techniques like happy seeder, zero till drill machines. The rain water harvesting system should be encouraged.

25.7 Besides this, the Committee recommends that (i) Parking areas as well as no parking zones in the city should the earmarked. The pressure horn in automobiles should be banned; (ii) Municipal Corporation should start a project through which corporate bodies can be encouraged along with Municipal Authorities to develop vacant land for landscaping of Ludhiana; (iii) Emphasis should be laid on exploring the possibility of using STP sludge as manure and to produce gas; and (iv) Provision should be made for providing funds to the special purpose vehicle to install CETPs for treatment of effluent from the industries of the States, whose water supply schemes are based on river/canal water. Specific action with respect to these measures should be decided upon at the earliest under intimation to the Committee.

AMRITSAR

26. On 14th February, 2015, the Committee visited Amritsar and discussed issues of air, water and noise pollution in Amritsar with Members of civil society organisations/NGOs.

27. At the outset, the Chairman underlined the importance of environment, the preservation of which is a national imperative raising issues of inter and intra-generational equities. The need of the hour, therefore, was to ensure a collective national enterprise to ensure a sustainable development model which could ensure inter-generational equities through preservation of the necessary ecological balance. He said that the Committee was visiting some of the Tier-II Cities to discuss their status on environmental parameters and in that process, the Committee proposed to discuss issues of urban renewal including air, water and noise pollution, haphazard urbanization, solid waste management, sewerage treatment, etc. in Amritsar–a city which was facing huge environmental challenges.

28. He emphasized that in view of the alarming situation, it was imperative that Govt. officials/law enforcement agencies and all other stakeholders took urgent measures to address the situation purposively by fixing a realistic timeframe. He further pointed out that representatives of civil society organisations/ NGOs keep a close watch on environmental issues confronting the holy city of Amritsar and vigorously act towards ensuring a clean and healthy environmental in Amritsar and the surrounding areas.

29. The representatives[2] of civil society/NGOs raised a number of issues pertaining to the environmental status of Amritsar. Some of the significant and prominent views expressed

[2] *A copy each of the representations received is at Annexure-II.*

were as follows:-

(i) Dr. Balvinder Singh, Social Activist, emphasised on the need for devising a proper and effective Master Plan for the City. He pointed out that there was not enough open space/parks for the children to play nor was there any stadium to organise sports events, etc. in the City. There was absolute lack of parking space in the City as a result of which vehicles are parked on the roadside in a haphazard manner giving rise to traffic chaos and air pollution. The ground water table was going down day by day, but local civic authorities did not bother to create any awareness for rain water harvesting. There was no proper system for garbage collection. Heaps of debris giving dirty look to the city could be seen lying here and there. There was, therefore, an urgent need for developing debris handling and recycling facilities in the City. He also pointed out that there was no sewage treatment plant in the City. Local authorities had been giving fake assurances of setting up of sewage treatment plants without making any allocation for the purpose. While, summing up, he emphasised that a proper and purposive town planning was badly required to address the problem of pollution in Amritsar.

(ii) The representative of Fortis Hospital submitted that to maintain cleanliness and hygiene in the City, there was an urgent need for providing sufficient number of dustbins in each and every mohalla of the City. In the absence of the dustbins, people are forced to throw their domestic garbage on roads and streets. He also laid emphasis on strengthening the mechanism of collection and disposal of biomedical wastes. He also suggested that the practice of change of land use needed to be discontinued, so that, no polluting units come up within the residential areas.

(iii) The President, Barkat Welfare Society, asserted that diesel run vehicles and three-wheelers plying in the city were the main contributors to air pollution in the City. Solid waste disposal and management rules were not being implemented due to laxity on the part of the law enforcement agencies. He desired that rain water harvesting should be made mandatory for all the new buildings for recharge of ground water. He opined that mass transport system needed to be encouraged so as to discourage people from using their own private vehicles. He was of the view that instead of going for a long-term high capital intensive mass rapid transport system, Metro-rail Project, the fleet of CNG buses could be added to the transport system of the City as a short-term measure. He was of the view that wide roads were not necessarily required for doing away with the problem of traffic congestion. What was, in fact, needed was to regulate the traffic in a more scientific and effective manner. He also felt that to make the City neat and clean waste collection and their scientific disposal was required. He also suggested that to address the environmental challenges of the City participation of NGOs and civil society members was needed. He pointed out that disposed of animal carcasses at the land fill sites, transportation of solid waste in open trucks needed to be discouraged. The practice of irrigating fields with the untreated sewerage and polluted water, be banned as such a practice caused contamination of vegetables and agricultural products with heavy metals and other deadly pollutants. People are forced to defecate and urinate in the open mainly because of the fact that public toilets were filthy. Local municipal authorities should keep the public toilets clean and hygienic so as to encourage people to use it.

(iv) The representative of All India Pingalwara Charitable Society, mainly focused on the problem of noise pollution and said that there was lack of enforcement of norms in this regard. The menace of noise pollution,

particularly, during festive seasons aggravated as it continued till late in the night and sometimes even till early in the morning. Running of gensets which are around 16 lakhs in number, when the electricity supply was off not only added to noise but also considerable air pollution. She emphasised that diesel gensets needed to be replaced with electric or gas run gensets.

(v) The representative of Conservator of Nature Missionary Khudai Khidmatgaran stated that his organisation had planted approximately 1.22 lakh plants in the City. Survival rate of these plants go upto the extent of 85 per cent. He suggested that more and more trees needed to be planted to check the deterioration in the environmental condition of the City and also to give a clean and green look. He proposed that road crossings, particularly, the areas around major crossings and red lights should be landscaped. Toilets should be constructed alongwith the footpaths. He also suggested that since the underground water was contaminated water treatment plants needed to be installed.

(vi) The representative of Amritsar Swadeshi Woolen was of the view that an awareness programme to educate all those industries which were discharging effluents in the water bodies, needed to be launched so as to discourage them from doing so. He also suggested that sludge generated from the industrial units might be used for making bricks and cement as it did not contain any hazardous pollutants like heavy metals, etc. To address the challenge posed by the menace of plastic and polly bags, he also suggested that their collection and recycling needed to be ensured. He also emphasised on the need of rain water harvesting. For the successful and effective running of sewage treatment plants, he suggested that instead of electricity, they should be run on methane gas, which could be harnessed from the treatment of sewage. By doing this uninterrupted running of sewage treatment plant could be ensured.

(vii) The representative of Voice of Amritsar voiced her concerns by saying that one of the main reasons for increasing vehicular pollution was encroachment upon major part of the city roads upon which hampered smooth flow of traffic. She was also of the view that manual sweeping/cleaning of roads was also one of the factors contributing to air pollution in the city. In the process of sweeping, micro dust particles get stirred and mixed with air and gradually goes down in our lungs as we breathe. Thus, dust did not get removed through sweeping rather it gets relocated and resettled. She, therefore, suggested that instead of manual cleaning, vacuum cleaning should be introduced. She also pointed out that gensets were also causing air pollution in the City. To make the city clean and green, she emphasised on need for planting more trees in the City.

(viii) Dr. Charanjit Singh Gumtala raised the issue of solid waste treatment plant proposed to be setup at Bhagtanwala, Amritsar which was only 1800 meters away from the Golden Temple. He pointed out that solid waste treatment plants generate a number of pollutants like carbon monoxide, sulfur dioxide, particulate matter containing heavy metal compounds and dioxins which were extremely hazardous for the people leaving around the area. He also informed the Committee that more than 50,000 residents of the nearby areas had been protesting against the dump yard and demanding its shifting but to no avail. He requested the Committee to undertake a visit to the site for on the spot assessment.

(ix) The representative of Amritsar Vikas Manch drew attention of the Committee to uranium content (carcinogenic element) beyond the prescribed limit in underground water of Amritsar. He quoted a newsitem in which it was reported that 87 out of 142 potable water samples collected from various parts of the City contained more Uranium elements than the prescribed limit.

Out of the 87 samples, 19 had uranium content of more than 60 micrograms per liter, while 58 samples, uranium content of 30 to 60 micrograms per liter. The permissible limit of uranium content was 30 to 60 microgram per liter as per the Atomic Energy Regulatory Board of India, while the WHO limit of uranium content was from 15 to 30 micrograms.

(x) The representative of Department of Botanical & Environmental Sciences informed the Committee that the proposal of Municipal Corporation to setup sewerage treatment plants was only on paper and no substantial work on the ground had been undertaken. Further, Municipal Corporation had not conducted any pilot study to check the efficiency of the proposed sewerage treatment plant. He was of the view that it was impossible to treat BOD (organic matter) in the milligram level when industries were discharging effluents in kilograms. To buttress his claim, he stated that the sewerage treatment plants at Ludhiana were not able to achieve the desired efficiency due to mixing of industrial waste with the sewerage. He also raised his concern on the setting up of solid waste management plant at Bhagtanwala where solid wastes including animal carcasses were being dumped in most unscientific manner.

(xi) The representative of the Joint Agitation Committee (Regd.), Amritsar raised the issue of dumping of municipal solid waste at Bhagtanwala dump site which was surrounded by residential areas and grain market and a proposed solid waste management plant at the location. He informed the Committee that lakhs of metric tonnes of solid waste was lying in the open which was causing diseases in the nearby colonies. He opined that with the completion of the proposed municipal solid waste management plant, apart from the Golden Temple, several other holy places like Gurudwara Santokh Sar, Durgiana Temple, Gurudwara Bibeksar, Ram Bagh Church, Town Hall Masjid, Jama Masjid and other heritage sites like Jaliyanwala Bagh, Quila Govindgarh and other would be adversely affected.

(xii) The representative of Pollution Control Committee while expressing his views through power point presentation, stated that there was no sewerage treatment plant nor any solid waste management facility in the City. He also said that there was lack of proper system of collection and disposal of used batteries and electric wastes; non-implementation of plastic waste management rules, traffic congestion, encroachment on roads and public places, absence of carcass utilisation centre for dead animals; unscientific slaughtering of sheep and goats, etc. These were some of the issues adding to the environmental challenges of the City. With regards to water pollution, he informed the Committee that the three storm water open drains maintained by Drainage Deptt., namely, Tung Dhala Drain, City Outfall Drain and Chabba Drain which fell in River Ravi, through Hudiara Drain, were carrying untreated municipal and industrial sewage which was badly affecting underground water quality. Contamination of water was getting manifested in a number of ways. Vegetables had been found to contain heavy metals; water having uranium content and soil upto 1 feet depth contained heavy metals, etc. as per a study conducted by Guru Nanak Dev University.

30. The next meeting of the Committee was held with representives of Government bodies and local authorities.

31. The Chairman, while welcoming the Secretary, Science & Technology and Environment, the Principal Secretaries, Punjab Urban Planning and Development Authority, Housing and Urban Development, Govt. of Punjab, Commissioner, Municipal Corporation of Amritsar; Chairman and Member Secretary, Punjab Pollution Control Board, representatives of Union Ministry of Environment, Forests and Climate Change and other officials to the

meeting, highlighted that in view of the alarming situation that confronted Amritsar, all responsible authorities and stakeholders ought to make collective endeavours and take the needed measures to address the situation urgently and purposively, within a given time frame. He further stated that the Committee was informed in the morning session by civil society members/ NGOs that the main contributors of pollution in Amritsar were industries, hospitals, municipal solid waste, plastic waste, vehicular pollution, etc. Untreated municipal sewerage was being discharged into the water bodies. Municipal solid waste was being dumped in the open at a land fill site which was located in a residential area. Hazardous wastes and animal carcasses were also being dumped at the land fill site. He asked Govt. officials to apprise the Committee of the various steps taken by different agencies to address these environmental issues. He also asked the authorities to inform the Committee of the manner in which the Committee could help the authorities in their endeavours to improve the environmental parameters of the City of Amritsar.

32. The Secretary, Science & Technology and Environment made a PowerPoint presentation on the sources of various types of pollution in Amritsar and the efforts made by various Govt. Authorities/ Bodies to mitigate them. The Committee was informed that the sectors contributing to environment pollution in Amritsar were mainly industries and urban local bodies, i.e., Municipal Corporation of Amritsar and the biomedical wastes generated by healthcare facilities. The Committee was informed that in Amritsar, there were mainly two types of industries – (i) Textile dyeing industries and (ii) Electroplating industries. Out of the 35 dyeing industries, 11 had upgraded their effluent treatment plants; 8 units had completed 90 per cent and 16 units 50 per cent of the upgradation work. All the 37 medium and small-scale electroplating industries had joined the common effluent treatment plant setup at phase VIII Focal point Ludhiana.

33. He further added that Amritsar generated about 217 MLD of domestic waste water but admitted that presently there was no sewage treatment plant operational to treat the waste water. However, 3 sewage treatment plant had been proposed to be setup at 3 different locations with a total installed capacity of 217.5 MLD. Work on two treatment plants of 95 MLD capacity each with Activated Sludge Process Technology (ASPT) funded by Japan International Cooperation Agency (JICA) was in progress. For the third STPs of 27.5 MLD capacity with sequencing Batch Reactor (SBR) Technology works have been tendered. The total cost of the entire project was Rs. 160 crore.

34. With respect to the municipal solid waste, the Secretary informed the Committee that about 655 metric tonnes, solid waste was generated per day in the jurisdiction of Municipal Corporation of Amritsar. An action plan had been initiated for segregation and collection of waste. So far as the disposal of municipal solid waste was concerned, it was informed that presently the Municipal Corporation was dumping the municipal solid waste at a new site, i.e., Village Fatahpur, Chabhal Road, Amritsar and not at Bhagtanwala.

35. As regarding Bio-Medical Waste Management, the Committee was informed by Punjab Pollution Control Board that the Board had checked 69 Health Care Facilities (HCFs) out of which 61 HCFs were found complying with Bio Medical Waste (Management & Handling) Rules, 1998. Action had been initiated against the 05 HCFs and Bank guarantees as an assurances have been deposited by these HCFs and action was under process against 03 HCFs. In addition to above, the Board held also initiated legal action by way of launching prosecution against 08 violating HCFs in the calendar year 2014.

36. There were two air quality monitoring stations in Amritsar installed under National Air Quality Monitoring Programme. As per the ambient air quality data, with respect to SO_2 and NO_2, the pollution level had been found to be within the national ambient air quality standards during the last 3 years, i.e., 2011-12 and 2013, except the PM_{10} level which had also shown a declining trend during the above period. From 2010 in 2011, PM_{10} level came down to 202 in 2012 and 180 in 2013. So far as, air pollution control measures were concerned all the large-scale units have installed air pollution control devises for controlling their emissions.

37. The Committee was further informed that a Solid Waste Management Plant for Amritsar was in the process of being setup and it was expected to be completed by the end of 2016. The Chairman desired that Commissioner, Municipal Corporation, Amritsar must ensure that the solid waste management plant was installed within the given timeframe. The Committee also desired that the grievances of the residents against the land fill site at Bhagtanwala needed to be sympathetically looked into by the local authorities, so as to arrive at an amicable solution.

38. In response to a query regarding noise pollution, the Committee was informed that the Punjab Pollution Control Board had monitored 06 nos. marriage palaces situated at Village - Khassa on National Highway-1 leading to Attari. During a visit, the noise generated from these marriage palaces were found beyond the prescribed limits laid down under Noise Pollution Control Rules, 2000. Accordingly, these marriage palaces were heard by the Senior Environmental Engineer of the Board wherein it was decided that the marriage palaces shall ensure that the contribution of noise from the marriage palace would not increase beyond permissible limits prescribed for the area. The Committee also desired that Deputy Commissioner, Amritsar ensure that noise pollution norms were strictly enforced.

39. The Department of Atomic Energy made a presentation on the waste treatment plant developed by Bhabha Atomic Research Centre. The Committee was informed that the NISARGRUNA Technology has been developed for the urban and rural waste management, energy conservation, better environment and restoration of soil fertility. The technology offers a comprehensive solution for handling the biodegradable waste materials. The process involves combination of aerobic and anaerobic degradation of the biodegradable waste materials. The aerobic phase is aided by the addition of hot water to support the growth of efficient thermophilic and thermoduric microbes. The anaerobic phase results in formation of biogas and organic manure, which can help in obtaining the self rest inability of the project. The first step of the NISARGRUNA Technology involves the processing of waste before putting it into a predigester tank. The waste is then converted into slurry in the predigester tank. This helps in first stage of methanogenesis viz. hydrolysis. There will be no scum formation and no clogging. The next stage involves use of thermophilic/thermoduric microbes for faster degradation of the waste which is assured by mixing the waster with hot waste and maintaining the temperature between 45-50^{o} C. The hot water supply is from a solar heater. In all these phases, the main objective is to digest proteins and low molecular weight carbohydrates to produce volatile fatty acids.

40. After the predigester tank, the slurry enters the main tank where it undergoes mainly anaerobic degradation by a consortium of archaebactria. The biogas is generated, separating out water in an underground tank and also a finely divided power gets settled in the tank and after a month, high quality manure can be dug out from the settling tanks.

41. Thus, technology offered by Department of Atomic Energy, Nisargruna helps in:-

(1) Decentralized processing of biodegradable waste
(2) Achieving the dream of zero garbage and zero effluent
(3) Reduction in transportation costs
(4) Maintenance of biogeochemical elemental cycles
(5) Generation of by-products which can give financial support and motivation for the operators
(6) Employment generation in lower economic strata of society
(7) Reduction dumping yard menace
(8) Quality improvement in dry waste as the wet and degradable portion is removed from that
(9) Benefits in carbon credits
(10) Benefits in health sector.

42. The Committee recommends that to mitigate the pollution of Amritsar, action on following points be taken immediately under intimation to the CPCB and the

Committee:

(i) The Department of Local Government and Department of Transport must look into the issues namely disposal and transportation of carcasses of slaughtered animals, disposal of municipal solid waste, enforcement system to implement the rainwater harvesting mechanism in the construction projects.

(ii) Deputy Commissioner, Amritsar must ensure that the Noise Pollution Control Rules, 2000 are implemented effectively.

(iii) Interaction of Municipal and other authorities with NGO's and other stake holders regularly is needed to have not only better understanding of the issues for their better solution. The Department of Science, Technology & Environment must take lead on the issue by constituting the DC's Committees with NGOs/Civil Society participation under the Chairmanship of concerned DCs.

(iv) In house treatment of Municipal Solid Waste must be encouraged as it will produce methane gas to use in the household kitchens for cooking purposes. A pilot study needs to be initiated by the Department of Local Government for having a demonstrative effect for others.

[The Committee was informed that the PPCB has encouraged an industry to produce the Bio-Gas & Bio-Fertilizers by using Cow dung, Poultry Litters etc. and has granted consent to establish (NOC) to M/s Wadala Energies, Village-Wadala Bhittewad, Distt-Amritsar to produce the Bio-Gas @ 2,400 KLD & Bio-Fertilizers @ 56,00 LKD. The industry is in construction phase and soon it will be commissioned.]

(v) The transport authorities of the district must ensure that the auto-rickshaws to be operated on CNG based fuel and their routes must be fixed and not allowed to stop anywhere on the road except prescribed stoppages.

(vi) The use of high sound pressure horns by the vehicles, causing noise pollution, running in the city, must be prohibited and prohibition must be enforced directly.

[In response, the Committee has been informed that the District Transport Officer, Amritsar and Traffic Police, Amritsar had challaned owners of 1093 and 199 vehicles respectively for using pressure horns during 2014-15]

(vii) The municipal solid waste generated by the marriage palaces must be disposed off in an environmentally sound manner.

[The Committee has been informed that in the harvest season, there is very limited nos. of marriages/functions organized in the Marriage Palaces at different times. No complaint was received regarding mismanaged disposal of Municipal Solid Waste generated by the Marriage Palaces. The Punjab Pollution Control Board regularly keeping strict vigil that Marriage Palaces not to dispose their Municipal Solid Wastes in an unsound environmentally manner.

(viii) A drive may be started to plant more trees along road side and in vacant places to make the city green and clean.

(ix) Proper fencing may be provided around the Municipal Solid Waste dumping site to avoid the entry of stray animals.

(x) The cremation grounds existing within the city should as far as possible be shifted outside to reduce pollution generated from it.

(xi) No D.J. System and loudspeakers be allowed after 10 p.m., which causes noise pollution in the locality.

(xii) The sewage treatment plants installed by MES and other Educational Institutions must be operated efficiently.

[In response, the Committee has been provided the details of functioning of STPs installed by the MES and Educational Institute which are as under:-

S.No.	Name & Address	Date of Domestic Effluent	Results
1.	Guru Nanak Dev University, G.T. Road, Amritsar	4/12/2014	Within limits
2.	Garrison Engineers, Amritsar Cantt (Old), Amritsar	9/12/2014	Within limits
3.	Garrison Engineers (NAMS), Khasa Cantt, Chheharta, Amritsar	9/12/2014	Within limits

The Committee was also informed that the outlet of these STPs towards the Tung Dhab Drain have been got permanently plugged and at present there is no discharge in to drain.]

(xiii) In the walled city of Amritsar, the electricity operated three wheelers may be allowed and vehicles running without pollution control certificate must be challaned.

(xiv) Bio Medical Waste must be properly handled and disposed of in an environmentally sound manner.

(xv) The huge amount of debris generated by construction activities in the cities must be disposed off effectively in an environmentally sound manner. Concerned Municipal Corporation must deploy adequate trucks to clear the debris from the construction sites considering that debris is main pollutant of the air we breathe.

(xvi) Rain water harvesting projects must be implemented to conserve the water.

(xvii) For executing the work of STP in Amritsar, the assistance for funding must be given by the Central Government or by the international agencies. State Government should approach the Central Government for necessary funds for the purpose.

(xviii) A Pilot study may be carried out to use plastic waste for the construction of roads in the city.

Annexure-I

Representatives of Civil Society Organizations/NGOs at Ludhiana

1. Shri Joginder Kumar, President, The Ludhiana Electroplaters Association
2. Shri Tanveer Singh Dhaliwal, Councillor & Smt. Neelam Sodhi, PEHAL-The Beginning
3. Shri Sanjay Goel, Chairman & Shri Rakesh Tagri, Indian Institute of Architect, Ludhiana Centre
4. Shri Krishan Lal Malik and Maj. S.S. Aulakh, Bharat Jan Gyan Morcha
5. Shri Amanpreet Singh Arora, President, Rotary Club, Greater Ludhiana
6. Shri Rahul Verma, Sambhav Foundation;
7. Smt. Baljeet Kaur, VMAD
8. Shri Arvind Goel, Aggar Nagar, Ludhiana
9. Shri Ayush Jain, Social Activist, Ludhiana

Annexure-II

Representatives of Civil Society Organizations/NGOs at Amritsar

1. Dr. Balvinder Singh, Social Activist
2. Dr. M.P. Singh, Fortis Hospital, Amritsar
3. Shri Randeep Singh Kohli, President, Barkat Welfare Society
4. Dr. Inderjit Kaur, All India Pingalwara Charitable Society
5. Shri P.S. Bhatti, Conservator of Nature Missionary Khudai Khidmatgaran
6. Mr. Sachin Khanna, Amritsar Swadeshi Woolen
7. Smt. Indu Arora, Voice of Amritsar
8. Dr. Charanjit Singh Gumatala
9. Shri Kulwant Singh Ankhi, Amritsar Vikas Manch
10. Shri Manpreet S. Bhatti, Assistant Professor, Deptt. of Botanical & Environmental Sciences
11. Shri Sandeep Kurl, Joint Action Committee
12. Shri Prabhdial Singh Randhawa, Pollution Control Committee