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| Code No. | : 390000 |
| District | : Lucknow |
| Group | : Misc. Bench (PIL) |

1

In The Hon'ble High Court of Judicature at Allahabad
Lucknow Bench, Lucknow

Writ Petition No. 6748 (MB) of 2008

Banwari Lal

Petitioner

Versus

State of U.P. and others

Opposite Parties

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Place : Lucknow

Dated : 30/7/08

B.K. Singh

(B.K. Singh)

Advocate

Counsel for the Petitioner

| | | |
|----------|---|----------------------|
| Code No. | : | 390000 |
| District | : | Lucknow |
| Group | : | Misc. Bench (PIL) |

2

**In The Hon'ble High Court of Judicature at Allahabad
Lucknow Bench, Lucknow**

Writ Petition No. _____ (MB) of 2008

Banwari Lal ... Petitioner

Versus

State of U.P. and others ... Opposite Parties

Dates and Events

| Sl. No. | Dates | Events |
|---------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | 26.8.1996 | In the case of <i>Vellore Citizen Welfare Forum Versus Union of India [1996 (5) Supreme Court Cases 645]</i> the Hon'ble Supreme has delivered landmark judgment applying the 'precautionary principles' and 'polluters pay principle'. The Hon'ble Apex Court has been pleased to pass the order for Constitution of Green Bench in all Hon'ble High Courts for hearing of the environmental matters in the Green Bench, even then the respondents are not serious regarding Municipal Solid Waste by which the various environmental problems are increasing day-by-day. |
| 2. | 2000 | In exercise of powers conferred by Sections 3, 6 and 25 of The Environment (Protection) Act, 1986, Central Government made the Municipal Solid Wastes (Management and Handling) Rules, 2000, which is mandatory for all the Municipal Authorities to implement the provisions of the Rules 4, 5 and 6 of the MSW Rules, 2000. It is responsibility of the Municipal Authorities, State Government and Pollution Control Board to make proper arrangement of Municipal Solid Waste through the scientific manner prescribed under the MSW Rules, 2000, but till date in the Lucknow City respondents have not taken any step for disposal of the Municipal Solid Wastes despite the amount being sanctioned. |
| 3. | June, 2005 | The Chief Environmental Engineer, U.P. Pollution Control Board, Lucknow, Former Chief Engineer, U.P. Pollution Control Board and three other Environmentalists published their articles in the Magazine ' <i>Our Earth</i> ' describing |

| | | |
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| | | <p>the hazardous impact and solution of Municipal Solid Waste. As per the report, 1010 T.D.P. M.S.W. is releasing which is 0.632 Kg per capita waste. These environmentalists given their detailed views in the articles and solutions as to how in scientific manner, the Municipal Solid Waste can be disposed, but due to non-availability of the infrastructure in the Lucknow City, till date, the respondents have not implemented the MSW Rules. The views of the environmentalists have been given in detail, but in nutshell, the petitioner can say that if the MSW Rules are not implemented, the public at large may be affected badly for the reason that public at large is drinking contaminated water and apart from this, large number of diseases are generating in the City, like, arthritis, cancer, anemia, etc.</p> |
| 4. | May, 2007 | <p>Since formation of the present Government, the opposite party No.2, namely, Mr. Vijay Shanker Pandey who is also the Secretary to the Hon'ble Chief Minister, ex-officio Chairman of the Lucknow Development Authority, Commissioner, Lucknow Division, Lucknow and Nodal Officer of all high-valued projects can provide the land for Municipal Solid Waste in the City and Mr. S.B. Misra is competent officer to provide land and implement the Municipal Solid Waste Project.</p> |
| 5. | 22.5.2008 17.7.2008 | <p>In Writ Petition No. 4436 (MB) of 2003, S.T.P. Versus State of U.P. as well as in Writ Petition No. 2598 (MB) of 2007 Gomti Nagar Jan Kalyan Maha Samiti Versus State of U.P. and others, this Hon'ble Court has been pleased to pass the interim order dated 22.5.2008 directing the National Environmental Research Engineering Institute, Nagpur [hereinafter referred to as the 'NEERI' for the sake of brevity] to make an inspection regarding Municipal Solid Waste Dumping on the Gomti River Bed near Gandhi Sethu, Lucknow and in compliance of that order, on 17.7.2008, the environmentalists of NEERI submitted the existing scenario. In the report, the NEERI said that the population of the Lucknow is 25 lacs and the estimated quantity of MSW generation is around 1200 tons per day (TPD). There are around 303 open dumps, 58 dhalaos and 39 big and small dumps spread all over the city. There is no sanitary landfill</p> |

| | | |
|----|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | developed for the management of MSW as per MSW Rules stipulated by The Ministry of Environment and Forests. However, LMC is proposing to develop sanitary landfill under JNNURM Scheme at Hardoi Road, but the proposed site of MSW is also very hazardous due to various water bodies in the vicinity. Although the NEERI has submitted its report only for a particular place near Gandhi Sethu, but from perusal of the observations made by the NEERI, it is clear that if strong steps may not be taken by this Hon'ble Court, the public at large may be affected badly. More or less, problem of the MSW in the City is as much as mentioned by the NEERI relating to the Gandhi Sethu, but actual position of the city is very hazardous due to non-implementation of the MSW Rules. |
| 6. | 27.5.2008 18.6.2008 11.7.2008 | The Director, Local Body written various letters to the Commissioner, who is ex-officio Chairman of the Lucknow Development Authority to provide land for the Municipal Solid Waste saying that the first instalment of the project has been sanctioned and if the project may not be implemented due to non-availability of the land, the amount sanctioned by the Central Government under Jawarharial Nehru National Urban Renewal Mission (JNNURM) Scheme may be lapsed and it has come to the light that about Rs.40 crores has been sanctioned for implementation of Municipal Solid Waste in the Lucknow City and despite release of the fund of first instalment, till date the respondents have not provided any land for the Municipal Solid Waste. |
| 7. | 27.7.2008 | Hindustan Hindi Dainik published news-item describing various disease due to non-implementation of MSW Rules, 2000. |
| 8. | -- | As the public at large is affected due to non-implementation of MSW Rules, 2000, hence the instant writ petition. |

Place : Lucknow
Dated : 30/7/2008

B. K. Singh
(B.K. Singh)
Advocate
Counsel for the petitioner

| | |
|----------|---------------|
| Code No. | : 390000 |
| District | : Lucknow |
| Group | : Misc. Bench |

5

**In The Hon'ble High Court of Judicature at Allahabad
Lucknow Bench, Lucknow**

Civil Misc. Application No. 65264 of 2008

In re:

Writ Petition No. 6748 (MB) of 2008



Banwari Lal

[Signature] Petitioner

Versus

State of U.P. and others

... Opposite Parties

Application for Interim Relief

The humble petitioner above named most respectfully submits as under:-

WHEREFORE, for facts and reasons stated in the accompanying writ petition, it is most respectfully prayed that this Hon'ble Court may kindly be pleased to direct the respondents 1 to 6 to provide proper places for the Municipal Solid Waste forthwith and further, be pleased to direct the respondents 1 to 6 to comply with the provisions of Municipal Solid Wastes (Management and Handling) Rules, 2000 with the help and assistance of the opposite party No.7.

Such any other order or direction under the circumstances may also be passed in favour of the applicant.

Place : Lucknow
Dated : 30/7 / 2008

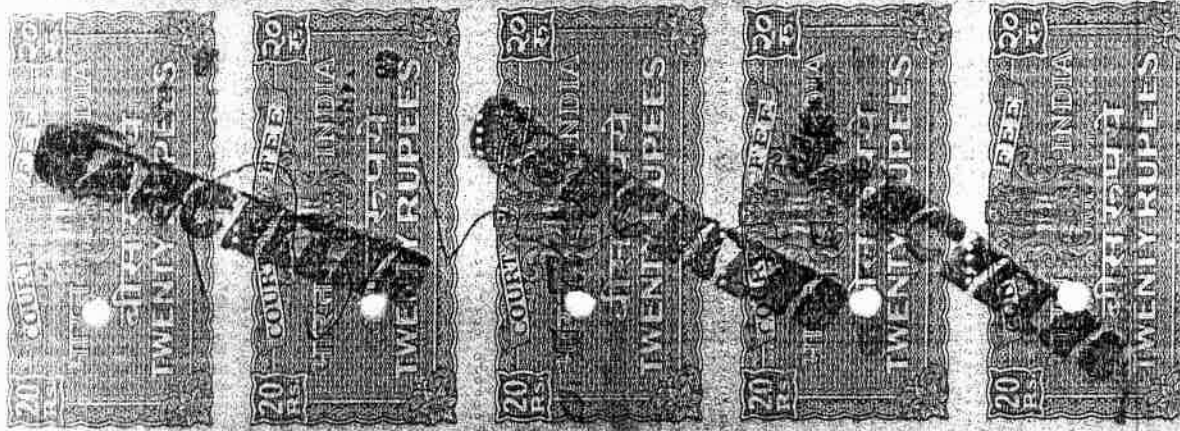
[Signature]
(B.K. Singh)
Advocate
Counsel for the petitioner

| | |
|----------|-------------------|
| Code No. | 390000 |
| District | Lucknow |
| Group | Misc. Bench (PIL) |

6

In The Hon'ble High Court of Judicature at Allahabad
Lucknow Bench, Lucknow

Writ Petition No. 6728 (MB) of 2008



10/10/08

Banwari Lal, aged about 40 years, S/o late Mittu Lal, R/o 2/393,
Vineet Kand, Gomti Nagar, Lucknow.

Notice No. M-6825/08/200
Rev. 196 for
Petitioner 30/7/08
for Chief Standing Counsel
High Court Lucknow
30/7/08

Versus

1. State of U.P. through its Principal Secretary, Housing & Urban Planning, Civil Secretariat, Lucknow.
2. Commissioner, Lucknow Division, Lucknow.
3. Lucknow Development Authority through its Chairman, Pradhikaran Bhawan, Vipin Khand, Gomti Nagar, Lucknow.
4. Joint Director, Land Acquisition, Lucknow Development Authority, Pradhikaran Bhawan, Vipin Khand, Gomti Nagar, Lucknow.

30/7/08



5. Lucknow Nagar Nigam, Lucknow through its ^{Municipal} Commissioner.
6. U. P. Pollution Control Board, PICCUP Bhavan, Vibhuti Khand, Gomti Nagar, Lucknow. ^{Jointly its} ^{Chair man}
7. National Environmental Engineering Research Institute, Nehru Marg, Nagpur - 440 020 through its Director.

Opposite Parties

**Writ Petition under Article 226 of the
Constitution of India**

To

Hon'ble the Chief Justice and other companion judges of this Hon'ble Court.

1. That the present petition is the first petition on behalf of the petitioner and he declares that earlier he has not filed any other writ petition in this Hon'ble Court either at Allahabad or at Lucknow on the same subject, matter and facts.

The petitioner has not received any notice/information regarding caveat application by the registered post or otherwise from the opposite parties and he is not concealing any facts for the same.

2. That by means of the public interest litigation petition, the petitioner is drawing the attention of this Hon'ble Court regarding Rules 4, 5 and 6 of the Municipal Solid Wastes (Management and

Handling) Rules, 2000 [hereinafter referred to as the 'MSW Rules' for the sake of brevity] with prayer to direct the respondents to provide specific land for the Municipal Solid Waste and to implement the statutory provisions of law.

3. That before coming to the factual matrix of the case, it is pertinent to mention here that the petitioner, who is a Practicing Advocate of this Hon'ble Court and Social Worker, is drawing the attention of this Hon'ble Court regarding Rules 4, 5 and 6 of the MSW Rules which have been conferred by Sections 3, 6 and 25 of the Environment (Protection) Act, 1986. The provisions of Section 6 of the Environment (Protection) Act, 1986 and Rules 4, 5 and 6 of the MSW Rules are reproduced as under:-

Section 6 of the Environment (Protection) Act, 1986

6. Rules to regulate environmental pollution – (1) The Central Government may, by notification in the Official Gazette, make rules in respect of all or any of the matters referred to in section 3.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely –

- (a) the standards of quality of air, water or soil for various areas and purposes;
- (b) the maximum allowance limits of concentration of various environmental pollutants (including noise) for different areas;
- (c) the procedures and safeguards for the handling of hazardous substances;
- (d) the prohibition and restrictions on the handling of hazardous substances in different areas;
- (e) the prohibition and restrictions on the location of industries and the carrying on of process and operation in different areas;
- (f) the procedures and safeguards for the prevention of accidents which may cause environmental pollution and for providing for remedial measures for such accidents.

Rules 4, 5 and 6 MSW Rules

4. Responsibility of municipal authority – (1) Every municipal authority shall, within the territorial area of the municipality, be responsible for the implementation of the provisions of these rules, and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.

(2) The municipal authority or an operator of a facility shall make an application in Form I, for grant of authorization for setting up waste processing and disposal facility including landfills from the State Board or the Committee in order to comply with the implementation programme laid down in Schedule I.

(3) The municipal authority shall comply with these rules as per the implementation schedule laid down in Schedule I.

(4) The municipal authority shall furnish its annual report in Form II –

(a) to the Secretary-incharge of the Department of Urban Development of the concerned State or as the case may be of the Union Territory, in case of a metropolitan city; or

(b) to the District Magistrate or the Deputy Commissioner concerned in case of all other towns and cities,

with a copy to the State Board or the Committee on or before the 30th day of June every year.

(5) Responsibility of the State Government and the Union Territory Administrations – (1) The Secretary-incharge of the Department of Urban Development of the concerned State or the Union Territory, as the case may be, shall have the overall responsibility for the enforcement of the provisions of these rules in the metropolitan cities.

(2) The District Magistrate or the Deputy Commissioner of the concerned district shall have the overall responsibility for the enforcement of the provisions of these rules within the territorial limits of their jurisdiction.

(6) Responsibility of the Central Pollution Control Board and the State Board or the Committee – (1) The State Board or the Committee shall monitor the compliance of the standard regarding groundwater, ambient air, leachate quality and the compost quality including incineration standards as specified under Schedules II, III and IV.

2011

2011

(2) The State Board or the Committee, after the receipt of application from the municipal authority or the operator of a facility in Form I, for grant of authorization for setting up waste processing and disposal facility including landfills, shall examine the proposal taking into consideration the views of other agencies like the State Urban Development Department, the Town and Council Planning Department, Air Port or Air Base Authority, the Ground Water Board or any such other agency prior to issuing the authorization.

(3) The State Board or the Committee shall issue the authorization in Form I the municipal authority or an operator of a facility within forty-five days stipulating compliance criteria and standards as specified in Schedules II, III and IV including such other conditions, as may be necessary.

(4) The authorization shall have valid for a given period and after the validity is over, a fresh authorization shall be required.

(5) The Central Pollution Control Board shall co-ordinate with the State Boards and the Committees with particular reference to implementation and review of standards and guidelines and compilation of monitoring data.

4. That fresh air and fresh water is fundamental right guaranteed under Article 21 of the Constitution of India and affirmed by the Hon'ble Apex Court in number of decisions.

5. That it was incumbent upon the respondents to implement the provisions of MSW Rules from the date when it was enacted and published in the Official Gazette, but is very unfortunate for the capital of the State that till date, the respondents have not taken proper steps to implement the said Rules and to protect the citizens of the Lucknow City.

6. That as per the provisions of Rules 4, 5 and 6 of the MSW Rules, it is mandatory duty of the municipal authorities, State

Government and other local bodies to provide infrastructure for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes, but despite lapse of eight years from the enactment of the said Rules, the respondents failed to provide the proper land for the management and handling of the Municipal Solid Waste.

7. That it is also pertinent to mention here that since formation of the present Government, the opposite party No.2, namely, Mr. Vijay Shanker Pandey who is also the Secretary to the Hon'ble Chief Minister, ex-officio Chairman of the Lucknow Development Authority, Commissioner, Lucknow Division, Lucknow and Nodal Officer of all high-valued projects can provide the land for Municipal Solid Waste in the City and Mr. S.B. Misra is competent officer to provide land and implement the Municipal Solid Waste Project.
8. That vide applications dated 27.5.2008, 28.6.2008 and 11.7.2008, the Director, Local Body written various letters to the Commissioner, who is ex-officio Chairman of the Lucknow Development Authority to provide land for the Municipal Solid Waste saying that the first instalment of the project has been sanctioned and if the project may not be implemented due to non-availability of the land, the amount sanctioned by the Central Government under Jawarharlal Nehru National Urban Renewal Mission (JNNURM) Scheme may be lapsed and it has come to

the light that about Rs.40 crores has been sanctioned for implementation of Municipal Solid Waste in the Lucknow City and despite release of the fund of first instalment, till date the respondents have not provided any land for the Municipal Solid Waste. The true photocopy of the letter dated 11.7.2008 is being filed as Annexure No.1 to the writ petition.

9. That it is pertinent to mention here that on 26.8.1996, in the case of *Vellore Citizen Welfare Forum Versus Union of India [1996 (5) Supreme Court Cases 645]* the Hon'ble Supreme has delivered landmark judgment applying the 'precautionary principles' and 'polluters pay principle'. The Hon'ble Apex Court has been pleased to pass the order for Constitution of Green Bench in all Hon'ble High Courts for hearing of the environmental mattes in the Green Bench, even then the respondents are not serious regarding Municipal Solid Waste by which the various environmental problems are increasing day-by-day.

10. That in the month of June, 2005, the Chief Environmental Engineer, U.P. Pollution Control Board, Lucknow, Former Chief Engineer, U.P. Pollution Control Board and three other Environmentalists published their articles in the Magazine '*Our Earth*' describing the hazardous impact and solution of Municipal Solid Waste. As per the report, 1010 T.D.P. M.S.W. is releasing which is 0.632 Kg per capita waste. These environmentalists given their detailed views in the articles and solutions as to how in

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scientific manner, the Municipal Solid Waste can be disposed, but due to non-availability of the infrastructure in the Lucknow City, till date, the respondents have not implemented the MSW Rules. The views of the environmentalists have been given in detail, but in nutshell, the petitioner can say that if the MSW Rules are not implemented, the public at large may be affected badly for the reason that public at large is drinking contaminated water and apart from this, large number of diseases are generating in the City, like, arthritis, cancer, anemia, etc. The true photocopies of the Articles published in Our Earth in the month of June, 2005 are being filed as Annexure Nos. 2, 3 and 4 to this writ petition.

11. That it would not be out of place to mention here that in Writ Petition No. 4436 (MB) of 2003, S.T.P. Versus State of U.P. as well as in Writ Petition No. 2598 (MB) of 2007 Gomti Nagar Jan Kalyan Maha Samiti Versus State of U.P. and others, this Hon'ble Court has been pleased to pass the interim order dated 22.5.2008 directing the National Environmental Research Engineering Institute, Nagpur [hereinafter referred to as the '**NEERI**' for the sake of brevity] to make an inspection regarding Municipal Solid Waste Dumping on the Gomti River Bed near Gandhi Sethu, Lucknow and in compliance of that order, on 17.7.2008, the environmentalists of NEERI submitted the existing scenario. In the report, the NEERI said that the population of the Lucknow is 25 lacs and the estimated quantity of MSW generation is around

1200 tons per day (TPD). There are around 303 open dumps, 58 dhalaos and 39 big and small dumps spread all over the city. There is no sanitary landfill developed for the management of MSW as per MSW Rules stipulated by The Ministry of Environment and Forests. However, LMC is proposing to develop sanitary landfill under JNNURM Scheme at Hardoi Road, but the proposed site of MSW is also very hazardous due to various water bodies in the vicinity. Although the NEERI has submitted its report only for a particular place near Gandhi Sethu, but from perusal of the observations made by the NEERI, it is clear that if strong steps may not be taken by this Hon'ble Court, the public at large may be affected badly. More or less, problem of the MSW in the City is as much as mentioned by the NEERI relating to the Gandhi Sethu, but actual position of the city is very hazardous due to non-implementation of the MSW Rules. The true photocopy of the report of NEERI relating to Gomti River Bed near Gandhi Sehtu, Lucknow dated 17.7.2008 is being filed as Annexure No. 5 to this writ petition.

12. That when the report of the NEERI came into light, the Hindustan Times - Hindi published its news item describing various diseases due to Municipal Solid Waste left openly at various places. In the news-item published in Hindustan Times - Hindi daily dated 27.7.2008, it is said that every day, about 125 Metric tones Municipal Solid Waste due to which number of

30/11

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patients are increasing relating to cancer, arthritis and spondelites etc. The true photocopy of the news-item dated 27.7.2008 published in Hindustan Times is being filed as Annexure No. 6 to this writ petition.

13. That till date, there is only one problem of Municipal Solid Waste relating to the Gomti River Bed near Gandhi Sethu, Lucknow, but actually in every Mohalla, there are 10-15 places for Municipal Solid Waste and Lucknow Nagar Nigam failed to dispose of these Municipal Sold Waste despite statutory Rules made in the year 2000.

14. That since the respondents are not taking any proper steps for removing Municipal Solid Waste in scientific manner, therefore, they are liable to pay compensation as 'Precautionary Principles' and 'Polluters Pay Principle'.

15. That time to time, NBRI, ITRE and various experts of KGMU have published their articles saying that number of patients of cancer, arthritis and spondelitis and so many other diseases are generating due to pollution problem and major pollution problem is Municipal Solid Waste, even then the Municipal Authorities are not taking any proper steps for disposal of Municipal Solid Waste.

16. That since 1992, the respondents are shifting the land of Sewage Water Plant from one place to another and so far as the

Municipal Solid Waste is concerned, till date there is proper place through the scientific manner.

17. That the area suggested by the Lucknow Development Authority and Lucknow Nagar Nigam at Hardoi Road is not proper for disposal of Municipal Solid Waste as per the report of NEERI in which it is indicated that there are large number of water bodies and if the Municipal Solid Waste may be re-cycled, the residents of the area may be affected for the reason that the various chemicals released may go into the ground water level upto 70 meter feet.

18. That there is no any other option except to make proper arrangement for Municipal Solid Waste, but there is no any political will to improve the quality of the life of the citizens, which has been protected by the Constitution of India.

19. That under these circumstances, respondents may be directed to implement the Municipal Solid Waste Rules, 2000 forthwith.

20. That feeling aggrieved and having no alternative and efficacious remedy this humble petition is being filed on the following amongst grounds:

30/2/08



GROUNDS

- a. **Because** fresh air and fresh water is fundamental right guaranteed under Article 21 of the Constitution of India and affirmed by the Hon'ble Apex Court in number of decisions.
- b. **Because** it was incumbent upon the respondents to implement the provisions of MSW Rules from the date when it was enacted and published in the Official Gazette, but is very unfortunate for the capital of the State that till date, the respondents have not taken proper steps to implement the said Rules and to protect the citizens of the Lucknow City.
- c. **Because** as per the provisions of Rules 4, 5 and 6 of the MSW Rules, it is mandatory duty of the municipal authorities, State Government and other local bodies to provide infrastructure for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes, but despite lapse of eight years from the enactment of the said Rules, the respondents failed to provide the proper land for the management and handling of the Municipal Solid Waste.
- d. **Because** in the case of *Vellore Citizen Welfare Forum Versus Union of India [1996 (5) Supreme Court Cases 645]* the Hon'ble Supreme has delivered landmark judgment applying the 'precautionary principles' and 'polluters pay

principle'. The Hon'ble Apex Court has been pleased to pass the order for Constitution of Green Bench in all Hon'ble High Courts for hearing of the environmental matters in the Green Bench, even then the respondents are not serious regarding Municipal Solid Waste by which the various environmental problems are increasing day-by-day.

- e. **Because** in the month of June, 2005, the Chief Environmental Engineer, U.P. Pollution Control Board, Lucknow, Former Chief Engineer, U.P. Pollution Control Board and three other Environmentalists published their articles in the Magazine '*Our Earth*' describing the hazardous impact and solution of Municipal Solid Waste. As per the report, 1010 T.D.P. M.S.W. is releasing which is 0.632 Kg per capita waste. These environmentalists given their detailed views in the articles and solutions as to how in scientific manner, the Municipal Solid Waste can be disposed, but due to non-availability of the infrastructure in the Lucknow City, till date, the respondents have not implemented the MSW Rules. The views of the environmentalists have been given in detail, but in nutshell, the petitioner can say that if the MSW Rules are not implemented, the public at large may be affected badly for the reason that public at large is drinking contaminated

water and apart from this, large number of diseases are generating in the City, like, arthritis, cancer, anemia, etc.

- f. **Because** in Writ Petition No. 4436 (MB) of 2003, S.T.P. Versus State of U.P. as well as in Writ Petition No. 2598 (MB) of 2007 Gomti Nagar Jan Kalyan Maha Samiti Versus State of U.P. and others, this Hon'ble Court has been pleased to pass the interim order dated 22.5.2008 directing the National Environmental Research Engineering Institute, Nagpur to make an inspection regarding Municipal Solid Waste Dumping on the Gomti River Bed near Gandhi Sethu, Lucknow and in compliance of that order, on 17.7.2008, the environmentalists of NEERI submitted the existing scenario. In the report, the NEERI said that the population of the Lucknow is 25 lacs and the estimated quantity of MSW generation is around 1200 tons per day (TPD). There are around 303 open dumps, 58 dhalaos and 39 big and small dumps spread all over the city. There is no sanitary landfill developed for the management of MSW as per MSW Rules stipulated by The Ministry of Environment and Forests. However, LMC is proposing to develop sanitary landfill under JNNURM Scheme at Hardoi Road, but the proposed site of MSW is also very hazardous due to various water bodies in the vicinity. Although the NEERI has submitted its report only for a particular place near Gandhi Sethu, but

Member

from perusal of the observations made by the NEERI, it is clear that if strong steps may not be taken by this Hon'ble Court, the public at large may be affected badly. More or less, problem of the MSW in the City is as much as mentioned by the NEERI relating to the Gandhi Sethu, but actual position of the city is very hazardous due to non-implementation of the MSW Rules.

- g. **Because** till date, there is only one problem of Municipal Solid Waste relating to the Gomti River Bed near Gandhi Sethu, Lucknow, but actually in every Mohalla, there are 10-15 places for Municipal Solid Waste and Lucknow Nagar Nigam failed to dispose of these Municipal Solid Waste despite statutory Rules made in the year 2000.
- h. **Because** time to time, NBRI, ITRE and various experts of KGMU have published their articles saying that number of patients of cancer, arthritis and spondelitis and so many other diseases are generating due to pollution problem and major pollution problem is Municipal Solid Waste, even then the Municipal Authorities are not taking any proper steps for disposal of Municipal Solid Waste.
- i. **Because** since 1992, the respondents are shifting the land of Sewage Water Plant from one place to another and so far

as the Municipal Solid Waste is concerned, till date there is proper place through the scientific manner.

- j. **Because** there is no any other option except to make proper arrangement for Municipal Solid Waste, but there is no any political will to improve the quality of the life of the citizens, which has been protected by the Constitution of India.

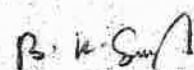
PRAYER

WHEREFORE, it is most respectfully submitted that this Hon'ble Court may kindly be pleased to:-

- I. Issue a writ, order or direction in the nature of mandamus commanding the respondents 1 to 6 to provide proper places for the Municipal Solid Waste forthwith.
- II. Issue a writ, order or direction in the nature of mandamus commanding the respondents 1 to 6 to comply with the provisions of Municipal Solid Wastes (Management and Handling) Rules, 2000 with the help and assistance of the opposite party No.7.
- III. Such any other order or direction under the circumstances of the case also be passed in favour of the petitioner.
- IV. Allow the petition of the petitioners with costs.

Place: Lucknow

Dated: 30/7/08


(B.K. Singh)
Advocate

Counsel for the petitioner

प्रेषक,

निदेशक,

स्थानीय निकाय, उ०प्र०

8 वां तल इन्दिरा भवन,

लखनऊ।

सेवा में,

मण्डलायुक्त,

लखनऊ मण्डल,

लखनऊ।

लखनऊ विकास प्राधिकरण

कम्प्यूटर सं०:.....

पत्र सं०:- तक०सेल/ 1080 / 38/06

लखनऊ: दिनांक: 11 जुलाई, 2008

विषय:- सालिड वेस्ट मैनेजमेंट योजना के कियान्वयन हेतु मैकेनिकल कम्पोस्ट प्लॉन्ट एण्ड सेनेटरी लैण्ड फिल को विकसित किये जाने हेतु भूमि की उपलब्धता के संबंध में।

महोदय,

उपयुक्त विषयक प्रमुख सचिव नगर विकास अनुभाग-5 के अर्द्धशा० पत्र सं० 4697/9-5-2008-140-सा/08 दिनांक 18.06.2008 (छायाप्रति संलग्न) एवं अद्योहस्ताक्षरी के अर्द्धशासकीय पत्र सं० तक०सेल/727(2)/38-SWM/06 दिनांक 18.06.2008 (छायाप्रति संलग्न) तथा निदेशालय के पत्र सं० तक०सेल/728/38-SWM/07 दिनांक 27.05.2008 (छायाप्रति संलग्न) का अवलोकन करें। उपरोक्त योजना JNNURM कार्यक्रम से आच्छादित है उसकी एक निश्चित अवधि है अतः भूमि उपलब्ध न होने के कारण योजना का कार्यान्वयन प्रारम्भ नहीं हो पा रहा है। भारत सरकार द्वारा प्रथम किशत दिनांक 29.08.2007 को अवमुक्त कर दी गयी है।

उक्त भूमि की उपलब्धता एम०एस०डब्ल्यू०रूल्स-2000 के अनुसार लखनऊ विकास प्राधिकरण द्वारा सुनिश्चित की जानी है। आपसे अनुरोध है कि कृपया लखनऊ विकास प्राधिकरण तथा सी०एण्ड डी० एस० जलनिगम के स्थानीय अधिकारियों के साथ बैठक कर समस्या का शीघ्र समाधान कराने का कष्ट करें, जिससे योजना को तत्काल प्रारम्भ कर एवम् आवश्यक धनराशि का उपभोग कर योजना की द्वितीय किशत भारत सरकार से प्राप्त की जा सके। आपसे यह भी अनुरोध है कि कृत कार्यवाही से निदेशालय / शासन को अवगत कराने का कष्ट करें।

संलग्नक:- उपरोक्तानुसार।

भवदीया,

(व० रेखा गुप्ता)
निदेशक।

पृष्ठ संख्या एवं दिनांक तदैव।

प्रतिलिपि:- निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

- 1- प्रमुख सचिव आवास एवं शहरी नियोजन विभाग, उ०प्र०शासन।
- 2- प्रबन्ध निदेशक, उ०प्र० जलनिगम, लखनऊ।
- 3- जिलाधिकारी, लखनऊ।
- 4- नगर आयुक्त, नगर निगम, लखनऊ।
- 5- उपाध्यक्ष, लखनऊ विकास प्राधिकरण, लखनऊ।



(व० रेखा गुप्ता)
निदेशक।

Municipal Solid Waste Management and Certain Facts, on Environment Protection Included in Hindu Religion

Dr. A.K. Jain,
Former Chief Engineer,
U. P. Pollution Control Board, Lucknow-226026

Introduction

Eighty per cent of the total municipal waste generated contains biodegradable organic materials especially vegetable waste/paper/textile from kitchen and house etc., which can be used after converting it into biofertilizer by using earthworm in a pit of size 1 x 1 x $\frac{1}{2}$ m or a wooden box. This biofertilizer can be used in kitchen garden. However, this needs public awareness and local body cooperation. These facilities may be created in a park or some open space near the residential area. Rest of the 20% municipal waste contains glass/metal/polyethylene materials that can be handled by local authority using the principle of secured landfill.

Need For The Effective Solid Waste Management

Solid waste collection and disposal is not done systematically in most of the Indian cities. There are many deficiencies in the existing storage, collection, transportation and disposal system. These are:

- Lack of physical infrastructure – lack of enclosed storage place for collected waste.
- The collection system through handcarts leads to waste of time, labour and health risk for the workers.
- Inadequate number of transport vehicles and majority of them is perpetually out of operation. In most of the cities, about 50% of transport vehicles are reported to be dysfunctional at any point of time.
- Trucks meant for carrying building material are used to carry solid waste. Most of the trucks are not covered.
- The wastes are disposed off in a totally unplanned and uncontrolled manner.
- Wastes are collected and transported without

proper and desired segregation leading to complexity and health hazards of garbage handling.

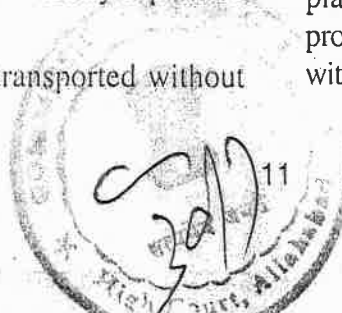
- Rag picking is rampant but their recycling activity is associated with low efficiency and high occupational hazards.
- Various types of waste like bio-medical wastes, industrial wastes, each requiring a different type of handling and treatment and mixed and disposed together.
- Two systems are running in parallel- the formal and the informal consisting of the municipal services on the one hand and the rag pickers and others in recycling trade on the other.
- The quality and efficiency of waste management has direct impact on the health of the citizens and the environment.

Constraints in Existing System of Solid Waste Management

The existing solid waste management system also has a number of constraints such as :

- Inability of existing institutions to provide effective solid waste management.
- Lack of health protection and community participation.
- Lack of sufficient financial resources and their management.
- Inappropriate technologies.
- Problems faced by waste pickers and those created by them.

Unionism leading to difficulties for higher officials to take and implement appropriate efficiency or improvement plans. A study is an immediate need to address above problems over a period of time on a priority basis along with meeting future requirements with full consideration



Municipal Solid Waste Management and Certain facts, on Environment Protection included in Hindu Religion

of any likely contingencies. The outcome of the study report would guide intended actions specifying the time and priorities for accomplishing this intended action. The study would also recognize the existing problems, analyzing and assessing the situation, suggesting action, evolving strategies for implementation with respect to time frame along with institutional, financial and policy issues.

Municipal solid wastes in Major Cities of India

Solid wastes are generated in households as unutilized solid materials. It is estimated that an adult generates about 0.5 kg. of solid wastes per day. An estimate of municipal solid wastes generated per day in some major cities of India is presented in Box 1.

| No. | City | MSW (TPD) | Per Capita waste (Kg/Day) |
|-----|-----------|-----------|---------------------------|
| 1. | Ahmadabad | 1,689 | 0.585 |
| 2. | Bangalore | 2,000 | 0.484 |
| 3. | Mumbai | 5,355 | 0.436 |
| 4. | Kolkata | 3,692 | 0.383 |
| 5. | Delhi | 4,000 | 0.475 |
| 6. | Kanpur | 1,200 | 0.640 |
| 7. | Lucknow | 1,010 | 0.623 |
| 8. | Chennai | 3,124 | 0.657 |
| 9. | Patna | 330 | 0.360 |
| 10. | Varanasi | 412 | 0.400 |

The physical composition of the solid waste also varies seasonally as well as from city to city, however in general the municipal solid waste has the following physical composition :

| Material | Percentage |
|-----------------------|------------|
| Food and garden waste | 40% |
| Paper | -27% |
| Glass/Ceramics | - 5% |
| Metal | -3% |
| Textile | -8% |
| Plastics | -4% |
| Inert | -10% |

The chemical characteristics varies significantly; Box-2 presents general chemical characteristics of municipal solid wastes in India cities :

| Characteristics | Content |
|-----------------------------------------|-----------------|
| Moisture % | 19.52 – 38.72 |
| Organic Matter : % | 25.14 – 39.07 |
| Nitrogen (as total Nitrogen): % | 0.56 – 0.71 |
| Phosphorus (as P2O5): % | 0.52 – 0.82 |
| Potassium (as K2O): % | 0.52 – 0.83 |
| C/N Ratio : | 21.13 – 30.94 |
| Calorific Value (Kcal/m ³): | 900.6 – 10009.9 |
| Bulk Density (Kg./m ³): | 390 – 537 |

Hindutava is a Science to Live with Good Health

Following factors are taken into consideration for good health (whether it is practiced or by scientific knowledge of the past added into religion for common people without mentioning the reason):

- Throwing coin into Holy River; ion effect use to purify the water, in that period the coin was made of silver or copper.
- Falling of water through in front of Sun; strengthening of eye sight i.e. radiation effect.
- Wearing of wooden sandal for equipresser for good health.
- Wearing of "Janeyu" to keep free from urine disease.
- Throwing ashes of dead body in the river which contains calcium and phosphorus with the tendency of purification of water upto certain extent.
- Worship of plants like Mango, Anvella, Neem, Emli, Tulsi, Pepal, Bargad due to their medical properties.
- Celebration of festival for certain specific occasions. Festivals also have scientific meaning.
- Use of cow dung and urine; Cow dung keeps bacteria away and not allow radiation pass through it.
- Similarly there are many more religious which can be explained on scientific ground.



IN THE HON'BLE HIGH COURT OF JUDICATURE AT
ALLAHABAD LUCKNOW BENCH, LUCKNOW.

Writ Petition No

OF 2008 (P.I.L.)

Banwari Lal Versus State of U.P.

ANNEXURE NO. 3

Municipal Solid Wastes and their Management

S.K. Singh

Chief Environmental Engineer
U.P. Pollution Control Board, Lucknow.

Introduction

Municipal Solid Waste (MSW) is classified into three groups on the basis of its composition. The three groups are :-

1. **Recyclable** : This waste comprises, ploythene, plastic, papers and glass bottles. The components are physically separated by rag pickers. Polythene is recycled as granules, papers are reused as board mills and glass bottles are recycled in glass factories.
2. **Biodegradable** : The solid wastes of this category mainly contain organics of vegetative nature. Major portion of the waste comprises peels of vegetables and fruits. The waste is treated using one of the following systems :-

- (1) **Aerobic composting** : The segregated biodegradable is subjected to composting. The compost is utilized as fertilizers and rejects is dumped in secured landfill. The arrangement is shown in Figure.

The aerobic composting is operated following the cycle given below

- (i) Every day from windows of waste (2m wide x 1.5m high x 5 meter long).
 - (ii) Turn the waste every 5, 10, 15, 20, and 25 days by front-end loader bucket attached to Tractor.
 - (iii) Moisture contents to be maintained at 55-60% by sprinkling waster.
 - (iv) After 25 days pass the material by 2 nos. of Rotary Screens. Send reject to landfill.
- (2) **Vermicomposting** : The biodegradables from smaller towns are segregated and characterized. If found suitable, the waste is mixed with soil and spread over a biofertilizers.
 - (3) **Power generation** : Municipal solid waste with high calorific value is some time compacted and burnt to provide heat for the generation of steam and subsequently electricity is produced in thermal power plants.

3. **Non-Biodegradable** : This category of municipal solid waste contains mostly inorganic including toxic heavy metals. The waste comes under the hazardous waste category. These are dumped in a secured land-fil. The details of the arrangements is given in Figure 10.

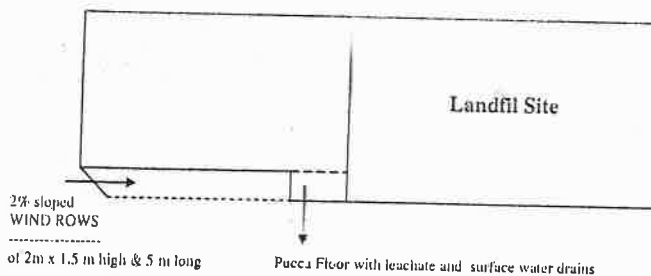


Figure 1 : A Typical Landfil Site (for Non Biodegradable and rejects of compost:ng)

Operation - The system operates after the provision of the following :-

1. Gas Pipes for removal of methane and CO₂ gases.
2. Leachate drain to be connected with collection pit and pumping arrangement.
3. Storm Water Control.

Site Selection

- (i) Away from population, school, river, from city 5 km and other population, 1 km
- (ii) Far away from airport (more than 20 km)
- (iii) Check for ground water level level (keep at least 2 m above the 1st ground water level)

The secured landfil ponds are designed taking into account the total/non biodegradable solid wastes generated. The landfil is to be sufficient for 20 to 25 years.

Operation

1. Reduce the volume of waste by Baling
2. Put daily soil cover of 6" on waste
3. Intermediate cover of 12"
4. Final cover (soil) of 24" thickness

Production of Biogas from paddy straw- An Environmental Friendly Process

*Piyush Pathak, Amarika Singh, D.C. Rupainwar,
Applied Chemistry Division Institute of Engg. and Technology,
Sitapur Road, Lucknow, India.

Preeti Dhar
Deptt. of Chimstry, State University of New York, NY, USA 12561

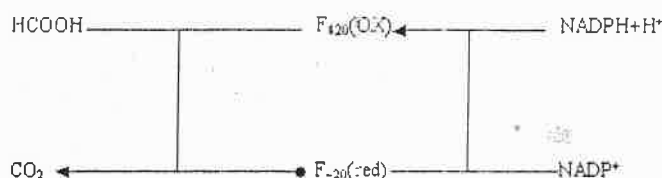
Introduction

Pollution around the world continues to grow and, therefore there is a growing interest in devising efficient and cost effective waste management system. The demand for energy continues with the increasing population while fossil fuel reserves continue to steadily diminish. To meet this increasing energy demand, renewable sources of energy produced from water, wind, sun and biomass have generated widespread interest, especially the conversion of the waste-biomass, to biogas. Biogas generated in this fashion, not only provides energy but also helps in pollution reduction. Percentage composition of biogas generated from various cellulosic wastes via anaerobic digestion is approximately 60% methane and 40% carbon dioxide¹. Paddy straw, an agricultural waste is available in abundance in rural India and consists of cellulose, starch, large amounts of lignin & protein. The fibres of paddy are relatively short and hence cannot be spun. About 28 million quintals/year of this light-weight waste causes pollution hazards. An innovative process using paddy straw to produce biogas is developed and described. Usage of biogas generated in this manner is one way to meet the increasing energy demands of people living in rural and semi-urban India and other rice growing parts of the world, and fight the green house effect in a cost effective way².

Microbiology of Methane Formation

Methane is one of the most reduced organic compounds

and its production is becoming a very important industrial enterprise. Methane production is a conversion of hydrogen and carbon dioxide by methanogenic bacteria are strictly anaerobic bacteria. These methanogenic bacteria are extremely oxygen sensitive. Methanogenic bacteria utilize H_2 - CO_2 format, methanol and acetate as their major substances for methanogenesis. The reduction of $CO_2 \rightarrow CH_4$ proceeds step wise but the intermediates formed viz formaldehyde and methanol remain firmly bound to the carriers. Two of these carriers have recently been found in the form of a new methyl transfer coenzyme M and a



low molecular weights florescent compound-F420 which is linked with NADP reduction. Ferredoxin is not present in these organism, carbon dioxide is, therefore, first reduced to the oxygen level of format and then further to that of formaldehyde firmly bounded to the coenzyme M, the formaldehyde group is further reduced alcohol to a methyl group; methane is formed in the final reductive state;

¹ Wise, D.J., Boyd, W.D., Blanchet M. J., Remedios, E. C. and Jenkins, B. M. In situ methane fermentation of combined agricultural residues; Resources and conservation 6, 275-294 (1981)

² Hall, D. O. and House, J. I. ;Biomass energy development and carbon dioxide mitigation options ; In Proceeding of the international National Action to Mitigate Global climate change ; Copenhagen, Denmark, (1994)

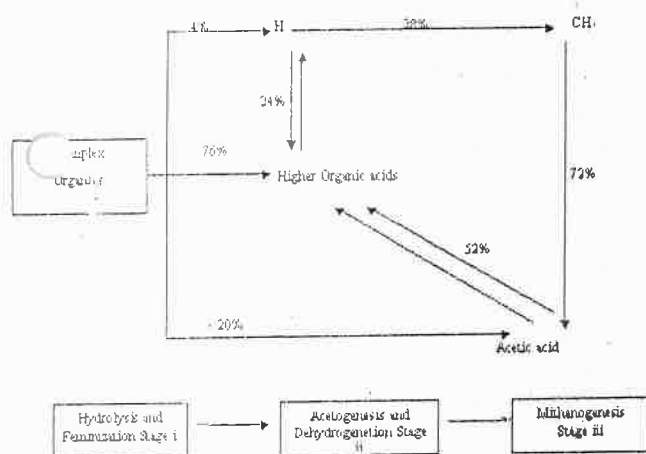
Municipal Solid Wastes & Management

The hydrogen necessary for the NADP reduction comes from the atmosphere. The methane is formed from formic acid. The detailed process is elaborated in Figure



Methodology

Three experiments were set up in separate 15 L aspirator bottles. Experimental set up 1 was the control reaction containing paddy straw and water. Set up 2 had paddy straw, water, and cattle dung and set up 3 had paddy straw, cattle dung, sodium hydroxide solution, and water. Paddy straw used as substrate to generate biogas in all three setups. Paddy straw in set up 3 was treated with 2% w/v sodium hydroxide solution in a 15:1 ratio. To speed the biogas production, cattle dung containing 18% dry matter was added (as inoculums) to setups 2 and 3 in a ratio of 1:5 (w/w) (cattle dung: paddy straw). For every 10-15 g of the dry paddy straw, 100ml of water was added in set ups 1 and 2 for set up 3, for the same amount of paddy straw, the volume of liquid was brought up to 100 ml with water. During the experiments raw materials and gases produced were characterized using appropriate methods and instruments. All three experiments were maintained at 30-32°C for seven days, which is the incubation period for the growth of bacteria after which the bioconversion of organic material starts as indicated below:



Salient Finding

The experimental findings are presented in Tables through 5. Thus Table 1 gives the percentage of chemical

Table 1: Chemical composition of paddy straw fiber before and after fermentation

| Chemical constituents | Composition percentage | | |
|-----------------------|-------------------------|-----------|----------------|
| | Unfermented paddy straw | Untreated | Alkali treated |
| Fat and wax | 2.0 | 1.2 | 1.80 |
| Cellulose | 78.2 | 78.5 | 78.85 |
| Lignin ash | 14.8 | 14.4 | 14.91 |
| Ash | 2.4 | 3.0 | 02.44 |
| Moisture | 2.6 | 2.9 | 2.00 |

constituents in unfermented paddy straw (step 1) and untreated (step 2) and sodium hydroxide treated paddy straw (step 3) after fermentation. As can be seen from this table. It has also been observed that the decomposition of organic polymeric compounds, specifically the cellulose and lignin was more in alkali treated paddy straw. This is expected as lignin is highly resistant to breakdown and prevents the attack of most microorganisms on cellulose. Since most of the cellulose present in nature is bound to lignin, it is important to breakdown lignin either chemically or biology before the cellulose can be utilized.

Table 2 shows the pH and Ep changes during the incubation till the biogas generation phase. It shows that in both untreated (step 2) and sodium hydroxide treated paddy straw (step 3), the pH of the fermenting fluid gradually drops from the neutral to the acidic range at first and then attains a near neutral pH again around the fifteenth day. The lowering of pH is attributed to the release of VFAs like acetic, propionic and butyric acids

Table 2: pH and Ep changes during the incubation period and till the gas production

| Number of days | Untreated paddy straw | | Alkali treated paddy straw | |
|----------------|-----------------------|--------|----------------------------|--------|
| | pH | Ep(mV) | pH | Ep(mV) |
| 7 | 5.46 | 30 | 5.20 | 25 |
| 10 | 5.65 | 58 | 5.096 | 53 |
| 15 | 6.20 | 100 | 6.50 | 312 |
| 20 | 6.92 | 282 | - | - |



Municipal Solid Wastes & Management

as shown in Table 3. Subsequently, the Volatile Fatty Acids (VFAs) are used up by bacteria and anaerobic conditions are established. Biogas production starts after 20 days for the untreated paddy straw as per setup 2 and after 15 days for sodium hydroxide treated paddy straw as per set up 2 and as shown in Table 4. The sodium hydroxide treatment of paddy straw causes its partial decomposition, thereby facilitating better microbial growth due to the more readily available mineral nutrients and energy. The increase in fiber volume is due to the hydrolysis caused by alkali treatment which

$$r_s = \frac{q_{max} \cdot S \cdot x}{K + S}$$

r_s = limiting substrate conc.
 S = half constant
 x = conc. of bacterial cells
 q_{max} = maximum substrate utilization rate

This might further reduce the time for microbial growth. As seen from Table 4, cattle dung also produces biogas but with a lower methane content than paddy straw. Biogas is not produced in the control reaction as shown in Tables 3 and 4. This shows that prior inoculation with a material like cattle dung rich in methanogens is essential for biogas generation from the organic fibrous materials like paddy straw. Separate experiment with a waste like feed material took about the same time as sodium hydroxide treated paddy straw along with cattle dung (step 3) to generate biogas. At very low E_p anaerobic decomposition of the substrate starts, which aids in the generation of methane and carbon dioxide. The degree of depolymerization of cellulose is more in case of alkali treated straw (step 3) than untreated straw material (setup 2). As shown in Table 4, the absence of free sugars and the presence of bound sugars, indicates that free sugars are either easily used up as carbon source

Table 3: Analysis of biogas and residual wastes after 20 days

| Sample | Volatile fatty acid | D. P. | Average composition % | |
|----------------------------------|---------------------|-------|-----------------------|-----------------|
| | | | CH ₄ | CO ₂ |
| Paddy straw | - | 1720 | - | - |
| Untreated paddy straw (digested) | Acetic | 1500 | 37.5 | 62.5 |
| NaOH treated paddy straw | Acetic propionic | 1260 | 54.5 | 45.5 |

results in subsequent increase in the surface area of the substrate and thus maximum bio conversion occurs by use of substrate. Mathematically this can be expressed as

Table 4: Analysis of biogas and residual slurry after 15 days of gas production

| Feed | Average composition of biogas (%) | | From extract | | Slurry analysis | | | |
|---------------------------------|-----------------------------------|-----------------|------------------------------------------|--------------|-----------------|----------|----------|----------|
| | CH ₄ | CO ₂ | | | DP | Total N% | Total p% | Total K% |
| Cow dung | 54.4 | 45.6 | Galactose, glucose, and xylose | Acetic acid | - | 1.28 | 1.40 | 0.34 |
| NaOH treated Paddy | - | - | - | - | 1860 | 0.56 | 0.2 | 0.11 |
| Raw paddy and cow dung | 58 | 42 | Galactose, glucose, and xylose | Butyric acid | 1724 | 0.98 | 0.49 | 0.23 |
| NaOH treated paddy and cow dung | 59.4 | 40.6 | Galactose, glucose, xylose, and rhamnose | Acetic acid | 1582 | 1.12 | 0.09 | 0.27 |



Municipal Solid Wastes & Management

by the bacteria in such an environment or are readily decomposed.

The manure produced through a biogas unit has a comparative advantage over ordinary manure in terms of both quantity and quality. The sludge contains a higher percentage of nitrogen, phosphorous and potash as shown in Table 5 and is found to be a very good source of micronutrients like Zn, Fe, Mn, and Cu. The use of sludge as manure has been found to improve the soil fertility and crop yield by 10-20% .

Table 5: Comparison of plant nutrient conversion in digested slurry and raw material

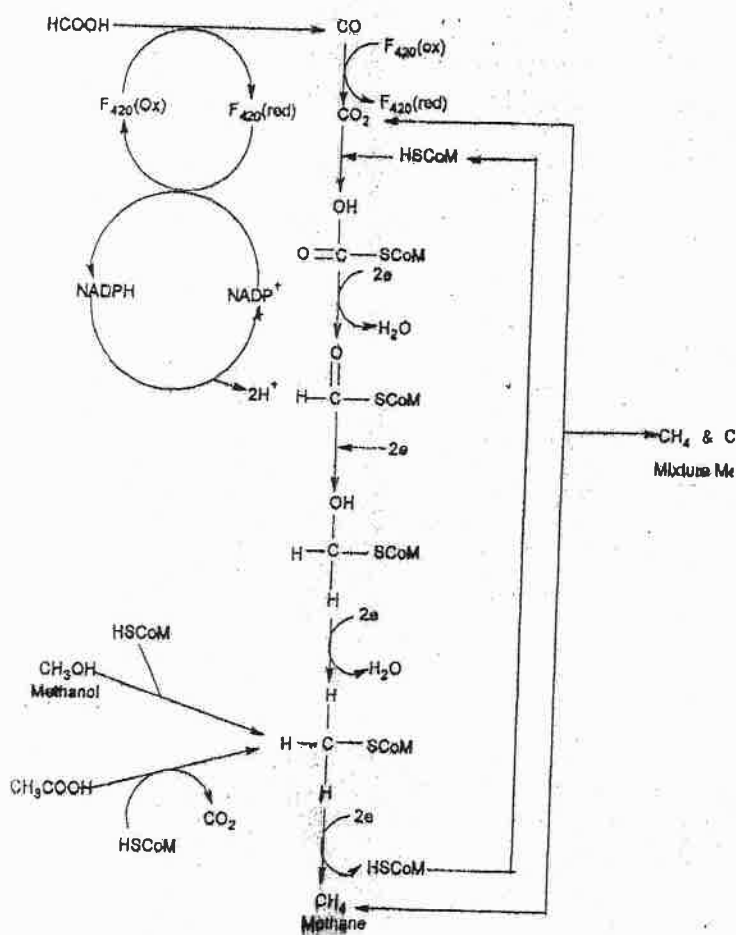
| Nutrient | Digested | Undigested |
|-------------|----------|------------|
| Nitrogen | 2.1 | 1.1 |
| Phosphorous | 1.0 | 0.7 |
| Potash | 1.1 | 0.6 |

Conclusion

Paddy straw waste, which is available in abundance in India and can be used for producing biogas. Lignin is comparatively inert to microbial degradation and also retards decomposition of cellulosic complexes. The degradation of such type of organic waste is a slow process, but the yield of methane is substantial when the reaction is allowed to take place for a longer period of time. Cattle dung is a popular substrate for the production of biogas in India. Paddy straw can replace it to a great extent, particularly in the rural, semi-urban and industrial sectors.

Acknowledgement

The authors are grateful to All India Council for Technical Education, New Delhi for financial assistance and award of an Emeritus Fellowship to one of us (Prof. D.C. Rupainwar).



Scheme for formation of Biogas



IN THE HON'BLE HIGH COURT OF JUDICATURE AT
ALLAHABAD LUCKNOW BENCH, LUCKNOW,
Writ Petition No OF 2008 (P.I.L.)
Banwani Lal Versus State of UP
ANNEXURE NO. 5

Inspection Report

**Report on Environmental Issues Associated with
MSW Dumping on the Gomati River Bed near
Gandhi Setu, Lucknow**

(Reference: Writ Petition No. 4436 (MB) of 2003)

Submitted to:

Lucknow Bench of Hon'ble Allahabad High Court



National Environmental Engineering Research Institute
(Council of Scientific and Industrial Research)
Nehru Marg, Nagpur - 440 020

17 July, 2008

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**Report on Environmental Issues Associated with MSW Dumping on the
Gomati River Bed near Gandhi Setu, Lucknow**

(Reference: Writ Petition No. 4436 (MB) of 2003)

1. Preamble

Gomati river, a tributary of river Ganga, originates near Pilibhit in Uttar Pradesh (U.P.) and, on its course, flows by many towns in U.P. of which Lucknow is the largest town and the capital city of U.P. Gomati river is the single largest source of domestic water supply, including drinking water, for the city of Lucknow, apart from its cultural importance. However, Gomati river also receives huge amount of treated and untreated wastewater, which result in the pollution of the river. The **Writ Petition No. 4436 (MB) of 2003** pertains to the sewage treatment and the abatement of the water pollution for cleaning the Gomati river. In addition, through this Writ Petition it was brought to the notice of Lucknow Bench of the Hon'ble Allahabad High Court that Municipal Solid Waste (MSW) was being dumped on the banks of Gomati river, specifically near Gandhi Setu, by Lucknow Municipal Corporation (LMC), which might lead to the contamination of Gomati river.

In this context, Lucknow Bench of the Hon'ble Allahabad High Court directed National Environmental Engineering Research Institute (NEERI), Nagpur to inspect the situation and submit a report in consultation with Uttar Pradesh Pollution Control Board (UPPCB). Accordingly, a team of scientists from NEERI, namely Dr. T. Nandy, Dr. A.N. Vaidya, Mr. J.K. Bhattacharyya, and Dr. S.Y. Bodkhe visited Lucknow on June 8 and 9, 2008, for site inspection and to get the relevant information from concerned Governmental and regulatory agencies. The officials who accompanied the team of NEERI Scientists during the site inspection were Mr. S.K. Tandon, Regional Officer (RO), Uttar Pradesh Pollution Control Board (UPPCB), Mr. A.C. Sinha, Additional Municipal Commissioner, LMC, Mr. Anil Kumar, Deputy Municipal Commissioner, LMC, Mr. B.W. Mishra, Chief Engineer, LMC and Mr. S.K. Jain, Executive Engineer, LMC.

A. M. Wadgaonkar

Representative of



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- Apart from MSW, about 345 mld of sewage is generated in the area in and around Lucknow and discharged into the Gomati river through 26 no. of nullahs. About 42 mld of sewage is subjected to the treatment and remaining quantum is discharged without any treatment. Uttar Pradesh Jal Nigam (UPJN) is planning to set up a 345 mld Sewage Treatment Plant (STP) at Bharwara towards the eastern end of the city. (As per information collected from UPJN).

3. **Inspection and Observations**

The team of NEERI scientists along with officials from LMC and UPPCB inspected the site and other impacted areas. The relevant photographs and water samples were collected during this inspection. The matter was discussed with the officers from LMC, UPPCB, and UPJN. The salient observations are mentioned hereunder.

- Huge quantity of MSW was dumped at the site near Gandh Setu. The Dump height was approximately 5 meters. The area occupied by the dump as reported by LMC, was approximately 2500 sq. meters [(50 x 50) meters]. The photographs of dumpsite from different directions are attached as **Figures 2-5**.
- The dumpsite is very close to the river and inside the embankment and falls in the flood prone area. A photograph showing proximity of the river and stagnated water pools is attached as **Figure 6**.
- The dumpsite is also at the proximity of the monuments being developed on the banks of Gomati river. A photograph is attached as **Figure 7**.
- A pool of MSW leachate was observed at the base of dumpsite, which was formed by the runoff rain water. The colour of the leachate was dark and it had bad odour. A sample of leachate was collected and analyzed for relevant parameters. Photograph showing the pool of leachate and the leachate sample collected are attached as **Figures 8 and 9**.

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- Small surface water streams from the leachate pool were observed to be approaching the river (Figure 10).
- Apart from this site, MSW was dumped at many places in a non scientific way. The photograph of open dumpsite on Hardoi road is attached as Figure 11. These sites also have water bodies in the vicinity.

||

4. **Possible Impacts due to Uncontrolled Land filling Practices Near the River Bed**

Uncontrolled disposal of MSW on river bed may lead to the following environmental problems:

- **Contamination of river water by leachate and surface run off from MSW**
Rain water falling over the dump dissolves organic and inorganic pollutants present in MSW and generates a highly polluted stream of water commonly referred as leachate, characterized by high Chemical / Biochemical Oxygen Demand (COD /BOD) and high metal content. Leachate may find access to river by percolation through soil strata or by surface streams leading to river water pollution.
- **Contamination of ground water of localities nearby the MSW dump**
Leachate may migrate downwards or laterally by diffusion through the soil strata to the adjacent areas and may contaminate ground water in the localities nearby the MSW dump.
- **Deterioration in air quality due to suspended particulate matter(SPM) released from the MSW dump**
Dumping of MSW releases large quantities of SPM leading to the deterioration of ambient air quality nearby the MSW dump.
- **Deterioration of aesthetic value of the area due to ugly site and odour problem**
The organic matter in the MSW undergoes biodegradation leading to odour problems in the area. In addition, it leads to the breeding of mosquitoes and flies deteriorating the aesthetic value of the area.



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Chakraborty

Chemical analysis of leachate showed high COD values in the range of 8000 to 12000 mg/lit. indicating its pollution potential. Standards for the discharge of waste water into the river require COD to be less than 250 mg/lit and BOD to be less than 30 mg/lit. As the site is close to the river and it is in flood prone area, there is a possibility of contamination of river water due to leachate and surface run off specially in the rainy season. This applies to any uncontrolled dumping nearby river.

5. Recommendations

Based on the inspection and the information collected, following steps are recommended.

i. Immediate abandoning of the MSW dumping along the riverside

The concerned authorities should immediately abandon the practice of dumping MSW along the Gomati river side. This applies to the particular site referred in the petition as well as to any other site close to the river bed whether such dumping is practised intentionally or unintentionally. This is necessary for the protection of ground water and river water from environmental pollution.

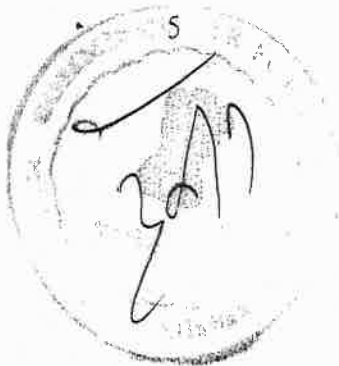
ii. Protection of the Gomati river from the possible pollution due to the MSW dumped at the site near the Gandhi Setu.

Two options are delineated for the protection of the Gomati river from possible pollution due to MSW dumping at the above mentioned site.

Option 1: Removal of the Garbage (MSW) from the referred site

The garbage should be mechanically removed from the dumpsite and transferred to the sanitary landfill developed in accordance with the Guidelines of MSW Rules 2000 of MoEF, wherein due precautions are taken for the prevention of leachate percolation in the ground as also for leachate collection and treatment and landfill gas collection. However, scientifically designed sanitary land fill is not available in Lucknow and dumping of the removed garbage at some

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other improper location will lead to the same problems as in case of the referred dumpsite. Therefore construction of a sanitary landfill in the city of Lucknow is mandatory pre-requisite for this option.

Option 2: Confinement of the possible pollution from the referred MSW dumpsite.

Another option is the confinement of the possible pollution by already dumped MSW so as to protect Gomati river from environmental pollution. The process involves application of final cover over the top of the dumpsite and sides of the dumped waste. The final cover should meet the specifications delineated in the MSW Rules 2000 of MoEF, which are broadly as follows.

- A soil layer comprising of 60 cms clay or clayey soil of permeability not more than 1×10^{-7} cm/sec.
- A HDPE cover of thickness 1.5 mm
- A drainage layer of thickness 15 cms
- A vegetative soil layer of 45 cms for supporting plantation and plant growth
- Plantation of appropriate species
- Boreholes should be constructed around the site to draw ground water for monitoring.
- The slope of the final cover should not be directed towards the river. A peripheral drain can be provided around the closed site.

In both the options, a retaining wall must be constructed near the dump to act as barrier between the leachate & contaminated ground water, and the river water. This should be done in consultation with appropriate regulatory



Amal Kumar
Agarwal

agencies, experts in the field, and considering hydrogeological properties of the area.

iii. **Development of Sanitary Land fill for Lucknow as per the MSW rules 2000 of MoEF.**

The concerned authorities should pursue the development of sanitary landfill to cater the need of MSW management of Lucknow city. As per the information received from the LMC, the procedure has been initiated under JNNURM. However, sanitary landfill construction needs to be taken on priority by all concerned authorities to avoid future problems of similar kind.

iv. **Treatment of Sewage**

It is desirable that entire quantity of sewage generated in the city should be treated and reused for suitable purpose, rather than discharging into the river. However, this warrants detailed scientific study. In any case untreated sewage not conforming to the discharge standards stipulated by the UPPCB should not be discharged into river. UPJN has already proposed a 34.5 mld sewage treatment plant at Bharwara and expansion of the existing 42 mld STP to 56 mld at Daulatganj and it is recommended that it should be constructed on priority basis.

v. **Monitoring of the Water Quality of Gomati River Upstream and Downstream of the Dump Site**

The UPPCB is monitoring river water quality regularly for the parameters such as dissolved oxygen, pH, total coliforms. However, monitoring should be more frequent and in details, especially with respect to heavy metals, COD and BOD.

vi. **Study for Cleaning of Gomati River**

A comprehensive scientific study should be immediately undertaken by the concerned authorities for studying the cleaning of Gomati river covering all environmental aspects.



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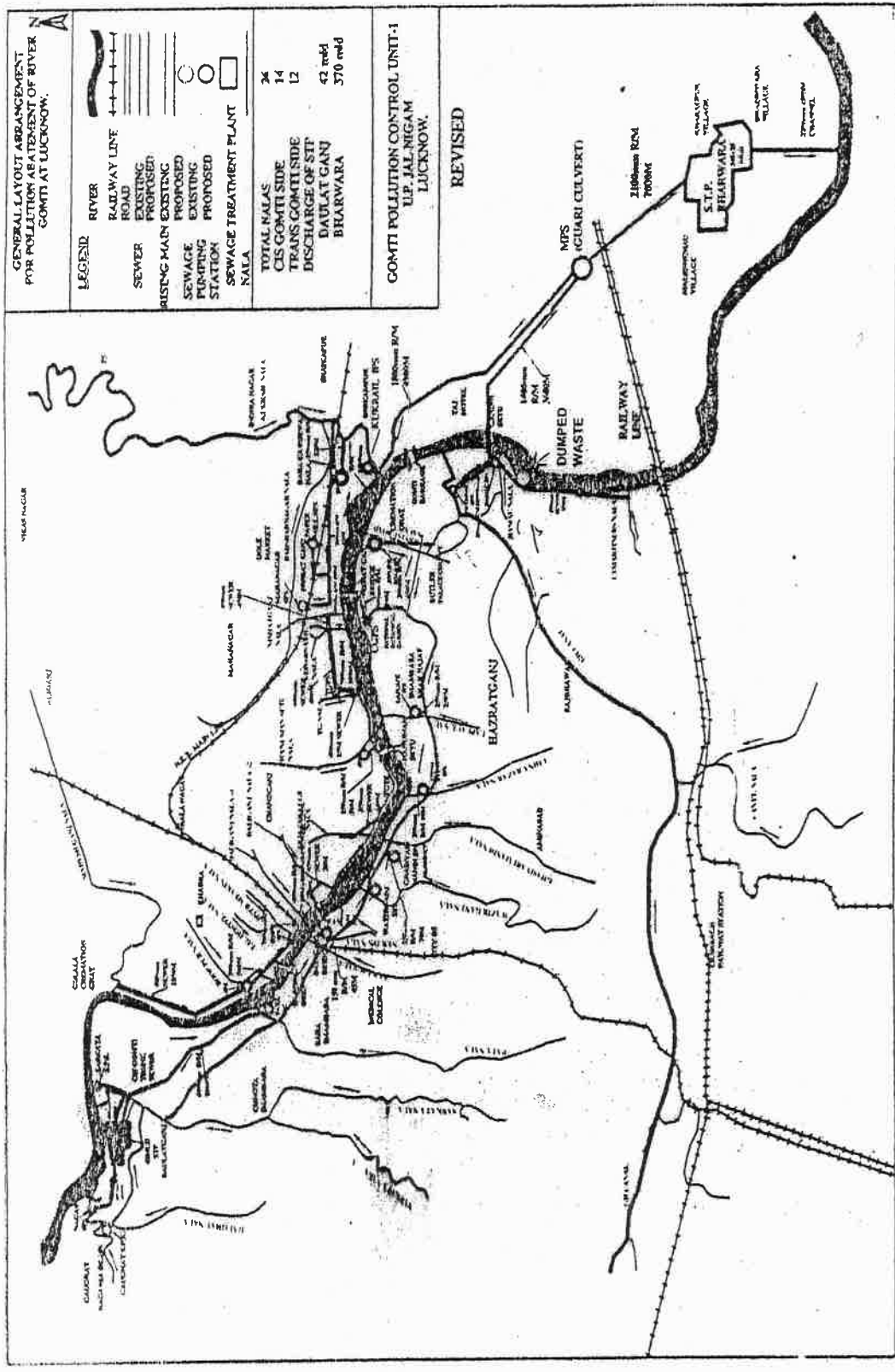


Figure. 1: Location of the Problematic Dump Site on River Gomati

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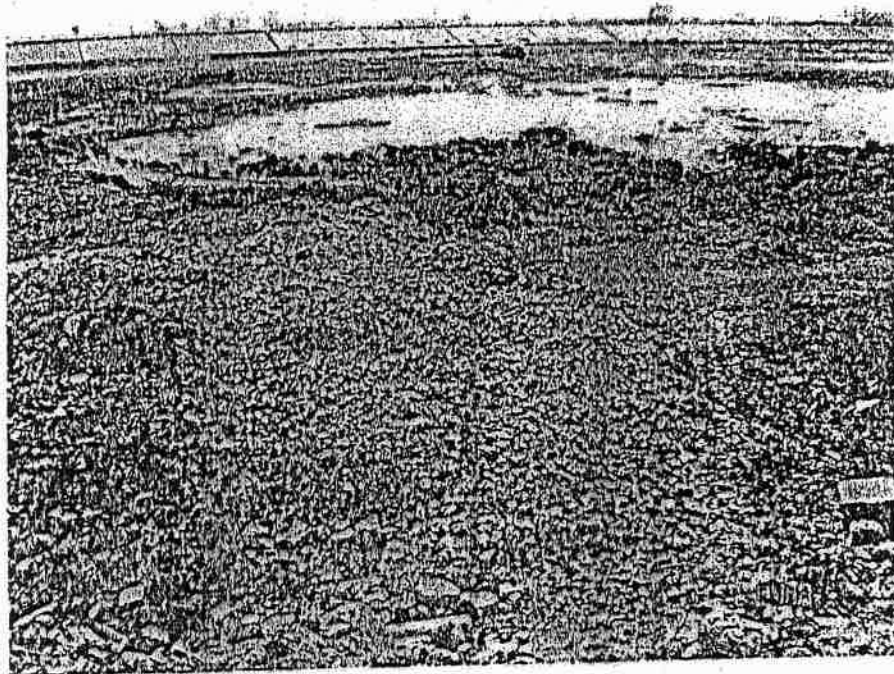


Figure 2: Dumped MSW (from Top)

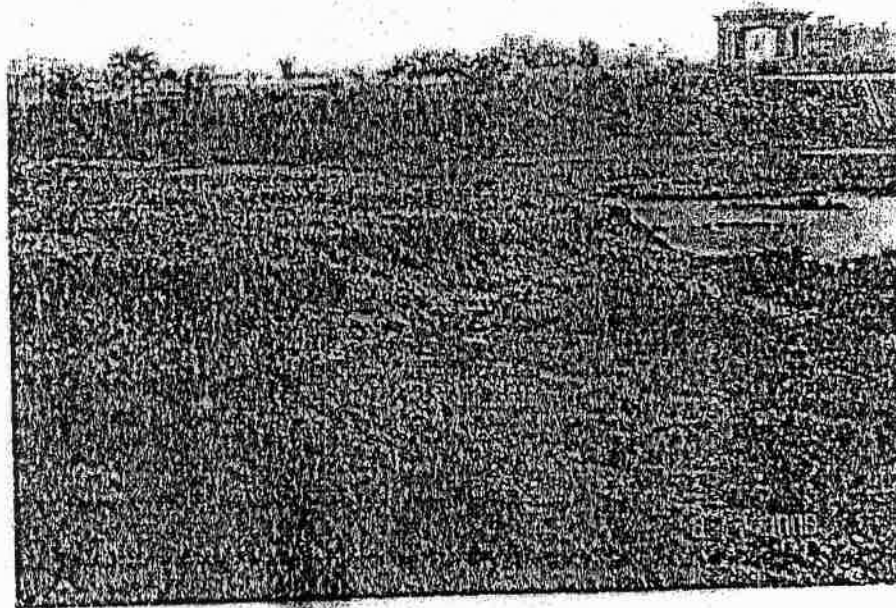


Figure 3: Dumped MSW (from South Direction)

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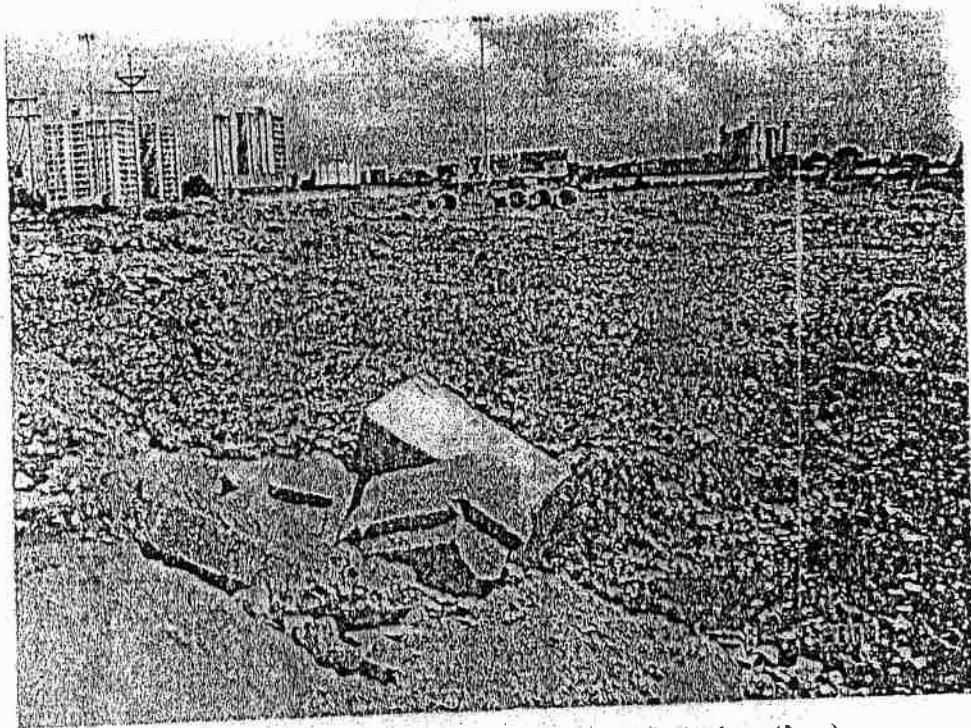


Figure 4: Dumped MSW (from Top West Direction)

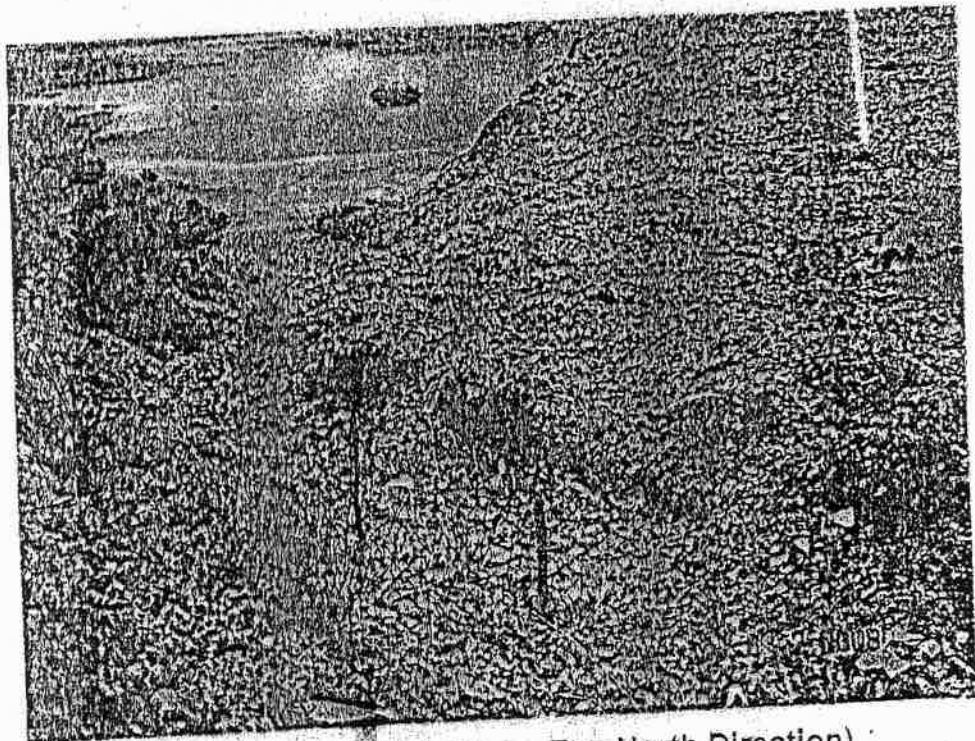


Figure 5: Dumped MSW (from Top North Direction)

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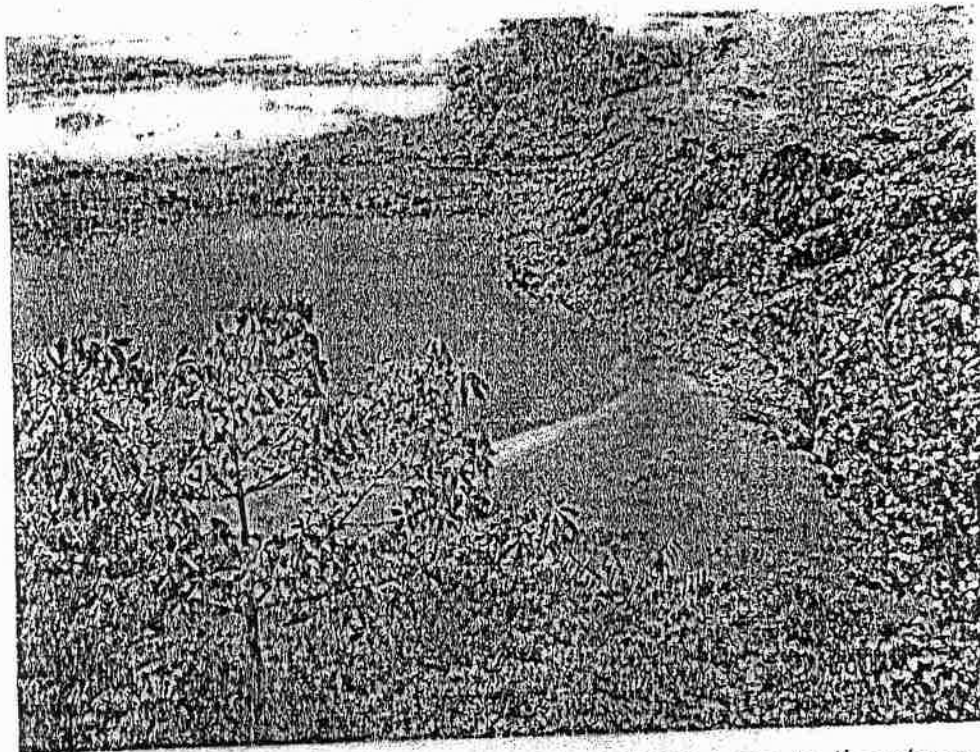


Figure 6: Photograph showing proximity of MSW dump to the stagnated water pools near the river

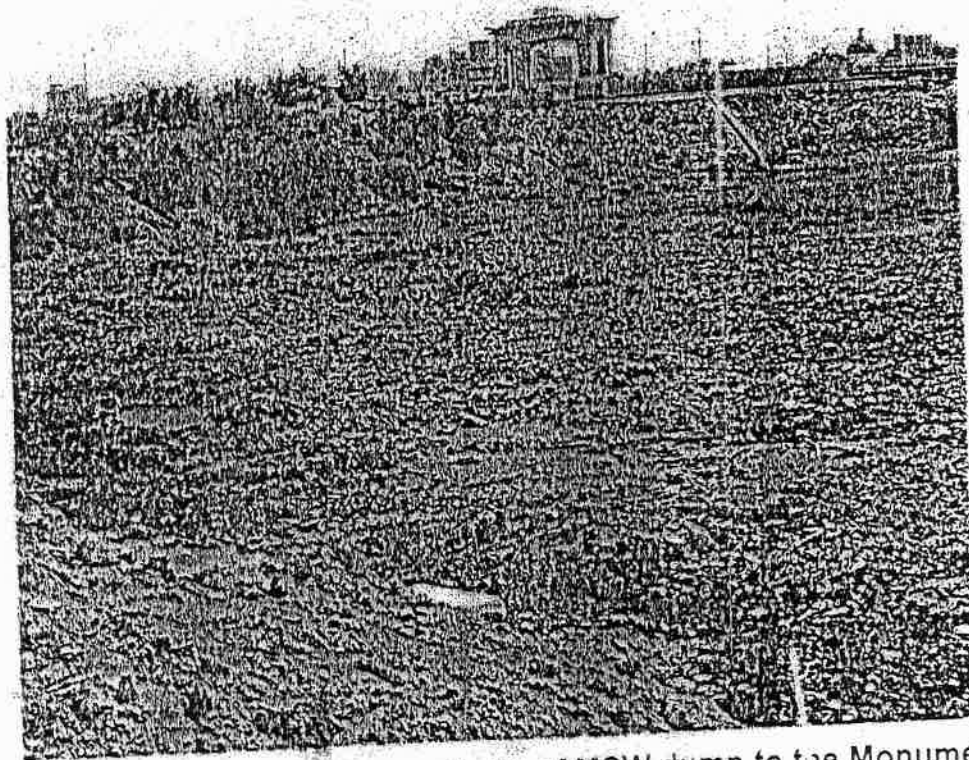


Figure 7: Photograph showing proximity of MSW dump to the Monuments

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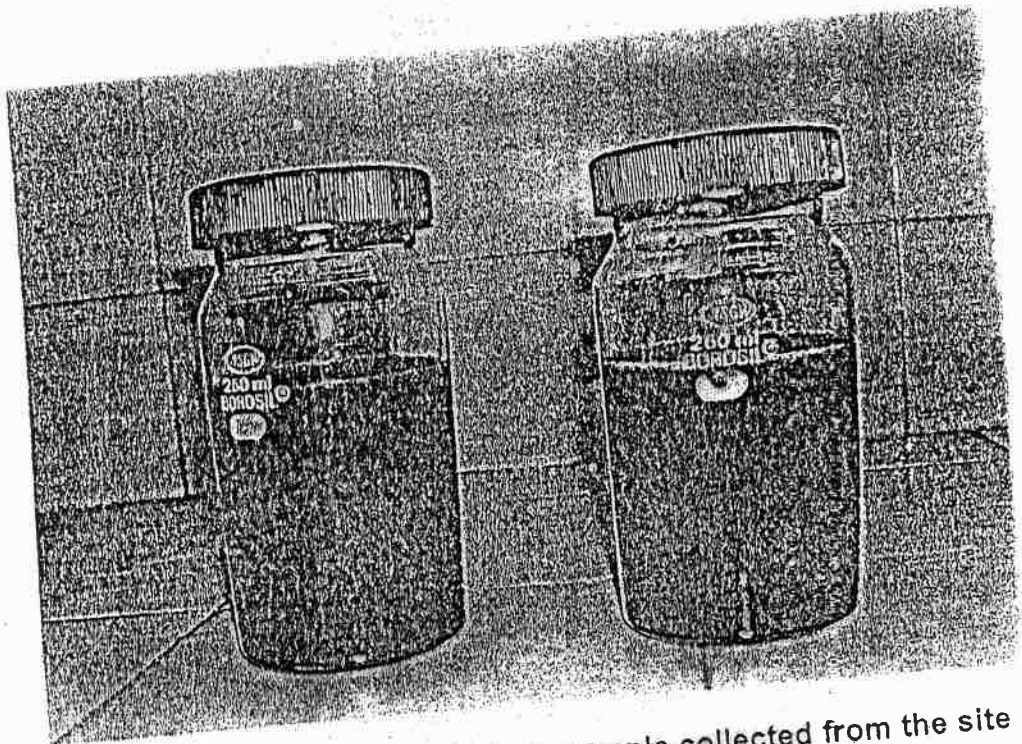


Figure 8: Photograph of leachate sample collected from the site

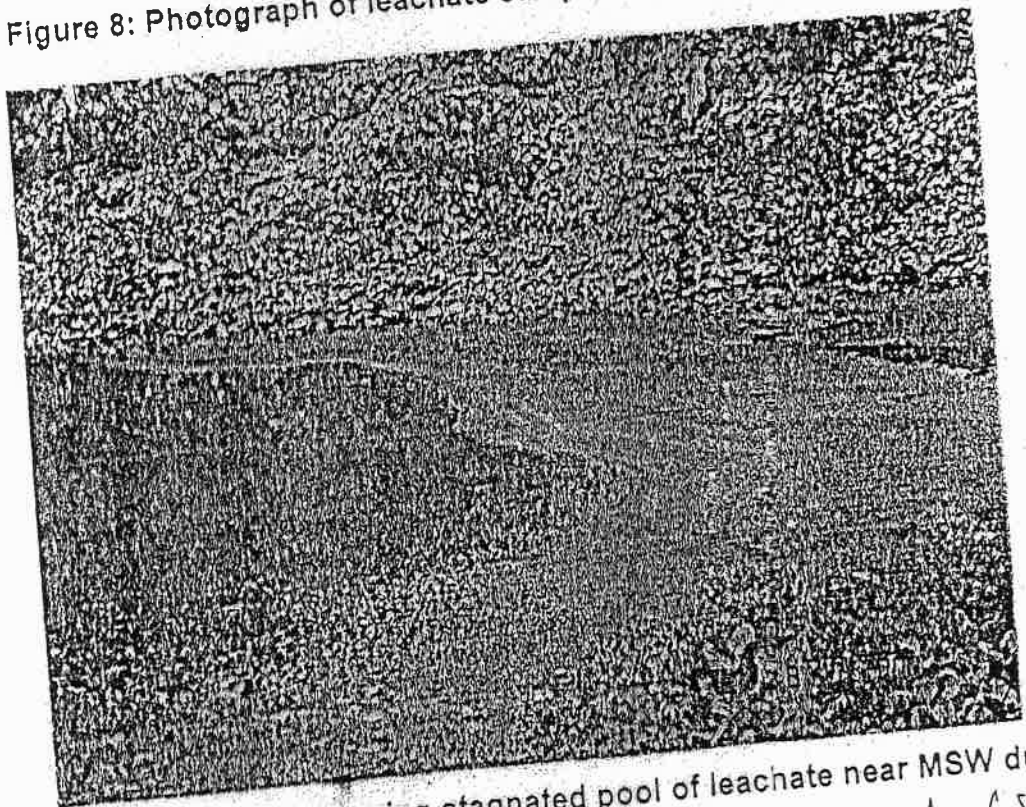


Figure 9: Photograph showing stagnated pool of leachate near MSW dump

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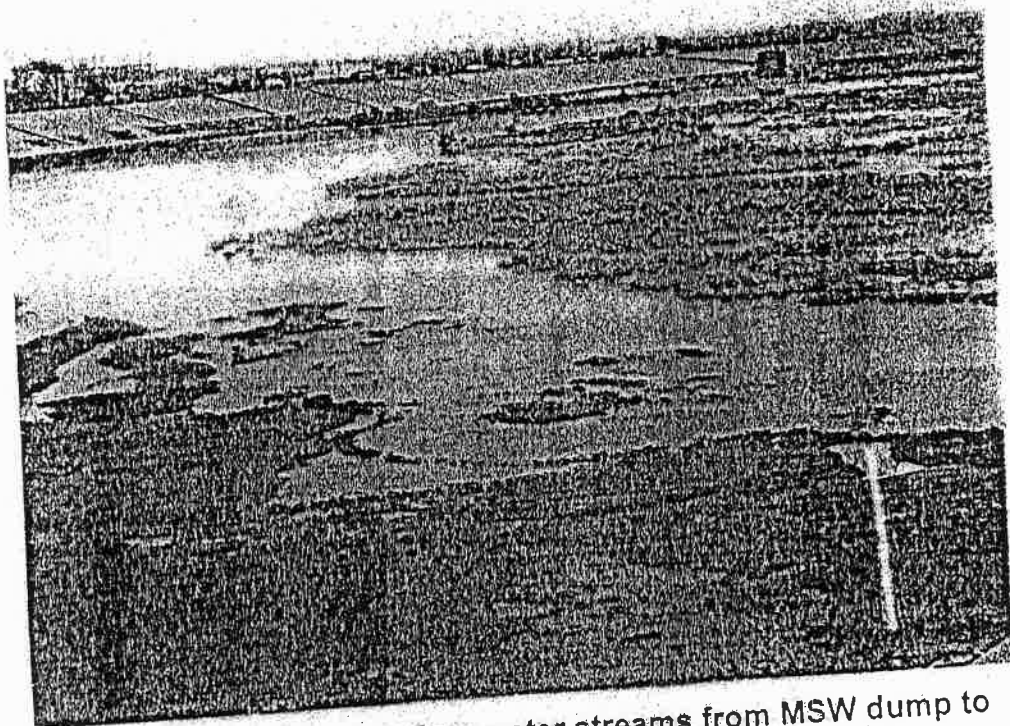


Figure 10: Photograph of surface water streams from MSW dump to Gomati River

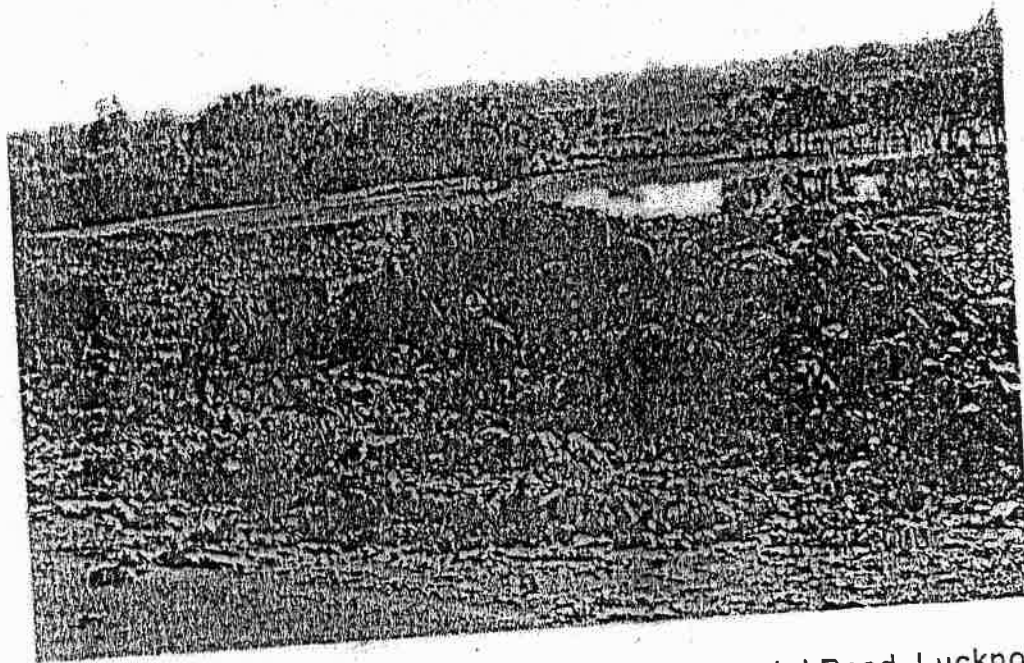


Figure 11: Photograph of open MSW dump site on Hardoi Road, Lucknow

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27.7.08 दि-उ-तात

कूड़े से हो रही गोमती जहरीली

आर्सेनिक, क्रोमियम और सीसा रिस-रिस कर जा रहा है पानी में

नासिर जैदी लखनऊ

गांधी सेतु के निकट डम्प कूड़ों के ढेर से रिसकर गोमती के पानी में मिल रहे रसायन कैसर, गुर्दा रोग, पेट रोग व एनीमिया की वजह बन सकते हैं। कई महीनों से पानी में घुल रहे इन रसायनों का जहर सामान्य तरीके से नष्ट होने में 50 साल से अधिक लगेंगे। यह जहरीले रसायन हैं- क्रोमियम, आर्सेनिक, सीसा, नाइट्रेट और फ्लोराइड आदि। नेशनल इनवायरमेंटल रिसर्च इंस्टीट्यूट (नीरी) ने राज्य और केन्द्र सरकार को भेजी रिपोर्ट में

नदियों के पानी में ऐसे खतरनाक तत्वों के मिश्रण रोकने के लिए फौरन सख्त कदम उठाने की सलाह दी है।

शाम ढलते ही चमकदार रोशनी में डूब जाने वाले गांधी सेतु तट पर मौत का वाहक बनने वाला कचरा महीनों से डाला जा रहा है।

नीरी के वैज्ञानिकों की कुछ दिन पहले इस ओर नजर गई। वैज्ञानिकों ने सेतु के निकट जमा कूड़े से निकलकर पानी में मिल रहे रसायनों का परीक्षण शुरू

किया। आसपास के पानी और कचरों के ढेर से निकल रही गैसों के नमूनों की भी जांच हुई, जिसमें पता चला कि गांधी सेतु



हिन्दुस्तान खास

के किनारे डाले गए कूड़े में जैविक (अस्पताल) कचरा, बूचड़ खानों के अपशिष्ट व औद्योगिक इकाइयों के कचरे हैं जिनसे खतरनाक रसायन रिस कर गोमती के पानी में मिल रहे हैं। वैज्ञानिक कहते हैं कि अपशिष्ट को कहीं दूसरी जगह डम्प किय जाए।

लैंड फिल एरिया बनाना जरूरी: पृष्ठ 14

नीरी की सलाह

नीरी ने प्रदूषण नियंत्रण बोर्ड को जो रिपोर्ट भेजी है, उसमें रसायनों के नदी में मिलने से रोकने के उपाय शामिल हैं। वैज्ञानिकों के मुताबिक गांधी सेतु के पास जमा कूड़े से निकलने वाले रसायन को पानी में मिलने से रोकने के लिए विशेष दीवार बना दी जाए। ऐसा तरीका विकसित हो चुका है। सल्फर डाईआक्साइड व मोथेन की बढ़ते रोकने के लिए आसपास प्रेड-पौधे लगाए जाएं।

लैंड फिल एरिया बनाना जरूरी

निज संवाददाता लखनऊ

गोमती के किनारे डंप किए जा रहे कूड़े को अन्य जगह निस्तारित करने से वहाँ का भूजल भी प्रदूषित होगा, लेकिन गोमती की अपेक्षा यह खतरा काफी कम होगा। प्रदूषण नियंत्रण बोर्ड के वैज्ञानिकों का कहना है कि कूड़े के लिए लैंड फिल एरिया बनाया जाना जरूरी है। उन्होंने नगर निगम को लैंड फिल एरिया तलाश करने के लिए चिट्ठी भेजी है। यह भी पूछा है कि अपशिष्ट में अस्पताली और बूचड़ खाने का कचरा कैसे आ रहा है? बोर्ड के मुख्य पर्यावरण अभियंता स्वामीनाथ राम का कहना है कि गांधी सेतु के कूड़े के ढेर में 'क्रोमियम' और 'फास्फोरस' मिलना इस बात का संकेत है कि कूड़े में जैविक कचरा है। वह कहते हैं कि दिल्ली, मुम्बई, बंगलुरु जैसे महानगरों में अपशिष्ट निस्तारण के लिए लैंड फिल एरिया मौजूद है। यहाँ भी इसकी सख्त जरूरत है।

क्या है नगरीय ठोस अपशिष्ट प्रबंधन अधिनियम-2000?

अधिसूचित शहरी क्षेत्रों में नगरीय ठोस

अपशिष्टों का फैलाने पर रोक होगी।

जगह-जगह सामुदायिक कूड़ेदान लगाए जाएं व घर-घर जाकर कूड़ा जमा किया जाए बूचड़खानों-मांस मछली बाजारों से निकलने वाले कूड़े-कचरे को अलग तरह से ठिकाने लगाया जाए

कैसा हो 'लैंड फिल' एरिया?

एक बड़ा गड्ढा जिसमें परत दर परत कूड़ा डालना चाहिए। हर परत पॉलीथीन से ढकी हो। हर दिन कूड़ा डालने के बाद उसे मिट्टी से ढक देना चाहिए। मानसून से पहले कूड़े पर 50 सेंटीमीटर मोटी मिट्टी की परत चढ़ाना जरूरी है। आकार इतना बड़ा हो जिससे वहाँ 25 वर्षों तक कूड़ा भरा जा सके। लैंड फिल के लिए शहर के बाहर ऊसर जमीन का चुनाव किया जाना चाहिए। वहाँ पानी न रुकता हो। आवासीय बस्ती, वन क्षेत्र, स्मारक, राष्ट्रीय पार्क, हवाई अड्डा व नदी से तीन किलामीटर दूर ही जमीन चुनी जाए। एक व्यक्ति से औसतन 500 ग्राम प्रतिदिन कूड़ा निस्तारित होता है। लखनऊ में 125 मीट्रिक टन कचरा प्रतिदिन निकलता है।

रसायन इतने खतरनाक

क्रोमियम- गुर्दा रोग व तंत्रिका सम्बंधी रोग
सीसा- कैसर, खून की कमी खासतौर से बच्चों में एप्लास्टिक एनीमिया
नाइट्रेट- पानी के जरिए शरीर में प्रवेश करता है विकास सकता है। हड्डियों कमजोर हो जाती है।
फ्लोराइड - दाँत व हड्डियों का कैसर भी हो सकता है।
आर्सेनिक- हाथ-पैर की मांस पेशियाँ सूझने लगती हैं। लाइलाज बीमारी हो सकती है। कभी-कभी बीमारी की पहचान जल्दी नहीं हो पाती। इसे कैसर का बड़ा कारक माना जा रहा है।
भूजल में यह घातक रसायन 70 फुट की गहराई तक मिल सकते हैं।
भूजल स्तर नीचे जाने से भी इसके मिलने की संभावना रहती है।

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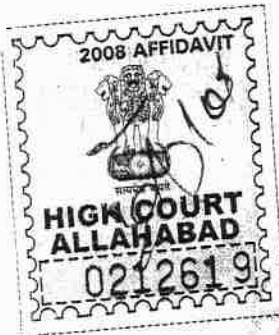
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| District | : | Gonda |
| Group | : | |

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**In The Hon'ble High Court of Judicature at Allahabad
Lucknow Bench, Lucknow**

Writ Petition No. _____ (MB) of 2008



Bhanvari Lal

... Petitioner

25/10/08
30/7/08

Versus

State of U.P. and others

... Opposite Parties

AFFIDAVIT

I, Banwari Lal, aged about 40 years, S/o late Mittu Lal, R/o 2/393, Vineet Kand, Gomti Nagar, Lucknow do hereby solemnly affirm and state on oath as under :-

1. That the deponent is himself applicant in the abovenoted petition and is doing pairvi and as such he is fully conversant with the facts deposed to hereunder;

2. That the contents of paras 19 of the accompanying petition are true to my personal knowledge and paras 20 are based on the records and those of paras 20 are believed to be true on the basis of legal advice.

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3. That the Annexure Nos. 6 are true/photocopies of their originals which have been compared by the deponent himself.

Place: Lucknow
Dated: 30/7/2008

[Signature]
Deponent

VERIFICATION

I, the abovenamed deponent, do hereby verify that the contents of paras 1 to 3 of this affidavit are true to my personal knowledge. No part of it is false and nothing material has been concealed. So help me God.

Place : Lucknow
Dated : 30/7/2008

[Signature]
Deponent

I identify the deponent who has signed before me. *[Signature]*
Sri B. K. Singh
Advocate

[Handwritten signature]

Solemnly affirm before me on 30/7/08 at 11:15 p.m./a.m. by Mr. Bhanvari Lal, the deponent, who is identified by Sri B. K. Singh, Advocate, High Court, Lucknow.

I have satisfied myself by examining the deponent that he understood the contents of the affidavit, which has read out and explained by me.

[Signature]
Oath Commissioner
Lucknow Bench
Date: 30/7/08

Vakalatnama

In the High Court of Judicature At Allahabad
Sitting At Lucknow



10/12/2008
Bhanvari Lal

VERSUS

State of U.P & others

No. (413) of 2008

I/We the undersigned do here by nominate and appoint Shri B.K. Singh.....
and Shri (Rajesh Kumar Singh) 2/154, Vinay Khandel.....
Constantine, Lucknow, P.M.S. 46599..... Advocate to
be counsel in the above matter and for me/us and on my/our behalf to appear plead
act and answer in the above Court or any appellate Court or any court to which
the business is transfer in the above matter and to sign and file petitions, statements
accounts, exhibits compromises or other documents what so ever in connecton with
the said matter arising there from, and also to apply for and receive all documents
or copics of documents, depositions' etc and to apply for issue of summons
and other writs or subpoena and to apply for and get issued any arrest, attachment
or order execution warrant or order and to conduct any preceeding that may
rise the reout and to apply for and receive payment of any or all sums or submit
the above matter to arbitration

provided, however, that if any part of the Advocate's fee remains unpaid
before the first hearing of the case or any hearing of the case be fixed beyond the
limits of the town then and in such an event my/our said advocate shall not be
bound to appear before the court and if may/our said advocate deth appear in the
said case he shall be entitled to an outstation fee and other expenses of travelling
lodging, etc provided ALSO that if the case be dismissed by default, or if it be proee
ded ex-parte, the said advocate (s) shall not be held responsible for the same and
All whatever my/our said advocate (s) shall lawfully do, I do here by agree to and
shall in future ratify and confirm.

ACCEpTED

Adv. Singh
1..... Advocate
2. No. 2508/91
2..... Advocate
Oudh Bar Chamber No. 1
High Court Campen

Adv

Signature of Client..... *[Signature]*
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