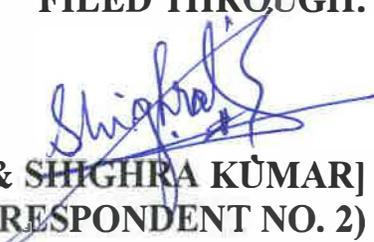


**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH AT NEW DELHI
ORIGINAL APPLICATION NO. 725 OF 2022**

IN THE MATTER OF:**ANURAG SHARMA****...APPLICANT****VERSUS****STATE OF UTTAR PRADESH & ANR.****...RESPONDENTS****INDEX**

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FILED THROUGH:


[SANJEEV KUMAR SINGH & SHIGHRA KUMAR]
(ADVOCATES FOR THE RESPONDENT NO. 2)

LEGAL VIBES**G-27, FIRST FLOOR,
JANGPURA EXTENSION,****NEW DELHI-110014****PH: 011-43580335/+91 9560306295****EMAIL: legalvibes.lawfirm@gmail.com****NEW DELHI****Dated: 13.05.2024**

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH AT NEW DELHI
ORIGINAL APPLICATION NO. 725 OF 2022**

IN THE MATTER OF:

ANURAG SHARMA

...APPLICANT

VERSUS

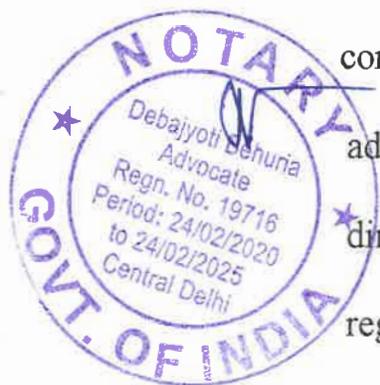
STATE OF UTTAR PRADESH & ANR.

...RESPONDENTS

**ADDITIONAL AFFIDAVIT ON BEHALF OF THE RESPONDENT
NO.2/LPGCL IN COMPLIANCE TO THE ORDER DATED 15.02.2024
OF THIS HON'BLE TRIBUNAL.**

I, Adarsh Kumar Singh, aged about 41 years, presently working as Assistant General Manager at Lalitpur Power Generation Company Limited having its office at: B-10, Sector-3, Bajaj Bhawan, Jamna Lal Bajaj Marg, Gautam Budh Nagar U.P-201301, do hereby solemnly affirm and declare as under:

1. That I am the Authorized Representative of the Respondent No.2/LPGCL in the above-mentioned case and as such conversant with the facts and circumstances of the case and as such am competent and able to depose the same .
2. That the present matter was listed for hearing on 15.02.2024 whereby, this Hon'ble Tribunal after hearing the Respondent No.2/ LPGCL and considering the averments made in the Reply dated 17.12.2022 and additional affidavits dated 30.01.2023 and 11.02.2024, was pleased to direct the Respondent No.2/ LPGCL to file an additional affidavit with regard to the queries put forth by this Hon'ble Tribunal during the course of the proceedings .

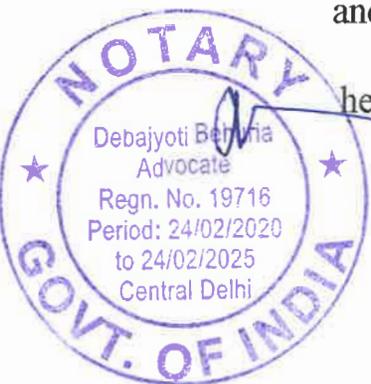


3. That in compliance to the aforesaid order dated 15.02.2024, the Respondent No.2/ LPGCL has taken note of the queries raised by this Hon'ble Tribunal and the same are accordingly being answered by the Respondent No.2/ LPGCL through the present affidavit. That the operative portion of the order dated 15.02.2024 of this Hon'ble Tribunal with regards to the queries/issues put forth to the Respondent No.2/ LPGCL is being extracted as under, for the convenience of this Hon'ble Tribunal;

"....5. Although details have been given regarding generation and disposal of fly ash and bottom ash but the information provided is materially deficient regarding proper management of fly ash lying in ash dyke and action plan for proper management and disposal of the same is also not incorporated in the same.

6. The respondent no. 2 has given details of the amounts incurred under the heads through the foundation- Kamalnayan Jamnalal Bajaj Foundation, Lalitpur but requisite particulars of the activities carried out and the places where the activities have been carried out have not been given...."

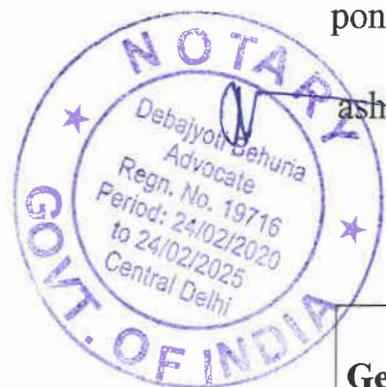
4. That the Respondent No.2/ LPGCL in addition to this present affidavit craves leave of this Hon'ble Tribunal to refer and rely on the contents of the Reply dated 17.12.2022 and additional affidavits dated 30.01.2023 and 11.02.2024 filed by the Respondent No.2 and treat the same as part and parcel of this affidavit as the contents thereof, has not been repeated hereinfor the sake of brevity and verbosity.



5. That on the last date of hearing this Hon'ble Tribunal was of the view that the information with regards to the management of fly ash in ash dykes is materially deficient and action plan for proper management and disposal of the same is also not incorporated. At the very outset it is humbly pointed out that no fly ash is being stored by the Respondent No.2/LPGCL in the ash dykes as the Respondent No.2/LPGCL is 100% utilising the fly ash.
6. That at unit of the Respondent No.2/LPGCL in the process of power generation, indigenous coal is burned, which leads to the generation of ash. This generated ash has two fractions based on the particle size. The finer ash particle is known as fly ash, and the coarser particle is called bottom ash. The fly ash is collected in dry form using high-efficiency state-of-the-art Electrostatic Precipitators (in short, ESPs), from where it is transferred pneumatically (using air) to the collection siloes. From siloes, fly ash is dispatched through rail rakes and bulkers for its gainful utilization in the cement industry, such as Portland Pozzolana Cement or other usages like Ready Mix Concrete (RMCs) and fly ash brick plants. Whereas the bottom ash collected at the bottom ash hopper located at the base of the boiler furnace, along with the unused fly ash, is sent to ash ponds in wet slurry mode for their temporary storage. The status of fly ash generation and its utilization is as under:

FOR THE PERIOD FY 2015-2016 TO FY 2023-2024:

| Total Ash Generation (MT) | Total Ash Utilization (MT) | Utilization Percentage (MT) | Legacy Ash in Pond (MT) |
|---------------------------|----------------------------|-----------------------------|-------------------------|
| 14421926 | 14025226 | 97.2% | 396700 |

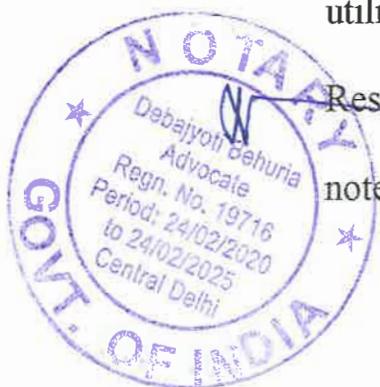


Even the legacy ash in pond is being continuously utilized in low lying area using covered trucks, filling the low-lying area, land levelling, soil capping at the top of the ash, and proper compaction for the further gainful utilization of reclaimed land in agriculture or other activities.

The detailed figures and data relating to ash management and utilization at the unit of the Respondent No.2 is being filed separately and is not being repeated herein for the sake of brevity.

7. That the ash stored in the ash ponds is further utilized in low-lying area reclamation, road construction, filling, and other activities. That the Central Pollution Control Board has already framed a detailed guideline for the utilization of ash in the reclamation of low-lying areas, which was published by the Ministry of Environment, Forests, and Climate Change (MoEF & CC) in its Office Memorandum dated 28.08.2019. That the Respondent No.2/LPGCL is following the guidelines issued by the MoEF & CC, as stated, for the utilization of ash stored in the ponds for the reclamation of low-lying areas. The process includes obtaining a request letter from the land owner, framing an agreement between the owner and LPGCL, obtaining an NOC from the UP Pollution Control Board, transportation of ash from the pond to the low lying area using covered trucks, filling the low lying area, land levelling, soil capping at the top of the ash, and proper compaction for the further gainful utilization of reclaimed land in agriculture or other activities. The

Respondent No.2 has adopted detailed ash management process and a note on the same providing the details of the ash management at the unit



is being annexed herewith and marked as ANNEXURE-A-1 and the same are not being repeated herein for the sake of brevity.

8. That the Hon'ble Tribunal had further raised query regarding the expenses incurred on CER/CSR activities after 2017 by the Respondent No.2/LPGCL, in view of the same it is humbly submitted that that the Respondent No. 2/LPGCL funds the Corporate Social Responsibility (CSR) and Corporate Environmental Responsibility (CER) through the "*Kamalnayan Jamnalal Bajaj Foundation*," which has incurred Rs. 8,71,30,410/- (Rupees Eight Crore Seventy-One Lakh Thirty Thousand Four Hundred Ten only) on CER/CSR from 2017 onwards in the area of water resource development, sustainable agriculture development, women empowerment, infrastructure development, community mobilization and also under Wadi project in collaboration with NABARD in the district of Lalitpur. A detailed chart of CSR/CER interventions along with the photographs of the activities carried out under the CSR/CER by the Respondent No.2/LPGCL is being annexed herewith and marked as ANNEXURE-A-2.

9. In view of the aforesaid facts and circumstances the Respondent No.2/LPGCL humbly submits that the fly ash generated by the power plant is being utilised 100% as per the norms and under the statutory approvals in terms of EC and applicable rules and regulations. As such the present application filed by the Applicant is devoid of merits and thus, liable to be dismissed.



10. That the present affidavit has been filed by the Respondent No.2/LPGCL bona fide and in the interest of justice and accordingly may be taken on record. That the Annexures annexed to the present affidavit are true copies of their respective originals.

Adarsh
DEPONENT

VERIFICATION:

I, the deponent the abovenamed do hereby verify that the contents of my above affidavit are true and correct to best of my knowledge and beliefs and nothing material has been concealed therefrom. That the contents of Paras 01 to 10 are true and correct, and the legal submissions are on legal advice received and believed to be correct and no part of it is false and nothing material has been concealed therefrom

13 MAY 2024

Verified at New Delhi on this ____ day of May, 2024.

Adarsh
DEPONENT

Adarsh
I identified the deponent who has signed in my presence.



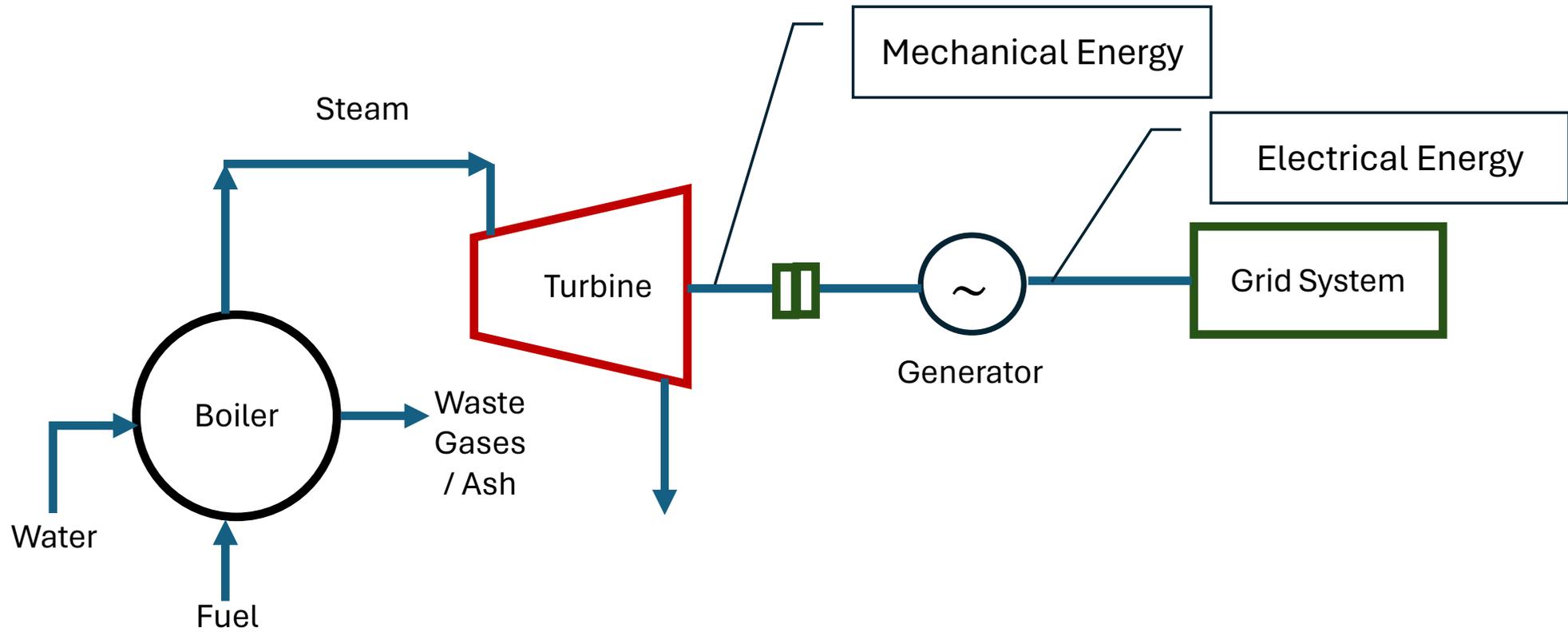
NOTIFIED THAT THE DEPONENT
[Signature] Singh
[Signature] Singh, etc
13 MAY 2024
Notary Public



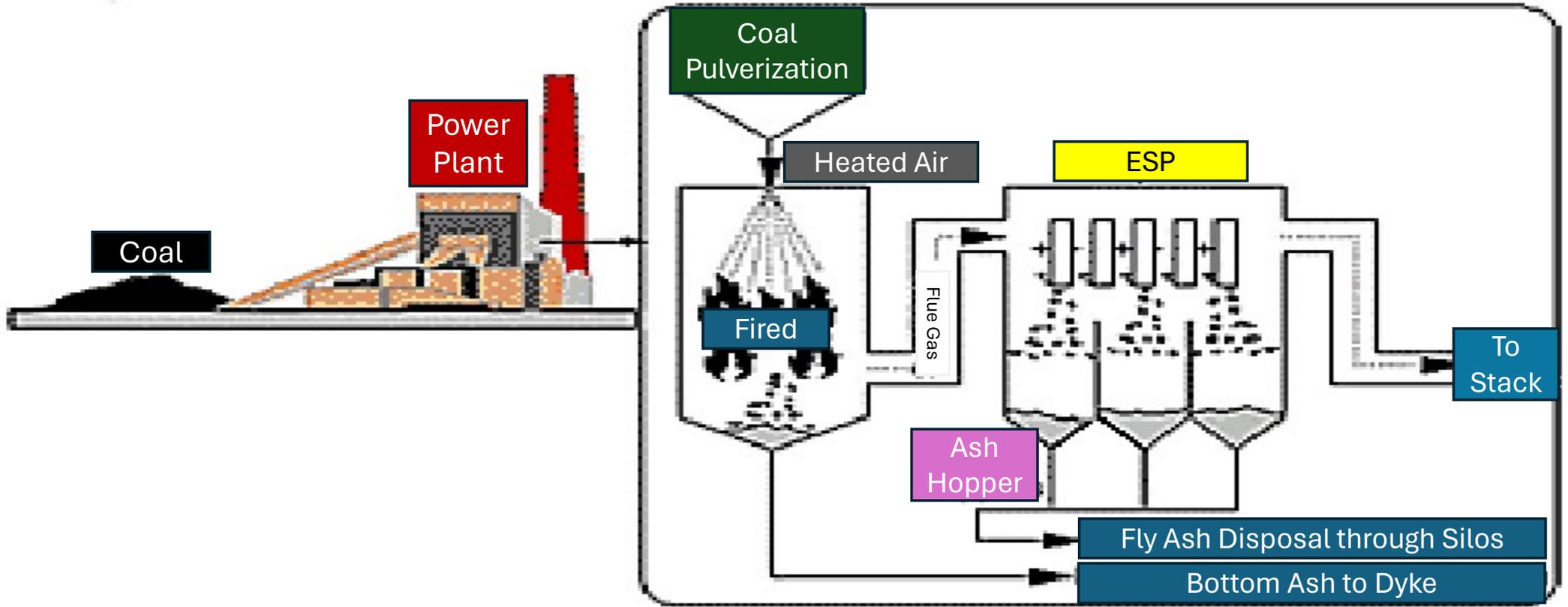
**Ash Management
at
Lalitpur Power Generation
Company Limited
(LPGCL)**



POWER PLANT AND ASH GENERATION PROCESS

POWER PLANT PROCESS

ASH GENERATION PROCESS



ASH MANAGEMENT BEST PRACTICES

ASH MANAGEMENT BEST PRACTICES

- ❑ Entire Ash Management through Highly competent and Experienced Vendor - M/s Ashtech.
- ❑ State of the art High Efficiency Electrostatic Precipitators (ESPs) to control Particulate Matter from the stacks,
- ❑ Dedicated 6 nos of silos of capacity 2x2000MT and 4x500MT for the storage of dry fly ash for >16 hours.
- ❑ Closed pipeline-based ash conveying system for Ash transportation up to Siloes / Ash Pond,
- ❑ Bag filters at the ash siloes to control fugitive emission during the ash loading and unloading
- ❑ Dry ash from the silo is transported through the bulkers to be used in Cement industries / Brick / RMC Plants,
- ❑ Proper cleaning and washing of ash bulkers at silo for fugitive emission control outside the plant.
- ❑ Conditioned ash (with 6-8% moisture) is used for Rail transportation using covered wagons to Cement Industries,
- ❑ Thorough cleaning of all the wagons before its further use for ash handling.
- ❑ Green curtains in dust prone areas for restricting the dispersion of any fugitive emissions.
- ❑ Dense plantation to work as green muffler.
- ❑ Regular cleaning of ash spillage, if any, and water sprinkling on the roads used for ash transportation.
- ❑ Transportation of moistened pond ash using covered vehicles for filling of low lying area after obtaining due consent from landowners, related gram Pradhan / public representative, and UPPCB.
- ❑ Cleaning of Silo area using bob-cat and also regular water washing - water after cleaning is reused to the system,
- ❑ Compaction and proper soil capping after filling of low-lying areas with ash.

M/s ASHTECH INDIA CREDENTIALS

- ❑ Processor, Distributor and Exporter of Fly Ash – 1st in the Country.
- ❑ 1st to transport Fly Ash through Jumbo Bags in the Country.
- ❑ 1st to Establish Cement manufacturing Unit in the Country in the Power Plant Premises.
- ❑ 1st to Establish and Operate Fly Ash Classification Unit in the Country at Dahanu Power Plant.
- ❑ 1st to Design & Establishing On line Cenosphere Collection in the Country at Reliance Sasan.
- ❑ Present Ash Handling >50,000 TPD in 19 States.
- ❑ Workforce : >1500 employees + 2500 heavy vehicles (dumpers, trucks, bulkers, and transit mixers).
- ❑ Achieved 100% Ash Utilization for NTPC Badarpur, Reliance Power Rosa, GMR Warora, Bajaj Power Lalitpur, and TNEB Ennore.
- ❑ Collaboration with >20 cement companies like Ultratech, Adani, Dalmia, Birla, Shree, RAMCO etc.
- ❑ Rail Rake Dispatch of Fly Ash >10 million tonnes (since January 2022)
- ❑ Recognition from the Ministry of Railways for the highest loading achievement in 2022-2023.
- ❑ Established Cement production units in Raichur and Mangalore of capacity 1500 TPD each.
- ❑ Developed ultrafine pozzolanic class F fly ash at its Nagpur Plant being used nationally and abroad
- ❑ Exporting fine fly ash to countries like as USA, Dubai, Qatar, Saudi, Bahrain, etc.
- ❑ Having an asset base of over 10 Batching plants (60/120 cum/hr) across the country

HIGH CONCENTRATION SLURRY DISPOSAL (HCSD) SYSTEM FOR FLY ASH

- ❑ In old aged Power Plants, fly ash is was being transferred to Ash pond through slurry system, which requires plenty of water
- ❑ Now a days the advanced technology has been introduced, which reduces the consumption of water as well requirement of power.
- ❑ LPGCL has installed the High concentration slurry disposal (HCSD) system which has reduced the requirement of water up to 20 to 30% only for transferring the Fly ash, if needed
- ❑ **However at LPGCL 100% fly ash is being utilized in Cement and other Fly ash based industry and the requirement of HCSD system for fly ash disposal becomes negligible**



LEAN SLURRY DISPOSAL SYSTEM FOR BOTTOM ASH

- ❑ 70% of ash water is being recovered from Ash Water Recover System and reused in ash slurry formation.
- ❑ Water clarifiers are also installed to improve the quality of water recovered from ash pond for its reuse.
- ❑ This water is recovered and collected in recovery pond. In recovery pond heavy particles settled and clear water pumped out for reuse where it is being reused after clarification.



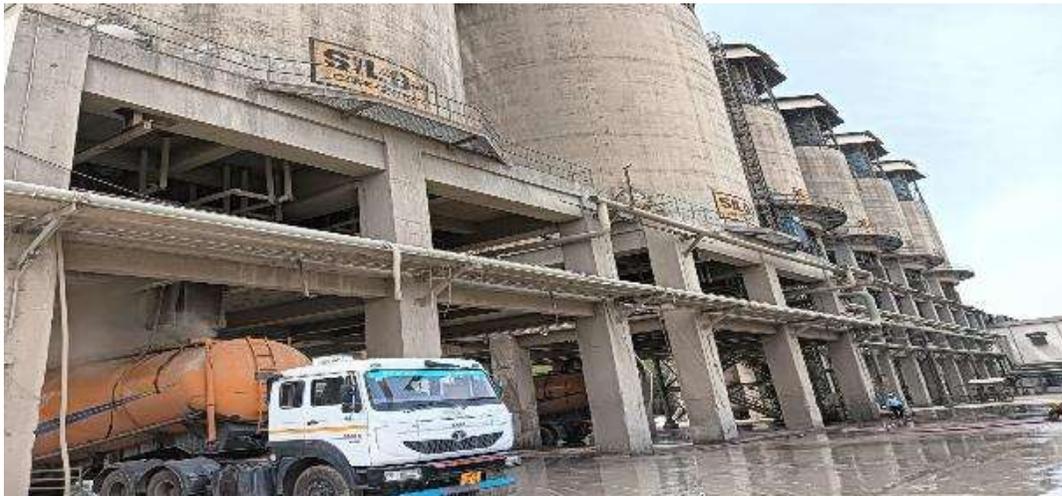
POLLUTION CONTROL SYSTEMS INSTALLED AT ASH HANDLING SYSTEM



Electrostatic Precipitators (ESPs)



Water Spraying in Silo Area



6000 MT Dry Fly Ash Siloes with Bag Filters



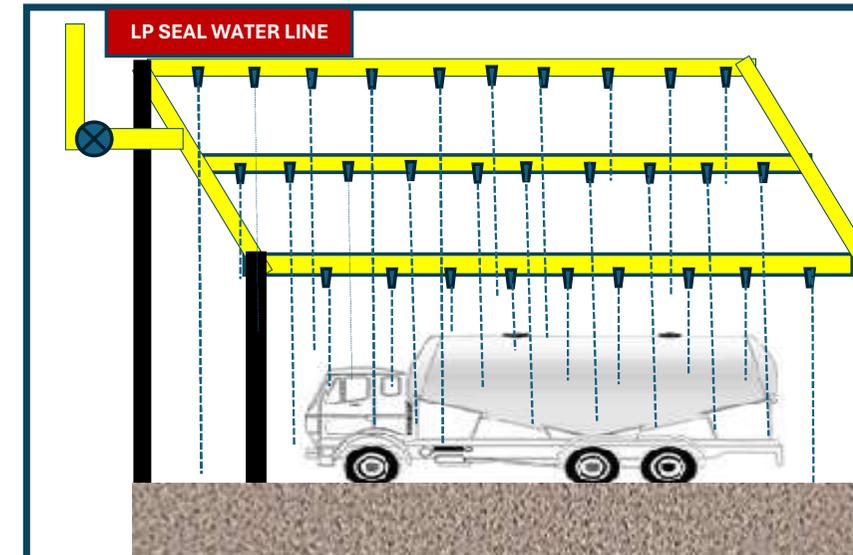
Green Net

ENVIRONMENTAL IMPROVEMENT AT SILO AREA

Fly ash from silo is being loaded into bulkers through telescopic unloading spout. During unloading, some fly ash gets deposited on upper surface of bulkers. And then these deposited ash gets spilled over the road as well as area adjacent to silo thereby causing environment pollution as well as depositions of fines on the road. It was decided to install high pressure water spray system for bulker cleaning purpose and now bulker washing facility made and it is operational.

BENIFITS:

- Spillage of Ash reduced on the road surface.
- Improved the cleanliness of road & silo adjacent area.
- Reduced the filthy condition of road due to spreading of ash.



SCHEME OF BULKER WASHING POINT



BULKER WASHING FACILITY

WATER SPRINKLING ON ROADS

| Sl. | Roads in the area | Frequency of water sprinkling |
|-----|---------------------------------|--|
| 1 | On roads inside Plant | Twice daily in summer season Otherwise as per requirement |
| 2 | On roads outside plant premises | As per required once in summer season |
| 3 | At ash disposal sites | Twice daily on regular basis |



ROAD CLEANING BY SWEEPING MACHINE



Dense Greenbelt

| Location of Plantation | Plant Species | Type of Plantation |
|------------------------|--|---------------------------------------|
| Main Plant area | Kanji, Sheesem, Ficus, Subabul, Ber, Bel, Mango, Anar, Accacia, Ornamental Plants, Lemon, Guava, Ashok, Bush Palm, Neem, Casurina, Chandan etc | In row at a distance of 1 to 3meters |
| Plant on edge areas | Subabul, Kanji, Ber, Sheesem, Casurina etc | At a distance 0.4 meters to 2.0 meter |

As on date total 354746 green Plants planted inside Plant premises with approx. 94% survival rate.



Dense Greenbelt



Dense Greenbelt



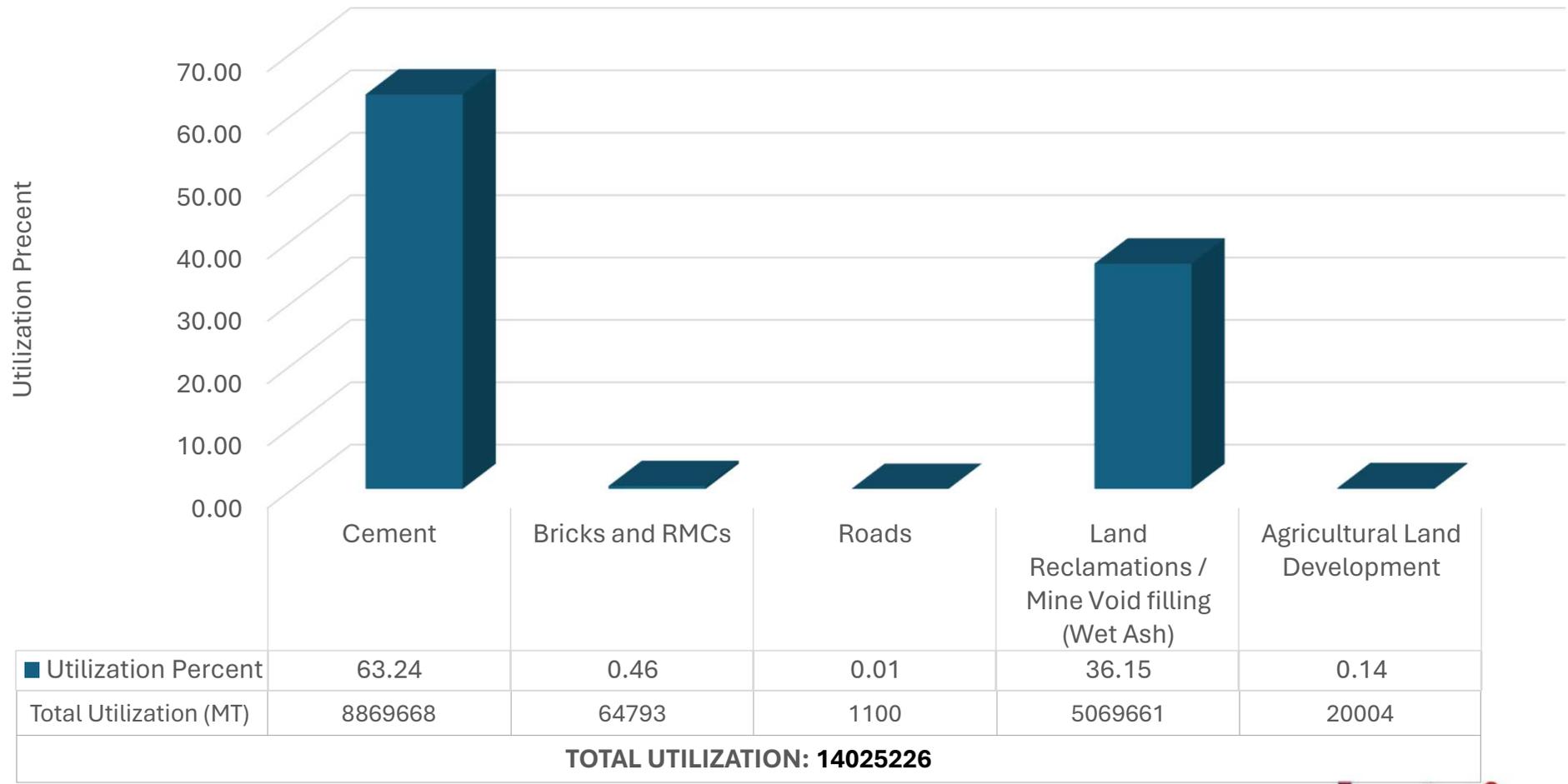
ASH GENERATION AND GAINFUL UTILIZATION

ASH GENERATION AT LPGCL

| FY | Coal Consumption (MT) | Ash Generation (MT) | Ash Utilization (MT) | Utilization Percent (%) |
|---------------------------|-----------------------|---------------------|----------------------|-------------------------|
| 2015-16 | 495180 | 163984 | 75757 | 46.2 |
| 2016-17 | 2678994 | 865487 | 589329 | 68.1 |
| 2017-18 | 5170529 | 1702566 | 1962938 | 85.93 |
| 2018-19 | 3405301 | 1133435 | 1179542 | 104.07 |
| 2019-20 | 4265583 | 1415789 | 1511564 | 106.76 |
| 2020-21 | 4221117 | 1440171 | 1743024 | 121.03 |
| 2021-22 | 5869146 | 2094290 | 1885549 | 90.03 |
| 2022-23 | 7037362 | 2670553 | 2636839 | 98.74 |
| 2023-24 | 7729131 | 2935650 | 2940684 | 100.17 |
| Total | 40872343 | 14421926 | 14025226 | 97.20 |
| Legacy Ash in Pond | | 396700 | | |

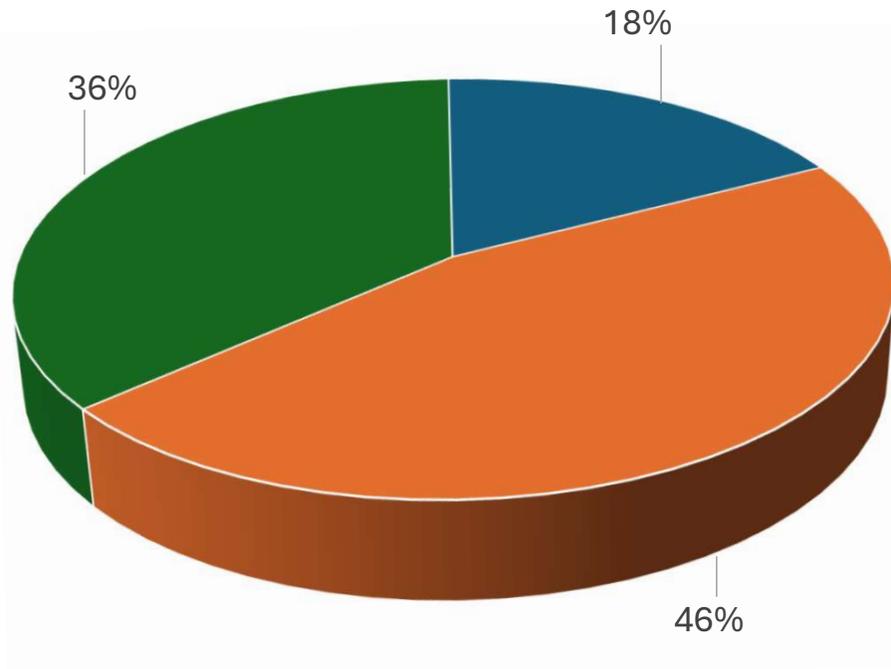
| Sl. | Average quantity of ash dumped in dyke in FY 2023-24 | Quantity (MT) |
|-----|--|---------------|
| 1 | Daily basis | 1939 |
| 2 | Weekly basis | 13575 |

ASH UTILIZATION IN DIFFERENT AVENUES



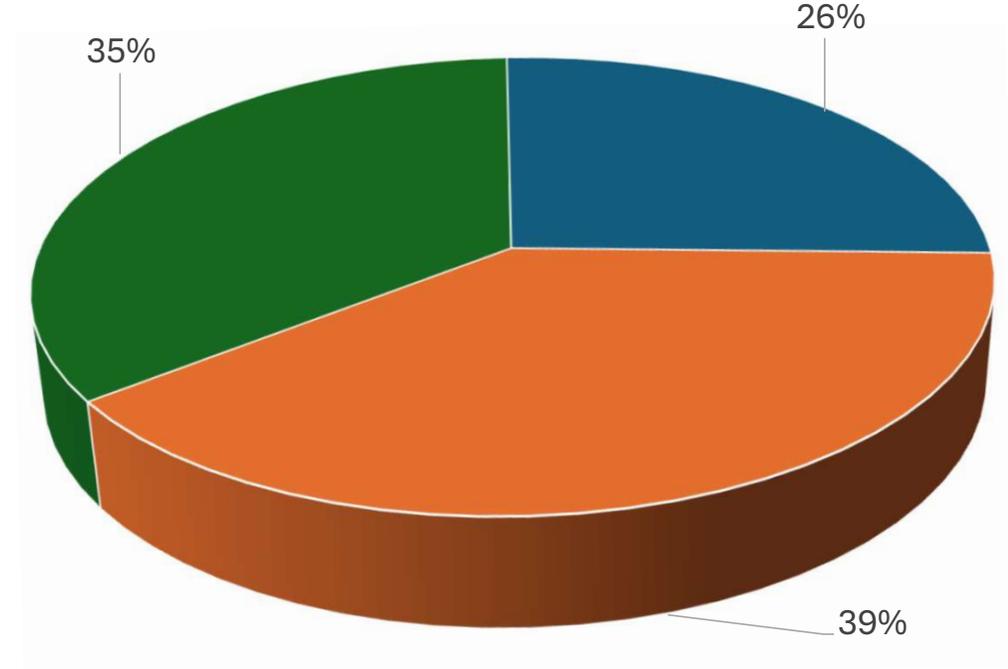
DIFFERENT MODES OF ASH TRANSPORTATION

FY 2015 – 16 to 2023 – 24



■ Rail Rakes ■ Bulkiers ■ Covered Trucks

FY 2023 – 24



■ Rail Rakes ■ Bulkiers ■ Covered Trucks



ASH TRANSPORTATION USING RAIL RAKES

| FY | No. of Rail Rakes |
|-------------------------|-------------------|
| 2020-21 (Since Nov, 20) | 13 |
| 2021-22 | 155 |
| 2022-23 | 277 |
| 2023-24 | 191 |
| Total | 636 |



ASH TRANSPORTATION BY BULKERS AND COVERED TRUCKS



bajaj ENERGY

END USER PLANTS – ASH SUPPLIED BY M/s ASHTECH INDIA

| | |
|--|--|
| • Ambuja Cement, Dadri, UP | • Nuvocoo Vista, Chittorgarh, Rajasthan |
| • Ultratech Cement, Aligarh, UP | • JK Laxmi Cement, Sirohi, Rajasthan |
| • ACC Cement, Lakhemi, Rajasthan | • Birla Corporation, Chanderiya, Rajasthan |
| • Ashtech India Pvt Ltd., Dadri, UP | • Calcom Cement, Assam |
| • Shree Cement, Beyawar, Rajasthan | • Topland Cement, Assam |
| • Ultratech Cement, Chittorgarh, Rajasthan | • ACC Cement, Tikariya, UP |
| • Wonder Cement, Chittorgarh, Rajasthan | • Heidelberg Cement, Damoh, MP |
| • JK Cement, Nimbaheda, Rajasthan | • Heidelberg Cement, Jhansi, UP |
| • Vikram Cement, Khor, MP | • Birla Cement, Satna, MP |
| • JK Cement, Hamirpur, UP | • Prism Cement, Satna, MP |
| • JK Cement Amanganj, Panna, MP | • Reliance Cement, Rae Bareli, UP |
| • Ultratech Cement, Nathdwara, Rajasthan | • Ultratech Cement, Neemuch, MP |
| • Ultratech Cement, Aligarh, UP | • Birla Cement, Chittorgarh, Rajasthan |

PROCESS OF ASH UTILIZATION IN LAND RECLAMATION

Request from
Landowner to Reclaim
His / Her Land

Survey of requested
Site

Framing of Agreement
with the Landowner

Levelling and Covering of
Ash with Soil and its
Compaction

Disposal of Conditioned
Ash into the Land under
Reclamation

Obtaining Consent
from UPPCB

Land is Ready for it's After use

LAND OWNER REQUEST

Request Letter

Owner Adhaar Card

Gram Pradhan Certificate

सेवा में,
 श्रीमान् क्षेत्रीय अधिकारी
 क्षेत्रीय कार्यालय उ.प्र.
 प्रदूषण नियंत्रण बोर्ड
 शांती-284401

विषय- ललितपुर पॉवर जनरेशन कम्पनी लि. द्वारा जनित ऐस को प्राथीयनों की अनुत्पजात अनाउपयुक्त एवं गड़बा युक्त भूमि में डालकर कृषि योग्य भूमि बनाने के संदर्भ में-

गहोदय

आपसे सविनय निवेदन है कि हम सभी प्राथीयन ग्राम सिर्चवारा के निवासी हैं। उक्त ग्राम में अवस्थित भूमि अनुत्पजात अनाउपयुक्त एवं गड़बा युक्त है हम सभी प्राथीयन अपनी भूमि को कृषि योग्य बनाना चाहते हैं जिसके लिए ललितपुर पॉवर जनरेशन कम्पनी लिमिटेड द्वारा जनित राख द्वारा उक्त भूमि में स्थित गड़बों का भराव कराकर उसके तपती सतह में मिट्टी डालकर खेती योग्य बनाना चाहते हैं।

अतः आपसे विनम्र अनुरोध है कि कृपया ललितपुर पॉवर जनरेशन कम्पनी आदेशित कर उपरोक्त कार्य उपरोक्त कार्य का करवाने का कष्ट करें।

आपकी महान दया होगी।

मानसिंह
 प्राथीयन *शुभो सुन्दरपाल सि*

शुभो सुन्दरपाल सि
 प्राथीयन

शुभो सुन्दरपाल सि
 प्राथीयन



प्रमाण पत्र

प्रमाणित किया जाता है। कि श्री शुभो सुन्दरपाल सि अनुक्ति शुभो सुन्दरपाल सि 40% अनुक्ति पिता/प्रति श्री प्रकाश सिंह जाति छोटेराणा 40 नंबर 5 सि/क

ग्राम सिर्चवारा पोस्ट कुशीनत 2193 जिला ललितपुर

उ.प्र. के मूल निवासी हैं। मैं इन्हें भली-भांति जानता हूँ। इनका खसरा नम्बर/खतौनी नम्बर 840/1, 1303 है। जिसके अन्दर ये पॉवर प्लान्ट की राख अपने गड़बों को भरवाकर के उसके उपर मिट्टी डलवाकर खेती योग्य बनवाना चाहते हैं। इसमें ग्राम प्रधान और ग्रामवासियों को किसी भी प्रकार की आपत्ती नहीं है। ग्रामवासियों के द्वारा कोई भी कार्यवाही की जाये तो झूठ मानी जायेगी।

ग्राम प्रधान
मौजी
 प्रधान (मौजी)
 ग्राम पंचायत निर्माता
 ललितपुर, सिर्चवारा



CONSENT OBTAINED FROM UPPCB



UTTAR PRADESH POLLUTION CONTROL BOARD
 Building No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010
 Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Validity Period :31/05/2023 To 31/12/2024

Ref No. - 185253/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2023 Dated:- 17/06/2023

To ,

Shri AJAY VEKRAM SINGH
 M/o LALITPUR POWER GENERATION COMPANY LTD
 Village Burogaon, Lalitpur (UP),LALITPUR,284123
 LALITPUR

Sub : Consent to Establish for New Unit/Expansion/Diversification under the provisions of Water (Prevention and control of pollution) Act, 1974 as amended and Air (Prevention and control of Pollution) Act, 1981 as amended.

Please refer to your Application Form No.- 21390049 dated - 27/05/2023. After examining the application with respect to pollution angle, Consent to Establish (CTE) is granted subject to the compliance of following conditions :

1. Consent to Establish is being issued for following specific details :

A- Site along with geo-coordinates :

B- Main Raw Material :

| Main Raw Material Details | | |
|---------------------------|------------------------|-----------------------|
| Name of Raw Material | Raw Material Unit Name | Raw Material Quantity |
| ASH | Metric Tonnes/Year | 693190 |

C- Product with capacity :

| Product Detail | |
|----------------------------------|------------------|
| Name of Product | Product Quantity |
| Fly ash Transportation (MT/Year) | 693190 |

D- By-Product if any with capacity :

| By Product Detail | | | |
|--------------------|-------------------|--------------------------|--------------------------|
| Name of By Product | Unit Name | Licence Product Capacity | Install Product Capacity |
| Nil | Metric Tonnes/Day | 0 | 0 |

2. Water Requirement (in KLD) and its Source :

| Source of Water Details | | |
|-------------------------|----------------|-----------------|
| Source Type | Name of Source | Quantity (KL/D) |
| Other | Not applicable | 0.0 |

3. Quantity of effluent (in KLD) :

| Effluent Details | |
|--------------------------|-----------------|
| Source Consumption | Quantity (KL/D) |
| Others/Dust Suppression) | 60.0 |

4. Fuel used in the equipment/machinery Name and Quantity (per day):

| Fuel Consumption Details | | |
|--------------------------|----------------------|-----------|
| Fuel | Consumption(tpd/kld) | Use |
| Others | 0 | transport |

5. For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.

For any change in above mentioned parameters, it will be mandatory to obtain Consent to Establish again. No further expansion or modification in the plant shall be carried out without prior approval of U.P. Pollution Control Board.

2. You are directed to furnish the progress of Establishment of plant and machinery, green belt, Effluent Treatment Plant and Air pollution control devices, by 10th day of completion of subsequent quarter in the Board.

3. Copy of the work order/purchase order, regarding instruction and supply of proposed Effluent Treatment Plant/Sewerage Treatment Plant /Air Pollution control System shall be submitted by the industry till 31/12/2024 to the Board.

4. Industry will not start its operation, unless CTO is obtained under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 from the Board.

5. It is mandatory to submit Air and Water consent Application complete in all respect, four months before start of operation, to the U.P. Pollution Control Board.

6. Legal action under water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 may be initiated against the industry With out any prior information, in case of non compliance of above conditions.

Specific Conditions:

1. Kindly refer your application for Consent to establish dated 31.05.2023 vide which you have stated that the fly ash of Lalitpur Power Generation Company Ltd. shall transported for land filling under the agreement with Khaura No./Gata No.-108,111,112,113,115,110mi. Kaddari, 840,1303

Mirchwarra, 2394 Mirchwarra, 2397, 2398, 2399 Mirchwarra, 2395, 2395 Mirchwarra, 2465, 2466, 2543, 2457, 2458, 2460, 2495, 2459 Mirchwarra, 41 Bose, 1836 Gadyana, 551, 555 Teela, 2635/1, Rajwara, 1183, 1184 Tona, 1039, 1040 Tona, 1697, 1698, 1699 Tona, 494 Khouchhara, 749 Marnali, 788 Marnali, 432 Haugura, District- Lalitpur to reclaim the agriculture land in this regard a conditional Consent to establish is being issued subjected that the transportation of fly ash shall be covered vehicles to control the ambient air quality as per prescribed norms of fly ash disposal issued by Ministry of Environment and Climate Change, Government of India.

2. In any case of public nuisance complaint this conditional Consent to establish shall be treated as canceled to this is your prime duty to observed and maintain the proper cover of Fly ash Flying in near by area.

3. This permission have no authorization for the production of Fly ash generation and having effect that the transportation of fly ash from Lalitpur Power Generation Company Ltd. Mirchwarra, Lalitpur premises to agriculture land of agreement farmer for reclamation of soil only.

4. No objection certificate is issued with the condition of disposal of ash in the plot after completely supplying the water logging in the plot of Mr. Yadvendra Singh, Village-Bar, Lalitpur.

5. The Industry Submit A Bank Guarantee amounting to Rs. 1,00,000.00 (One Lakh) within 15 days as an assurance to comply with the code of Practice as well as provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.

6. This conditional permission is being issued in regard of Letter No.-468/18-2/2019 dated 20-09-2020 under the provisions of MSME (Establishment and Operations) Act of 2020.

7. The Board reserves the right to revoke this conditional consent to establish which has granted at any time in case that industry is violating any of the provision of the Air (Prevention & Control of Pollution) Act, 1981 and water (Prevention & Control of Pollution) Act, 1974 and as amended time to time.

Please note that consent to Establish will be revoked, in case of, non compliance of any of the above mentioned conditions. Board reserves its right for amendment or cancellation of any of the conditions specified above. Industry is directed to submit its first compliance report regarding above mentioned specific and general conditions till 17/07/2023 in this office. Ensure to submit the regular compliance report otherwise this Consent to Establish will be revoked.

LIFTING OF ASH FROM DYKE



TRANSPORTATION OF ASH IN COVERED VEHICLES



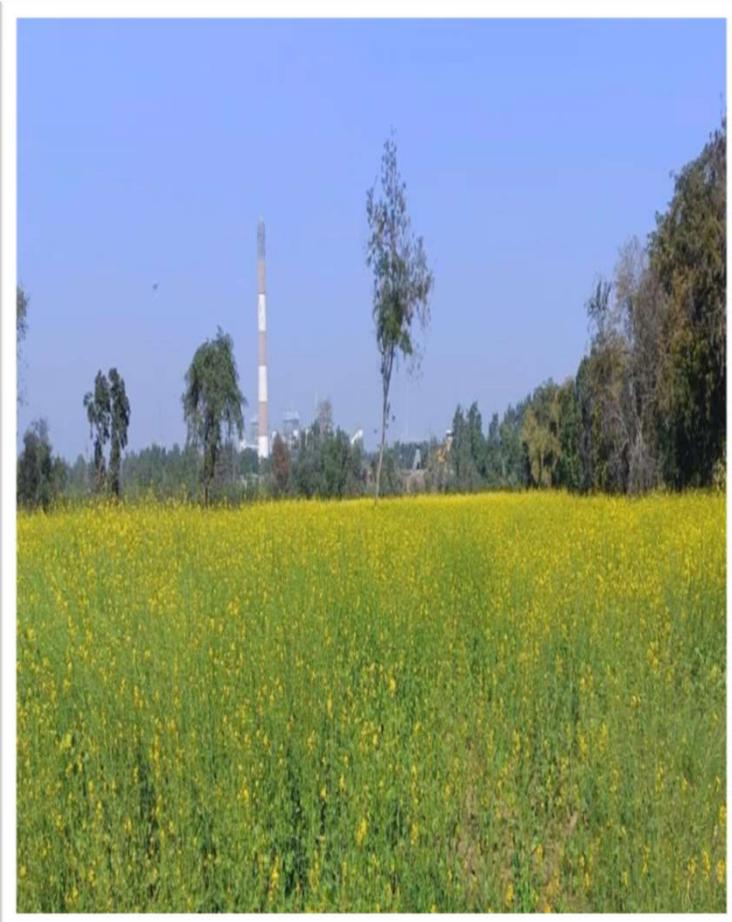
bajaj ENERGY

UNLOADING AND LEVELLING OF ASH AT SITE BEING RECLAIMED

ASH COVERING WITH SOIL



GAINFUL USE OF RECLAIMED LAND



Agriculture

GAINFUL USE OF RECLAIMED LAND



Agriculture

GAINFUL USE OF RECLAIMED LAND



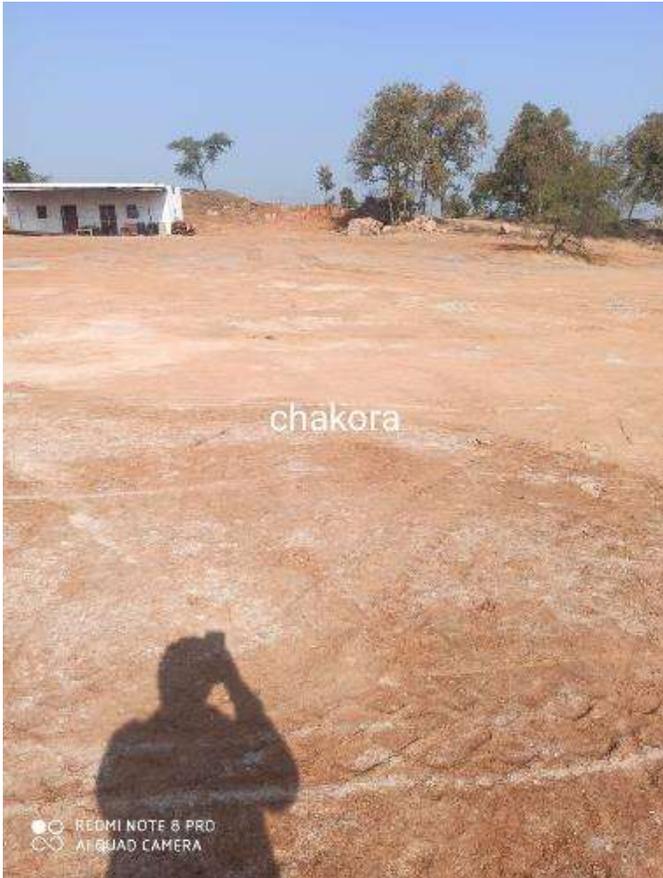
Children Playground

GAINFUL USE OF RECLAIMED LAND



School Playground

GAINFUL USE OF RECLAIMED LAND



House Construction

GROUND WATER TESTING BY NABL ACCREDITED AND MoEF&CC APPROVED LAB



Newcon Consultants & Laboratories
(GOVERNMENT APPROVED TESTING LABORATORIES)
An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified Laboratory

TEST REPORT Page No.: 1 of 2

TEST REPORT No. NCL/EP-096/16/03/24/A ULR No. TC12621246060263F DATE OF REPORT : 26/03/2024

Name and Address of Customer : **M/S LALITPUR POWER GENERATION COMPANY LIMITED,**
Village-Mirchawa and Burogon, Tehsil-Mahroli, Lalitpur-284123 (U.P) India

SAMPLING DETAILS

Sample Name : Ground Water
Analysis Start Date : 16/03/2024
Date of Sampling : 14/03/2024
Time of Sampling : 12:40 PM
Sampling Done By : NCL
Sampling Description : Ground Water
Sampling Location : Mirchawa (Lalitpur) Santoni & Others
Sampling Protocol : IS:17614 (P-1)
Packing Condition : Sealed

Analysis End Date : 21/03/2024
Sample ID No. : NCL/EP-096/16/03/24
Sample Receipt Date : 16/03/2024
Environmental Condition : 25±2°C

Sample Quantity : 5+1 Ltr
Packing : PVC BOTTLE

TEST RESULT

| S.No. | Parameters | Unit | Test Method | Result | Specification/Limit As Per IS:10500, Amd. 2018 | |
|-------|-----------------------------|-------|---------------------------------|--------------|--|-------------------|
| | | | | | Desirable Limit | Permissible Limit |
| 1 | Colour | Itzen | IS : 3025 (P-4) Clause 4 | BDL(DL-1.0) | 5.0 | 15 |
| 2 | Odour | — | IS : 3025 (P-4) | Agreeable | Agreeable | Agreeable |
| 3 | Taste | — | IS : 3025 (P-4) | Agreeable | Agreeable | Agreeable |
| 4 | Turbidity | NTU | IS : 3025 (P-10) | BDL(DL-1.0) | 1.0 | 5 |
| 5 | pH Value | — | IS : 3025 (P-11) | 7.10 | 6.5-8.5 | No Relaxation |
| 6 | Total Dissolved Solids | mg/L | IS : 3025 (P-16) | 255 | 500 | 2000 |
| 7 | Total Hardness (as CaCO3) | mg/L | IS : 3025 (P-21) | 194 | 200 | 600 |
| 8 | Calcium (as Ca) | mg/L | IS : 3025 (P-43) | 56 | 75 | 200 |
| 9 | Magnesium (as Mg) | mg/L | IS : 3025 (P-43) Clause 6 | 13.7 | 30 | 100 |
| 10 | Total Alkalinity (as CaCO3) | mg/L | IS : 3025 (P-23) | 136 | 200 | 600 |
| 11 | Chloride (as Cl) | mg/L | IS : 3025 (P-32) Clause 2 | 149 | 250 | 1000 |
| 12 | Nitrate (as NO3) | mg/L | IS : 3025 (P-34) Clause 3.3 | BDL(DL-0.2) | 45 | No Relaxation |
| 13 | Nitrite (as NO2) | mg/L | IS : 3025 (P-34) Clause 4 | BDL(DL-0.5) | Not Specified | Not Specified |
| 14 | Sulphate (as SO4) | mg/L | IS : 3025 (P-24) Sec-1 Clause-6 | 13.8 | 200 | 400 |
| 15 | Sulphide (as H2S) | mg/L | IS : 3025 (P-25) | BDL(DL-0.01) | 0.05 | No Relaxation |

EP-096/16/03/24-A

FOR NEWCON CONSULTANTS & LABORATORIES

Checked by: *Sonu Gupta*
Sr. Analyst

Authorized Signatory: *Bhavna Sharma*
HOD (Microbiology)

Authorized Signatory: *Shashi Solanki*
Lab Head

1. The test report refers only to the particular sample submitted for testing and listed parameters.
2. Endorsement of the same is neither intended nor implied.
3. Laboratory shall maintain the confidentiality of all information related to the samples & test reports.
4. Complaints about this report should be communicated within 10 days of the issue date of this report.
5. The report is not to be produced wholly or in part without prior permission of the Managing Partner. All disputes subject to Ghaziabad Jurisdiction.

Laboratory : A-1156, Sector-17, (Swadashi Compound) Kavi Nagar Industrial Area, GHAZIABAD - 201 002 (U.P.)
Mobile : 9810430345, 9205501789 | Website : www.newconlab.in
E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



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TEST REPORT Page No.: 2 of 2

TEST REPORT No. NCL/EP-096/16/03/24/A ULR No. TC12621246060263F DATE OF REPORT : 26/03/2024

| S.No. | Parameters | Unit | Test Method | Result | Specification/Limit As Per IS:10500, Amd. 2018 | |
|-------|---------------------------------|-----------|---------------------------------|---------------|--|-------------------|
| | | | | | Desirable Limit | Permissible Limit |
| 16 | Fluoride (as F) | mg/L | APHA 8500-F-D | BDL(DL-0.1) | 1.0 | 1.5 |
| 17 | Free Residual Chlorine (as Cl2) | mg/L | IS : 3025 (P-26) Clause 7 | BDL(DL-0.1) | 0.2 | 1.0 |
| 18 | Chlorides (as Cl2) | mg/L | IS : 3025 (P-26) Clause 7 | BDL(DL-0.1) | 4.0 | No Relaxation |
| 19 | Phenolic Compound (as C6H5OH) | mg/L | IS : 3025 (P-43) Sec-1 Clause-4 | BDL(DL-0.005) | 0.001 | 0.002 |
| 20 | Arionic Surface (as MBAS) | mg/L | IS : 3025 (P-68) | BDL(DL-0.1) | 0.2 | 1.0 |
| 21 | Iron (as Fe) | mg/L | IS : 3025 (P-65) | BDL(DL-0.01) | 1.0 | No Relaxation |
| 22 | Zinc (as Zn) | mg/L | IS : 3025 (P-65) | BDL(DL-0.001) | 5.0 | 15.0 |
| 23 | Boron (as B) | mg/L | IS : 3025 (P-65) | BDL(DL-0.01) | 0.5 | 1.0 |
| 24 | Nickel (as Ni) | mg/L | IS : 3025 (P-65) | BDL(DL-0.01) | 0.02 | No Relaxation |
| 25 | Manganese (as Mn) | mg/L | IS : 3025 (P-65) | BDL(DL-0.01) | 0.1 | 0.3 |
| 26 | Lead (as Pb) | mg/L | IS : 3025 (P-65) | BDL(DL-0.005) | 0.01 | No Relaxation |
| 27 | Copper (as Cu) | mg/L | IS : 3025 (P-65) | BDL(DL-0.01) | 0.05 | 1.5 |
| 28 | Cadmium (as Cd) | mg/L | IS : 3025 (P-65) | BDL(DL-0.001) | 0.05 | No Relaxation |
| 29 | Aluminium (as Al) | mg/L | IS : 3025 (P-65) | BDL(DL-0.01) | 0.03 | 0.2 |
| 30 | E.Coli | cfu/100ml | IS : 15186 | Absent | Shall not be detectable in any 100ml | Not Specified |
| 31 | Total Coliform | cfu/100ml | IS : 15186 | Absent | Shall not be detectable in any 100ml | Not Specified |

Remarks : BDL=Below Detectable Limit

End of Report

EP-096/16/03/24-A

FOR NEWCON CONSULTANTS & LABORATORIES

Checked by: *Sonu Gupta*
Sr. Analyst

Authorized Signatory: *Bhavna Sharma*
HOD (Microbiology)

Authorized Signatory: *Shashi Solanki*
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TEST REPORT Page No.: 1 of 2

TEST REPORT No. NCL/EP-096/16/03/24/B ULR No. TC12621246060263F DATE OF REPORT : 26/03/2024

Name and Address of Customer : **M/S LALITPUR POWER GENERATION COMPANY LIMITED,**
Village-Mirchawa and Burogon, Tehsil-Mahroli, Lalitpur-284123 (U.P) India

SAMPLING DETAILS

Sample Name : Ground Water
Analysis Start Date : 16/03/2024
Date of Sampling : 14/03/2024
Time of Sampling : 12:40 PM
Sampling Done By : NCL
Sampling Description : Ground Water
Sampling Location : Mirchawa (Lalitpur) Santoni & Others
Sampling Protocol : IS:17614 (P-1)
Packing Condition : Sealed

Analysis End Date : 21/03/2024
Sample ID No. : NCL/EP-096/16/03/24
Sample Receipt Date : 16/03/2024
Environmental Condition : 25±2°C

Sample Quantity : 5+1 Ltr
Packing : PVC BOTTLE

TEST RESULT

| S.No. | Parameters | Unit | Test Method | Result | Specification/Limit As Per IS:10500, Amd. 2018 | |
|-------|--------------------------------------|------|---------------------------------|----------------------|--|-------------------|
| | | | | | Desirable Limit | Permissible Limit |
| 1 | Cyanide (as CN) | mg/L | IS : 3025 (P-27) Sec-1 Clause-4 | BDL(DL-0.02) | 0.05 | No Relaxation |
| 2 | Ammonia (as total Ammonia) | mg/L | IS : 3025 (P-30) Clause 2.4 | BDL(DL-0.2) | 0.5 | No Relaxation |
| 3 | Selenium (as Se) | mg/L | IS : 3025 (P-64) | BDL(DL-0.001) | 0.01 | No Relaxation |
| 4 | Arsenic (as As) | mg/L | IS : 3025 (P-63) | BDL(DL-0.001) | 0.01 | No Relaxation |
| 5 | Cadmium (as Cd) | mg/L | IS : 3025 (P-65) | BDL(DL-0.001) | 0.005 | No Relaxation |
| 6 | Molybdenum (as Mo) | mg/L | IS : 3025 (P-65) | BDL(DL-0.001) | 0.07 | No Relaxation |
| 7 | Silver (as Ag) | mg/L | IS : 3025 (P-65) | BDL(DL-0.001) | 0.1 | No Relaxation |
| 8 | Barium (as Ba) | mg/L | IS : 3025 (P-66) | BDL(DL-0.001) | 0.7 | No Relaxation |
| 9 | Mercury (as Hg) | mg/L | IS : 3025 (P-69) | BDL(DL-0.0005) | 0.001 | No Relaxation |
| 10 | Methane Oil | mg/L | IS : 3025 (P-39) Clause 6 | BDL(DL-0.1) | 0.6 | No Relaxation |
| 11 | Poly Chlorinated Biphenyls (PCB) | mg/L | APHA 6431 B | BDL(DL-0.0005) 5) | 0.0005 | No Relaxation |
| 12 | Polymethylaromatic Hydrocarbon (PAH) | mg/L | APHA 6440 | BDL(DL-0.0005) 5) | 0.0001 | No Relaxation |
| 13 | Bromoforn | mg/L | NCL/SOP/MS/17/12 | BDL(DL-0.01) | 0.1 | No Relaxation |

EP-096/16/03/24-B

FOR NEWCON CONSULTANTS & LABORATORIES

Checked by: *Sonu Gupta*
Sr. Analyst

Authorized Signatory: *Bhavna Sharma*
HOD (Microbiology)

Authorized Signatory: *Shashi Solanki*
Lab Head

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Mobile : 9810430345, 9205501789 | Website : www.newconlab.in
E-mail : newconlab@gmail.com, newconlabfinance@gmail.com

Ground Water Testing Results of land reclaimed areas are Well Within the Permissible Limits as Set by CPCB

SOIL TESTING BY NABL ACCREDITED AND MoEF&CC APPROVED LAB



TEST REPORT Page No.: 1 of 2

TEST REPORT No. NCL/EP-10/16/03/24/A DATE OF REPORT : 21/03/2024

Name and Address of Customer: M/S LALITPUR POWER GENERATION COMPANY LIMITED, Village-Michwara and Begonon, Tehsil-Mahroni, Lalitpur-264123 (U.P) India

SAMPLING DETAILS

Sample Name : SOIL SAMPLE
 Analysis Start Date : 18/03/2024
 Date of Sampling : 14/03/2024
 Time of Sampling : 01:30 PM
 Sampling Done By : NCL
 Sampling Description : SOIL SAMPLE
 Sampling Location : Michwara (Lalitpur) Sarhoni & Others
 Sampling Protocol : BIS & APHA TEST METHOD
 Packing Condition : Sealed

Analyte End Date : 21/03/2024
 Sample ID No. : NCL/EP-10/16/03/24
 Sample Receipt Date : 16/03/2024
 Environmental Condition : 25±2°C

Sample Quantity : 500 gm
 Packing : Poly Bag

TEST RESULT

| S.No | Test Parameters | Units | Test Method | Results |
|------|---|------------------|--------------------------------|--------------|
| 1 | pH (1:5 Suspension) | - | IS:2720 (P-25) | 7.30 |
| 2 | Moisture | % | IS:2720 (P-2) | 12 |
| 3 | Water Holding Capacity (WHC) | % | IS:14765 | 30.2 |
| 4 | Iron (Fe) | mg/Kg | USEPA-3050 B | 72.1 |
| 5 | Calcium | mg/Kg | USEPA-3050 B | 2108 |
| 6 | Magnesium | mg/Kg | USEPA-3050 B | 261 |
| 7 | Chlorides (Cl) | mg/Kg | USDA | 215 |
| 8 | Phosphorus (P) | mg/Kg | USEPA-3050 B | 279 |
| 9 | Sodium (Na) | mg/Kg | USEPA-3050 B | 225 |
| 10 | Sulphate (SO4) | mg/Kg | IS:2720 (P-27) | 280 |
| 11 | Electrical Conductivity at 25° C (Suspension) | µm/cm | IS:14767 | 550 |
| 12 | Phosphorus (P) | mg/Kg | IS:15158 | 99.0 |
| 13 | Nitrate | mg/Kg | IS:14684 | 18.7 |
| 14 | Lead (Pb) | mg/Kg | USEPA-3050 B | 1.30 |
| 15 | Nickel (Ni) | mg/Kg | USEPA-3060 B | 0.98 |
| 16 | Total Chromium (Cr) | mg/Kg | USEPA-3010 B | BDL (DL-0.1) |
| 17 | Bulk Density | g/m ³ | IS:2720 (Part 3):1980 (Pt 201) | 1.20 |

FOR NEWCON CONSULTANTS & LABORATORIES

Checked by: Sonu Gupta, Sr. Analyst
 Authorized Signatory: Anand Choudhary, Instrument (HOD)
 Authorized Signatory: Shashi Solanki, Lab Head

Laboratory : A-1/156, Sector-17, (Swadeshi Compound) Kavi Nagar Industrial Area, GHAZIABAD - 201 002 (U.P.)
 Mobile : 9810430345, 9205001788 | Website : www.newconlab.in
 E-mail : newconlab@gmail.com, newconlabfinance@gmail.com



TEST REPORT Page No.: 2 of 2

TEST REPORT No. NCL/EP-10/16/03/24/A DATE OF REPORT : 21/03/2024

| S.No. | Test Parameters | Units | Test Method | Results |
|-------|------------------------|-------|-------------------|---------------|
| 16 | Arsenic & its Compound | mg/Kg | Soil USEPA-3060 B | BDL (DL-0.01) |

Remarks : 05% Below Detector Limit. ***End of Report***

FOR NEWCON CONSULTANTS & LABORATORIES

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 Authorized Signatory: Anand Choudhary, Instrument (HOD)
 Authorized Signatory: Shashi Solanki, Lab Head

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As per Test Results of land reclaimed areas , Soil is rich in Micro and Macro Nutrients



DETAILS OF RECLAIMED LOWLYING AREAS

| Sl. | Details of Consent to Establish (CTE) | Area (hect) |
|-----|---|--------------|
| 1 | 129828/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2021 Dated:- 14/07/2021 | 7.32 |
| 2 | 153971/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2022 Dated:- 18/05/2022 | 3.22 |
| 3 | 172973/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2022 Dated:- 27/01/2023 | 18.38 |
| 4 | 185253/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2023 Dated:- 17/06/2023 | 21.91 |
| 5 | 194928/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2023 Dated:- 15/12/2023 | 5.16 |
| 6 | 202744/UPPCB/Jhansi(UPPCBRO)/CTE/LALITPUR/2024 Dated:- 06/03/2024 | 6.95 |
| | Total | 62.94 |

Agriculture on Low lying lands Reclaimed with Ash

BENEFITS OF ASH MIXED SOIL ON AGRICULTURE

Following are the key benefit of Soil, if mixed with Ash:

- Improves crop yield
- Improves soil texture,
- Reduces bulk density of soil,
- Improves water holding capacity
- Optimizes pH value
- Increase soil buffering capacity
- Provides micro-nutrients like Fe, Zn, Cu, Mo, B etc.,
- Provides macro-nutrients like K, P, Ca, etc
- Overall, it improves soil quality and increases fertilizing effect of the soil

USE OF ASH AS A SOIL CONDITIONER

Ministry of Environment Forests and Climate Change (MoEF&CC) vide its Office Memorandum no, 22-13/2019-IA.III dated 28.08.2019 recommends the use of fly ash as soil conditioner as follows:

Fly ash to be used as soil conditioner in agriculture needs and to be applied in controlled manner to limit excessive application so as to prevent soil degradation. The optimum proportion of ash to be applied which is to be certified by the State Agricultural University / Collages based on the soil testing



USE OF ASH AS A SOIL CONDITIONER

As per Report on Fly Ash Generation at Coal / Lignite Based Thermal Power Stations and its Utilization in the Country for 1st Half of the Year 2022 – 2023 by “Central Electricity Authority (CEA)”, March 2023

The use of fly ash in Agriculture and waste land development has large potential but the utilization is below expectation. This may be attributed mainly to reservations in various quarters for use of fly ash in agriculture because of presence of heavy metals and radioactive elements in fly ash however, findings of research projects funded by Fly Ash Unit under Ministry of Science & Technology and studies carried out by other organizations indicate that there are no adverse effects in using fly ash in agriculture. Therefore, these concerns are required to be addressed for increasing the fly ash utilization.

Source: https://cea.nic.in/wp-content/uploads/tcd/2023/05/Half_Yearly_Ash_Report_2022_23-1.pdf

USE OF ASH AS A SOIL CONDITIONER

As per the presentation made by the **Jharkhand State Pollution Control Board**:

- Fly ash addition up to 40% may improve
 - Soil porosity by 10%
 - Water holding capacity by 15%.
- Addition of 10% Fly Ash to Sandy Soil may increase plant available water content by 52%. Addition of Fly Ash up to 20% increases the yield of grain and straw of rice
- Can increase the yield of cereals, oil seeds, pulses, cotton and sugarcane by 10-15%, vegetables by about 20-25% and root vegetables by 30-40%.
- Mine spoils can be revegetated by enhancing the activities of various enzymes such as dehydrogenase, phosphatase and nitrogenase.
- Increase the availability of elements like K, Na, Zn, Ca, Mg and Fe

USE OF ASH AS A SOIL CONDITIONER

As per the report from **Odissa State Pollution Control Board Website:**

- Application of fly ash increases:
- Increases water holding capacity
- Improves soil texture
- Optimizes pH values
- Provides nutrients like, Fe, Zn, Cu, K, P, Ca which in turn increases the productivity.

The Agriculture produce have been evaluated for toxicology, nutritional value as well as radio activity and have been certified as good material for human and animal consumption. In some cases significant increase is minerals like Fe & Calcium have been noticed which is beneficial.

On application fly ash @ 50 Tons /ha to the demonstration plots yielded a maximum 35% rise in the yield of paddy crop.

Source: <https://ospcboard.odisha.gov.in/wp-content/uploads/2017/01/05-Jan-20158.-FLY-ASH-USE-IN-AGRICULTURE.pdf>



USE OF ASH AS A SOIL CONDITIONER – RESEARCH PUBLICATION

Research Journal: Journal of Applied Agricultural Science and Technology, 7 (2): 73–81 (2023)

Chemical composition that consist of in the soil and coal fly ash is almost same with SiO₂, Al₂O₃, Fe₂O₃, CaO dan MgO. The highest amount of SiO₂ could be a great potential for coal fly ash utilization in agricultural. It could be substitute for silica fertilizer directly and indirectly.

The presence of other main materials also bolsters the positive impact of this utilization. Calcium (Ca) and magnesium (Mg) belong to macronutrients in soil.

Source:

https://www.researchgate.net/publication/371443152_An_Analysis_of_Coal_Fly_Ashes_from_Different_Combustion_Processes_for_The_Agricultural_Utilization/fulltext/648d11d695bbbe0c6ecd5aa5/An-Analysis-of-Coal-Fly-Ashes-from-Different-Combustion-Processes-for-The-Agricultural-Utilization.pdf



USE OF ASH AS A SOIL CONDITIONER – RESEARCH PUBLICATION

Research Journal: E3S Web of Conferences 467, 01008 (2023)

Table 2. CFA effects on selected soil quality physical parameters [12].

| Soil quality parameters | Value for measurement in agricultural soil | Soil amended with | | Crops |
|-------------------------|--|--------------------------------------|--------------------------------------|---|
| | | Decomposed ash | Fresh ash | |
| Bulk density | 1.3 g cm ⁻³ | Decrease than 1.3 g cm ⁻³ | Decrease than 1.3 g cm ⁻³ | Soybean, barley |
| Aeration | High | Increase | Increase | Grass |
| Water retention (whc) | High | Increase | Increase | Corn |
| Plant available water | High | Zero to minimal effect | Zero to minimal effect | Horticultural crops (carrot, radish, beet, lettuce) |
| Hydraulic conductivity | High | Rise by minimal dose | Rise by minimal dose | Barley |
| Modulus of rupture | High | Decrease | Decrease | Barley |

CFA is a promising soil amendment, enhancing soil nutrient availability, thereby ameliorating soil fertility and promoting plant development, and also impacted positively on soil physical properties.

USE OF ASH AS A SOIL CONDITIONER – RESEARCH PUBLICATION

Research Journal: Plant Archives Vol. 22, No. 1, 2022 pp. 217-221



Fig 2. : (A) fly ash treated Plots (Before Sowing), (B) Seed Germination, (C) Mature Crop in Plots, (D) Morphological view.

Fly ash, a by-product of coal combustion regarded as solid waste. Now days it is used in agriculture fields due to the presence of some desired nutrients which can help in plant growth and development. The present investigation shows that small amount of fly ash amendment i.e. 25% in the soil is beneficial for plant growth in terms of plant height, fresh and dry weight, chlorophyll content and their yield production. Therefore present work supports that limited addition of fly ash i.e. 10-25% is beneficial for plant health also with yield of *Vigna mungo* L. crop.

USE OF ASH AS A SOIL CONDITIONER – RESEARCH PUBLICATION

Research Journal: Energy Ecology & Environment, January 2022

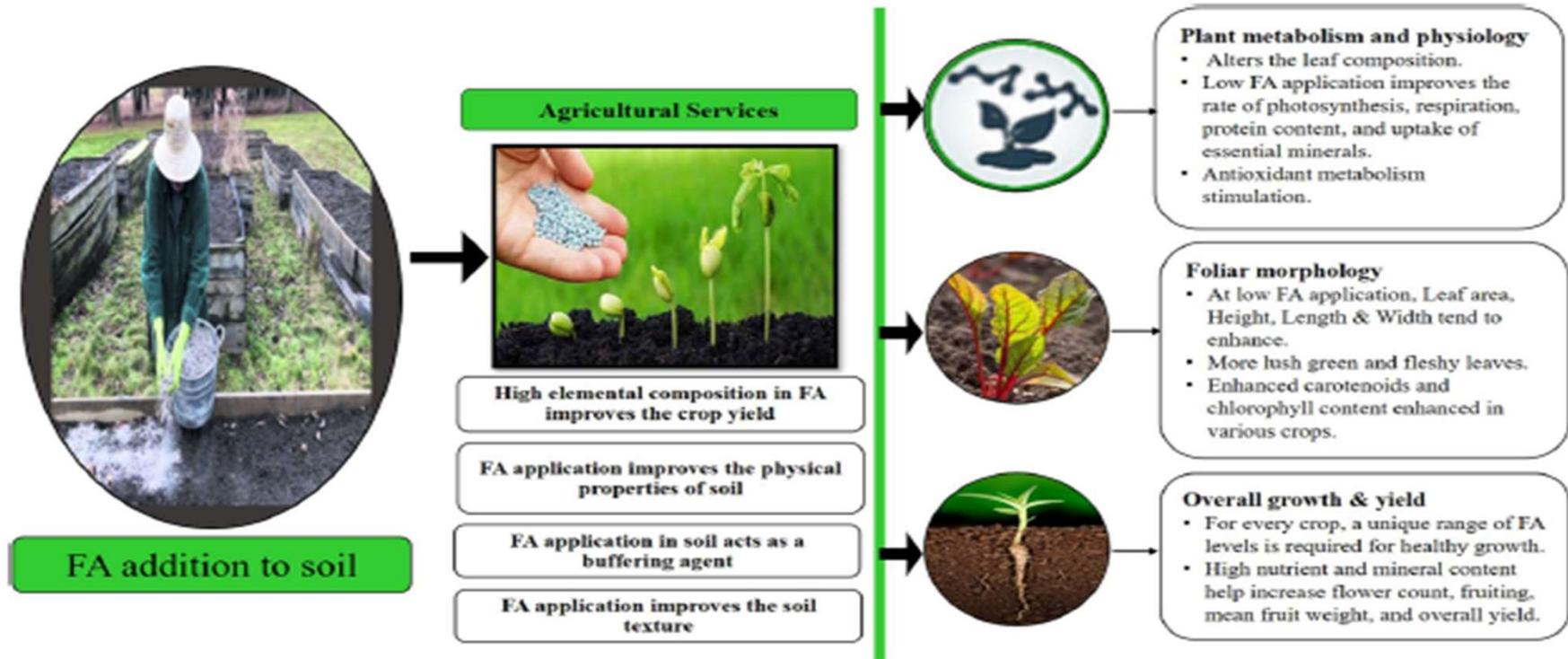


Fig. 4 Positive impact of FA application in soil

Source:
https://www.researchgate.net/publication/358246212_Fly_ash_application_in_soil_for_sustainable_agriculture_an_Indian_overview

USE OF ASH AS A SOIL CONDITIONER – RESEARCH PUBLICATION

Research Journal: Current World Environment, Vol. 9(2), 531-535 (2014)

The application of different treatment combinations except 75% GRD + 20t Fly ash ha⁻¹ with and without FYM increased the grain yield compared to General recommended dose (GRD). The highest grain yield (42.6 q ha⁻¹) was recorded by application of 75% GRD + 60 t FAha⁻¹ + 5 t FYMha⁻¹, which was at par with 75% GRD+ 40 t FAha⁻¹+5t FYMha⁻¹. Thus application of fly ash not only increased the paddy yield by 30% but also saved the 25% of NPK fertilizer.

Table 2: Effect of combined application of FYM, FA and fertilizers on grain and straw yield of rice

| Treatments | Grain yield (q ha ⁻¹) | Straw yield (q ha ⁻¹) |
|--|-----------------------------------|-----------------------------------|
| T ₁ - Control | 0.00 | 10 |
| T ₂ - 100% GRD (100:60:40) | 31.67 | 47.50 |
| T ₃ - 75% GRD + 20 t FA ha ⁻¹ | 26.83 | 44.83 |
| T ₄ - 75% GRD + 40 t FA ha ⁻¹ | 33.67 | 46.33 |
| T ₅ - 75% GRD + 60 t FA ha ⁻¹ | 31.83 | 41.50 |
| T ₆ - 75% GRD + 20 t FA ha ⁻¹ + 5 t FYM ha ⁻¹ | 28 | 47 |
| T ₇ - 75% GRD + 40 t FA ha ⁻¹ + 5 t FYM ha ⁻¹ | 37.67 | 49.42 |
| T ₈ - 75% GRD + 60 t FA ha ⁻¹ + 5 t FYM ha ⁻¹ | 42.67 | 51.50 |
| SEm± | 2.05 | 1.74 |
| C.D. (P = 0.05) | 6.22 | 5.30 |

FA = fly ash, FYM = farm yard manure and GRD = general recommended dose of N, P and K

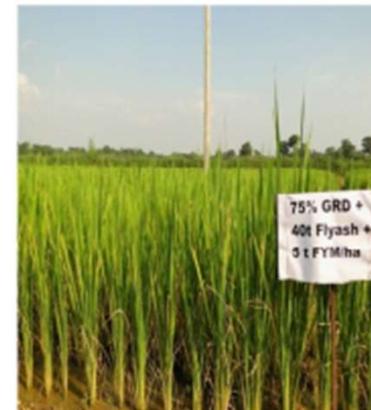


Fig. 1 : Effect of different fly ash treatments on crop growth

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Source: https://www.cwejournal.org/pdf/vol9no2/vol9_no2_531-535.pdf

USE OF ASH AS A SOIL CONDITIONER

As per chapter 7 of the book “Coal Fly Ash Beneficiation - Treatment of Acid Mine Drainage with Coal Fly Ash”:

The successful application of fly ash has been done in the agriculture field. Fly ash acts as a soil modifier and source of micronutrient. Various seasonal crops have been grown and harvested and there is a significant increase in yield of different crop. It is evident from the crop yield that the addition of 10–200 tonnes fly ash per hectare increased the yield from 5 to 40%.



Figure 18. Agricultural development by fly ash in Odisha.

Source:

https://www.researchgate.net/publication/322858143_Challenges_in_Recovery_of_Valuable_and_Hazardous_Elements_from_Bulk_Fly_Ash_and_Options_for_Increasing_Fly_Ash_Utilization/download?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6Ii9kaXJlY3QiLCJwYWdlIjoieX2RpcmVjdCJ9fQ

USE OF ASH AS A SOIL CONDITIONER – RESEARCH PUBLICATION

Research Journal: Discovery Nature, Volume 7, Number 17, April 24, 2014

The result shows that production of rice with 70% soil and 30% fly ash is more than 80% soil and 15% fly ash. Percentage increased over control plot is 30.66% in soil 85% + fly ash 15% and 39.41% in soil 70% and fly ash 30%. In the present investigation different proportion of fly ash has been utilized for growing of different crops. Before utilization of fly ash it was analysed in the laboratory. From the results (Table 4) show that the use of fly ash in agriculture field provided the following benefit that are Improves soil texture, Reduces bulk density of soil, Improves water holding capacity, Optimizes pH value, Increase soil buffering capacity, Provides micro nutrients like Fe, Zn, Cu, Mo, B etc., Provides macro nutrients like K, P, Ca, etc

Production of rice with application of fly ash

| Plot No. | Condition | Types of Seed Cultivated | Area | Harvested amount in Kg/ha | %increased over control |
|----------|-----------------------|--------------------------|---------------|---------------------------|-------------------------|
| 1 | Control 100% Soil | Puja | 620cm × 700cm | 1843 | - |
| 2 | Soil85% + Fly ash 15% | Puja | 480cm × 580cm | 2658 | 30.66 |
| 3 | Soil70% + Fly ash 30% | Puja | 425cm × 580cm | 3042 | 39.41 |



Figure 1

Rice cultivation in control plot



Figure 2

Rice cultivation in experimental plot no.2



Figure 3

Rice cultivation in experimental plot.3



Figure 4

Rice cultivation in experimental plot.4

Source:

https://www.researchgate.net/publication/267636226_Fly_ash_and_treated_waste_water_effect_on_improving_soil_properties_and_rice_productivity_A_way_for_sustainable_agriculture_practice/link/5fda4c0ba6fdccdc8d1aa8c/download?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6Il9kaXJlY3QiLCJwYWdlIjoicHVibGljYXRpb24ifX0

USE OF ASH AS A SOIL CONDITIONER – RESEARCH PUBLICATION

Research Journal: International Journal of Mechanical Engineering and Robotic Research Vol. 3, No. 2, April 2014

Fly ash provides the uptake of vital nutrients/ minerals (Ca, Mg, Fe, Zn, Mo, S and Se) by crops and vegetation, and can be considered as a potential growth improver because it can be a soil modifier and enhance its moisture retaining capacity and fertility. On an average 20-30% yield increase has been observed. Out of 150 million hectare of land under cultivation, 10 million hectares of land can safely be taken up for application of fly ash per year. The fly ash treated fields would give additional yield of 5 million tone food grains per year valued at about Rs. 3000 crores.

Figure 2a: Cabbage at Dodhar, Fly Ash Amended Soils



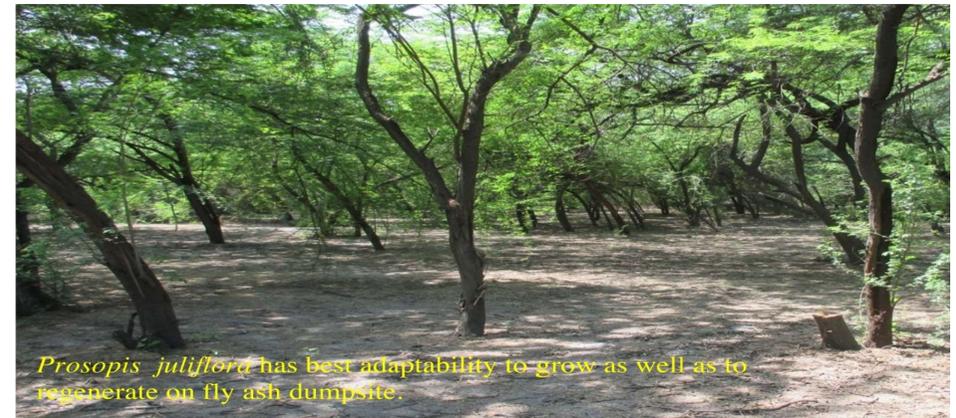
Source:

https://www.researchgate.net/publication/323377658_EFFECTS_OF_POLLUTANTS_PRODUCED_BY_THERMAL_POWER_PLANT_ON_ENVIRONMENT_A_REVIEW/download?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6Il9kaXJlY3QiLCJwYVdlIjoieX2RpbmVjdCJ9fQ

USE OF ASH AS A SOIL CONDITIONER – RESEARCH PUBLICATION

Research Journal: Urban Forestry & Urban Greening Volume 15, Pages 40-44, 2016

The luxuriant growth of planted tree species on FA dumps of Panki Thermal Power Station, Kanpur District of Uttar Pradesh, India which indicates huge biomass and carbon storage in FA ecosystem through plantation and carbon



Source: <https://www.sciencedirect.com/science/article/abs/pii/S1618866715001594>

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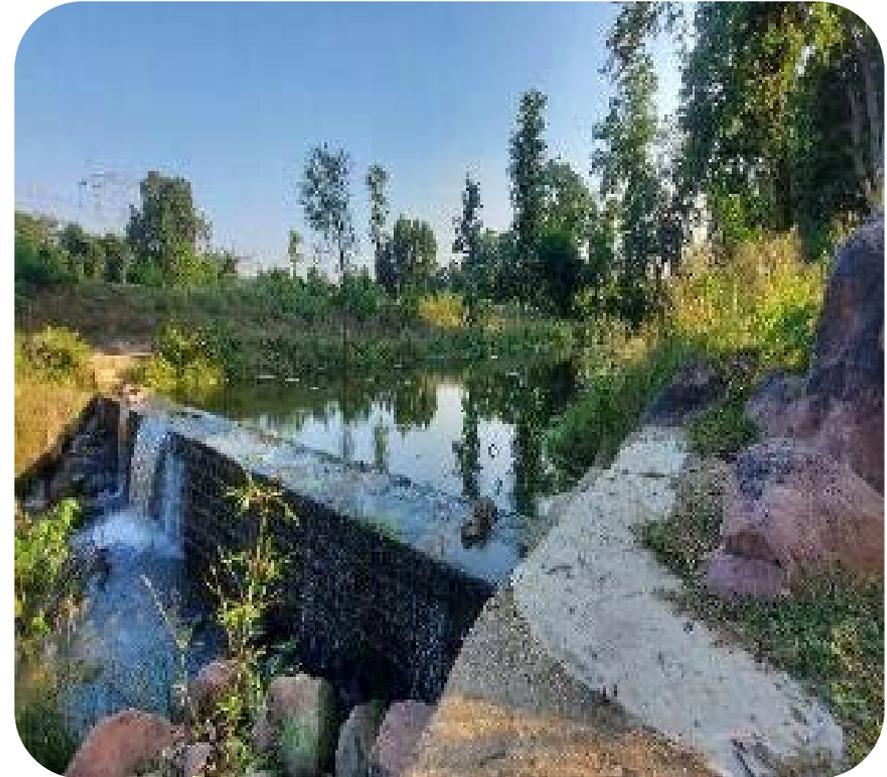
PHOTOGRAPHS OF ASH DYKES AT LPGCL ON 11.05.2024

ANNEXURE-A-2

| KAMALNAYAN JAMNALAL BAJAJ FOUNDATION | | | | | | | | | |
|---|--|--------------------|------------------|--------------------|--------------------|--------------------|---------------------|--|--|
| Details of CSR Interventions carried out under LPGCL CSR in Lalitpur (U.P.) | | | | | | | | | |
| Year wise CSR Expenditure (FY2018-19 to 2022-23) | | | | | | | | | |
| SN | Budget head | FY 2018-2019 | FY 2019-2020 | FY 2020-2021 | FY 2021-2022 | FY 2022-23 | Cumulative Expenses | Activities | Villages Benefited |
| 1 | Water Resources Development | 13,74,759.00 | 4,64,400 | 7,51,698 | 39,91,914 | 1,53,65,740 | 2,19,48,511 | Construction of Check dams,River/Stream Revival, Construction of Group wells, Bori bandh Installation, Group Diesel Engine Support, Abandoned Mines | Burogaon, Mirchawara, Surikala, Udaipura, Semra bhagnagar |
| 2 | Sustainable Agriculture Development | 5,01,136.00 | - | 6,36,000 | 8,16,741 | 7,75,133 | 27,29,011 | Seed Support, Kisan Pathshala, Fruit Plantation, Drum Support | Burogaon, Mirchawara, Surikala, Udaipura, Semra bhagnagar |
| 3 | Women Empowerment | | - | - | 1,26,187 | 3,64,060 | 4,90,247 | Support to poor families for setting up small Income Generating Activity, Kitchen Garden Support | Burogaon, Mirchawara, Surikala, Udaipura, Semra bhagnagar |
| 4 | Infrastructure Development/Health & Sanitation | 63,57,051 | 8,881.00 | 25,30,767 | 36,14,920 | 35,84,122 | 1,60,95,741 | Construction of Kartik Ghat, Renovation of Schools, Renovation of Temple, Construction of Crematorium,Toilet Construction through Lalitpur District Administration,Gaushala Construction Support through Lalitpur District Administration, School Deigattion support through Lalitpur District Administration, Health ATM establishment at CHC Baar, Mobile Dispensary, Water Supply Support, Play Ground Development, | Burogaon, Mirchawara, Surikala, Udaipura, Semra bhagnagar |
| 5 | Community Mobilization | 67,248 | | 19,538 | 37,452 | 1,56,748 | 2,80,986 | Trainings, Capacity building, Exposure Visits | Burogaon, Mirchawara, Surikala, Udaipura, Semra bhagnagar |
| 6 | Management Cost | 16,51,646 | 12,90,389 | 13,25,894.00 | 27,72,764 | 43,89,210 | 1,14,29,902 | | |
| 7 | CSR expenditure under Wadi Project | 4522959.7 | 7264790.33 | 8506299.44 | 12875352.1 | 986610.88 | 34156012.45 | Fruit Plantation, Soil & Water Conservation interventions, Orchard Manaagement, Nutrition, Plant Protection, Diesel Engine Support, Intercropping Support, Support to landless families, Micro irrigation etc | Total 27 villages benefited (Chakora, Poorapachoni, Banpur, Daroni, Sunwaha, Billa, Gangchari, Banoni, Kiloni, Chandawali, Marroli, Bamorishahna, Burogaon, Barodadang, Mathuradang, Semradang, Pulwara, Karmai, Paron, Mayao,Mogan, Badokhara , Pooradhankuva, Pah, Ladwari, Bhailonisubah, Dailwara) |
| Total | | 1,44,74,800 | 90,28,460 | 1,37,70,196 | 2,42,35,331 | 2,56,21,623 | 8,71,30,410 | | |



Stream Rejuvenation at Surikala



Check Dam Repair at Buragaon



Group Well At Semra



Bori Band At Semra

Water Resource Development & Management

501

66



Latitude: 24.778332
Longitude: 79.639496
Elevation: 387.64111 m
Accuracy: 3.9 m
Time: 03-03-2023 09:04
Water: grupe diesel pump at...

Powered by NoteCam



Check Dam at Udaipura

Promotion of Agro ⁵⁰² Based Livelihood

67





Natural Farming Promotion



Farmers Training on Natural Farming



Latitude: 24.788582
Longitude: 78.677643
Elevation: 379.13x20 m
Accuracy: 8.2 m
Time: 04-27-2022 11:23
school/renovation work complete at village udaipura 1

Renovation of School
Udaipura village



Crematorium of Mirchwara village



Latitude: 24.808557
 Longitude: 78.645389
 Elevation: 342.5e12 m
 Accuracy: 9.5 m
 Time: 15-11-2022 11:02



Latitude: 24.790768
 Longitude: 78.597447
 Elevation: 307.66 m
 Accuracy: 14.0 m
 Time: 01-10-2023 12:29



508

73



IGA support at Mirchwara



Meeting with SHG's Member at Buragaon

Community Health and Sanitation Intervention

510

75



Distribution of Kitchen Garden Kit at Buragaon



Distribution of Kitchen Garden Kit at Mirchwara



bajaj FOUNDATION **bajaj** ENERGY

ग्राम स्तरीय स्वास्थ्य एवं स्वच्छता समिति

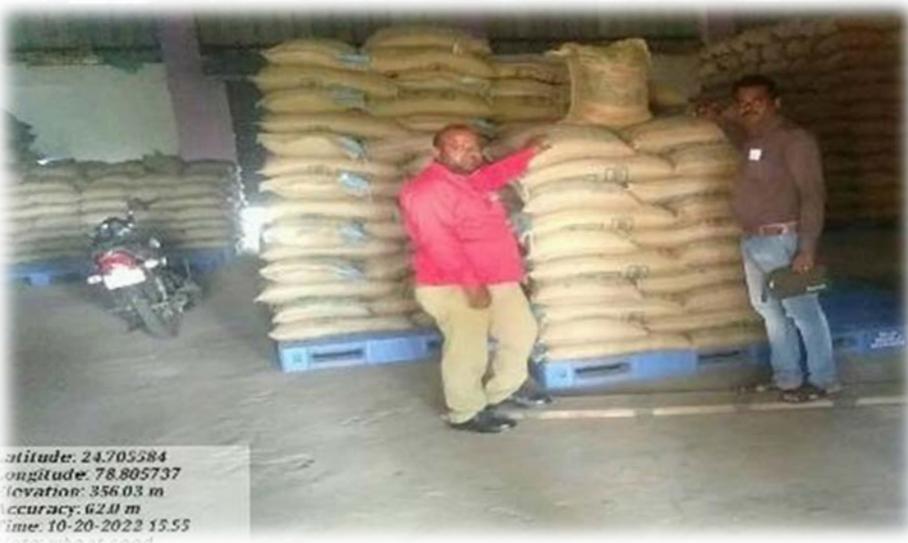
ग्राम :

प्रेरक संस्था - कमलनयन जमनालाल बजाज फाउंडेशन, ललितपुर (उ.प्र.)





Latitude: 25.484452
 Longitude: 78.497407
 Elevation: 256.0616 m
 Accuracy: 8.3 m
 Time: 07-11-2022 16:05



Latitude: 24.705584
 Longitude: 78.805737
 Elevation: 356.03 m
 Accuracy: 6.20 m
 Time: 10-20-2022 15:55





Community Mobilization

516

81



Preparation for WADI Plantation

517

82



Wadi Management

518

83



Monitoring & Evaluation

519

84





Legal Vibes <legalvibes.lawfirm@gmail.com>

O.A. NO. 725 OF 2022 in the case titled Anurag Sharma Vs. State of Uttar Pradesh and Anr. (Additional Affidavit)

1 message

Legal Vibes <legalvibes.lawfirm@gmail.com>
To: anuragsansad@gmail.com

Mon, May 13, 2024 at 4:53 PM

Sir,
Kindly find attached the copy of Additional Affidavit on behalf of Lalitpur Power Generation Company Limited.
Kindly accept the service.

--

Thanks & Regards,

Legal Vibes Law Firm

G-27, First Floor,

Jangpura Extension

New Delhi-110014

Ph: 011-43580335

 **Additional Affidavit Final 13.05.2024.pdf**
10779K