

# Report of inspection

Inspection conducted by

**Prof. P.C Mishra as Court Commissioner**

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appointed by

The Honourable Principal Bench of  
National Green Tribunal dt. 09.01.2019 in OA No. 351 of 2018

Dt.30.01.2019

Report of inspection conducted by Prof. P.C Mishra as Court  
Commissioner appointed by the Honourable Principal Bench of National  
Green Tribunal dt. 09.01.2019 in OA No. 351 of 2018

**Preamble:** The relevant portion of order of NGT reads as follow:

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“Main matter

This matter has been listed for final hearing and looking to the dispute on facts between the parties with regards to present positions at site, we deem it proper to have an inspection conducted by a Court Commissioner, so as to have an updated report.

In this regard, we request Prof. P. C. Mishra, Former Expert Member of NGT, to conduct an inspection and send a report within three weeks.”

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1. On receipt of the order copy of the Honourable NGT, the District Magistrate and Collector , Jharsuguda and Superintendent of the Police, Jharsuguda were contacted to schedule the visit of the Court Commissioner .As the District Administration was busy in the preparation for the State Chief Minister’s visit to Jharsuguda on 24<sup>th</sup> January 2019, on their request the inspection was fixed on 28<sup>th</sup> and 29<sup>th</sup> January 2019. The District Magistrate and Collector was requested to depute the officials of the District administration who are/were associated with any inquiry/ assessment of impact of ash pond breach and also to inform the Regional officer, State Pollution Control Board as well as the officials of Vedanta Limited to attend a meeting for a preliminary discussion before the site visit on the present

position of post Ash Pond breach with particular reference to the removal of ash deposited in agricultural and non-agricultural land near the village and also from the river bed of river Bheden.

2. As per the schedule the meeting was held on 28<sup>th</sup> January 2019 at 10:30 AM in the conference room of the Hotel 'The Orchard' where the following officials were present.(Photograph 1 ,2 and 3).

- i. Alomani Sethy PD (R&R), Collectorate, Jharsuguda
- ii. Golak Bihari Mangaraj, Additional Tahasildar, Jharsuguda
- iii. Ashwani Kumar Panda, Asst. Collector (G&M), Jharsuguda
- iv. Pramod Kumar Mishra, D.A ,R & R Section, Jharsuguda
- v. Niranjan Mallick, Regional Officer, OSPCB , Jharsuguda
- vi. Ramani Ranjan Das, A.E.E , Regional office, OSPCB, Jharsuguda
- vii. Ripu Kumar Sahu , AEE, Regional office OSPCB, Jharsuguda
- viii. Khageswar Patel, Revenue Inspector, Sharbahal, Jharsuguda
- ix. Dr. A.S.P. Mishra, Vedanta Limited, Jharsuguda
- x. Nabal Kishor Sharma , Vedanta Limited, Jharsuguda
- xi. J K Mohanty, Vedanta Limited Jharsuguda

The Court Commissioner conducted the meeting .

3. The officials were informed about the OA NO 351/2018 filed by the Jharsuguda Bachao Samiti through its President on 22/05/2018 with the following allegations based on the inspection report of OSPCB conducted on dt 1.09.2017 .



Photo 1: Discussion with Officials on 28.01.2019



Photo 2 : Discussion with Officials on 28.01.2019



Photo 3: Discussion with Officials on 28.01.2019

- i. The dyke of about 800 m length at eastern side of the Lagoon – 2 of Katikela ash pond was completely breached on 28.08.2017 at 9.00 PM. Due to such breach, ash and slurry from the Lagoon – 2 spilled to agricultural and non-agricultural land including open areas of Katikela village of about 550 m distance from the dyke which is merely 100 m away in the eastern side of the pond.
- ii. The ash slurry was also flown into river Bheden which is flowing adjacent to the ash pond. Even on the date of inspection ie 01.09.2019 conducted by OSPCB ash slurry from the ash pond and from open areas was flowing to the river Bheden thereby increasing the Total Suspended Solid content to 2812 mg/l in the downstream of river compared to only 66mg/l in upstream.

- iii. Due to the breach, about 65 AC of agriculture land and 50 AC open land with vegetation (total 115 AC) are directly affected.
  - iv. Due to the breach, about 35,20,000 m<sup>3</sup> (equivalent to 42,24,000 MT) of ash/ash slurry had flown into the river Bheden and nearby areas.
  - v. Some small and big trees were also found uprooted due to pressure from flowing ash slurry and a village pond located in south of ash pond was covered with ash.
  - vi. The affected area was not yet been contained and no measures were taken to stop disposal of ash slurry water into river.
  - vii. A local seasonal nallah (drain) flowing along the bottom of dyke of ash pond and meets the river Bheden has been blocked due to the breach. The catchment area of nallah is part of Katikela Reserve Forest, area in north of ash pond and overflow of village ponds of Malipada and Katikela. At present water is being accumulated near Katikela Village at the toe of Lagoon -3
  - viii. Water circulation system installed at Katikela ash pond is also damaged due to ash dyke breach.
4. At the cost of repetition, it may be mentioned that the first inspection conducted by the team of officials of State Pollution Control Board was within three days of ash pond breach and submitted a detailed report with some suggestion / recommendation for immediate action. The applicant after about eight months of the breach only referred to the report of OSPCB conducted immediately after the breach. The State Pollution Control Board officials present made a request to refer to the subsequent report of inspection Conducted by them on 23.6.2018 to assess the present position. This report of 23.6.2018 is part of the record as Annexure – R3/A in the reply on behalf of respondent 3, the State Pollution Control Board .

5. The inspector conducted by the OSPCB on 23.00.2018 (annexure 15 of OA) reveals significant decrease in TSS content in downstream river water, i.e 18mg/L against 16 mg/L upstream with 22 mg/L in discharged water .
6. Similarly a joint inspection was held by team of officials of district administration consisting of the Tahasildar, Jharsuguda , Mining officer , O/O DDM Sambalpur and Asst. Executive Engineer (Irrigation), Burla on 3.2.2018. The Team observed that ash slurry water was directly discharged to river Bheden through local nallah from Lagoon – 3 near Katikela Village thereby contaminating the river water. Therefore the industry was directed to take appropriate steps to stop discharged/ flow of ash slurry to river Bheden and clean all the affected areas with immediate effect and report compliance to the member secretary ,OSPCB.
7. The report of 23.06.2018 in para 'C' deals with the compliance to the direction issued vide Boards letter no 2096 dt 26.2.2018 which are as follows :
  - i. No ash slurry was being discharged to river Bheden during inspection.
  - ii. The industry (R.6) has provided five check dams (03 stone masonry and 02 earthen) in the streams and nallah carrying water from affected area into the river Bheden during rainfall.
  - iii. No contaminated water or seepage water was being discharge to river or nallah from Katikela ash pond area.
  - iv. Till the date of inspection about 2.5 km affected stretch of river Bheden was cleaned by the industry although ash deposit was visible in almost 18 km stretch of the river from the nallah of Katikela village to Hirma village . Beyond 18 km of the stretch ash deposit in the river bed could not be verified due to back water coming from Hirakud dam reservoir.

The ash evacuated from river bed was disposed of in the breached Lagoon -2.

8. Thus, as per the second report of OSPCB, although removal of ash from river bed was in progress no step was taken by the industry to remove ash from land area.
9. The official of State Pollution Control Board informed during the meeting that a team of Board Officials consisting of Sri N Mallick , R.O Sri R R Das AEE & Sri Ripu Kumar Sahu AEE conducted another inspection on 10.01.2019 to verify the present status of ash ponds Lagoon and low lying areas. The copy was handed over to the Court Commissioner. Important features mentioned in this report relating to ash pond Breach are as follows.
  - i. Total area of the ash ponds at Katikela is about 192 Ac divided into three lagoons namely Lagoon 1, Lagoon 2, and Lagoon 3.
  - ii. Most part of breached lagoon 2 which covers an area of 83 AC, is filled up from western side with pond ash as well as taking ash from Lagoon 1 & Lagoon 3 for preparation of benching and strengthening of common dykes between the Lagoons. Soil covering over the filled ash in the lagoon has been completed. Industry has submitted a proposal for remediation of breached Lagoon 2 and nearby ash spilled area. As per the proposal, the ash spilled open area will be graded & leveled with a proper slope, provision of drain and protection bund all along the periphery of ash spilled area to drain out the surface run off during rain and channelizing to decantation pond. In addition, the benching will be provided with proper drainage at the breached portion of Lagoon 2. The entire area will be covered with clay liner and soil layer.
  - iii. At present, industry has not taken any steps to remove ash lying in the affected areas near Katikela village. It is still lying over the area.

- iv. No ash slurry was being discharged to river Bheden during inspection by the OSPCB team.
  - v. Industry has constructed nine check dams (06 stone masonry and 03 earthen) in the streams and nallah carrying water from affected area into the river Bheden during monsoon.
  - vi. No contaminated water or seepage water was being discharged to river or nallah from Katikela ash pond area.
  - vii. The team observed that in the stretch of river Bheden starting from the Katikela village nallah (through which ash was discharged) to Hirma village, which is about 18km, no deposit of ash was found. However, because of back flow of water from Hirakud reservoir, entire affected stretch of river could not be verified by the team.
10. After such elaborate discussion it was decided by the Court Commissioner to visit the site, along with the officials from district Administration, Regional Pollution Control Board and Vedanta limited, of breached Lagoon 2 of the ash pond in Katikela & affected areas as well stretch of river Bheden to assess the present position.
11. The Commissioner reached the Lagoon 2 site and observed the status of the lagoon 2 in respect to extent of the breach, presence of ash slurry, if any, in the lagoon, leakage, seepage or flow of slurry, if any, and status of the nallah flowing along side of dyke and meeting river Bheden, restoration and remediation of breached Lagoon 2, if any. (Photo 4, 5, 6 & 7)

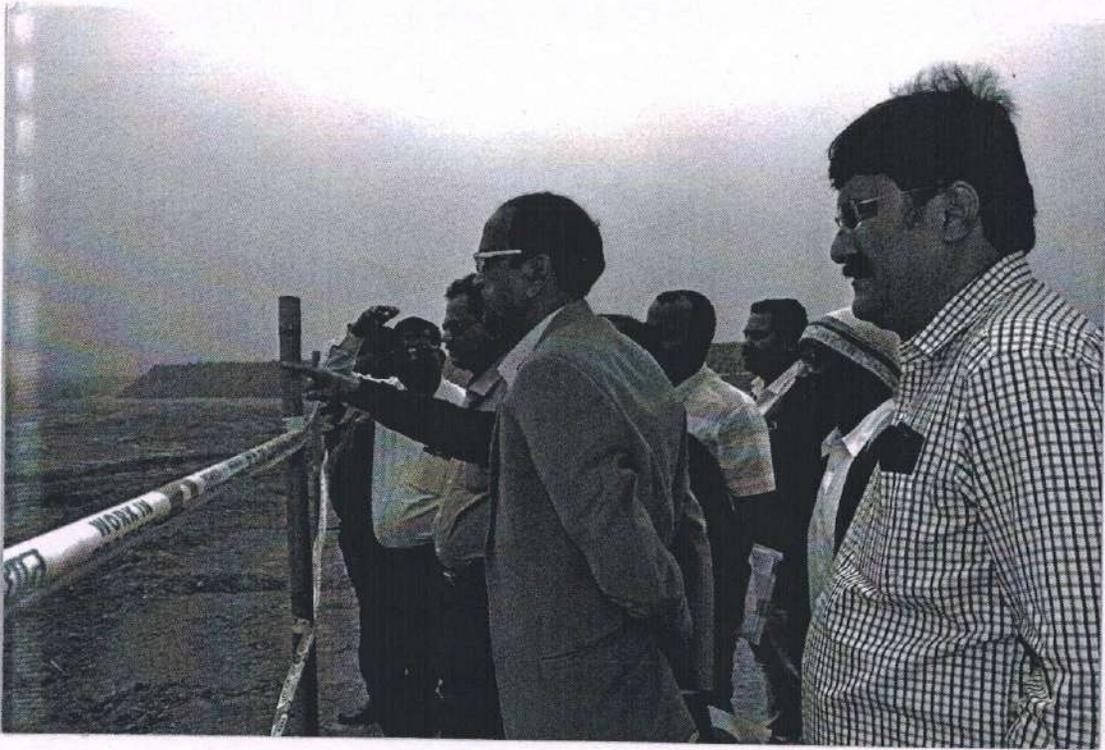


Photo 4: Breached lagoon 2



Photo 5: Examining the record

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Photo 6: Breached lagoon 2



Photo 7: Breached lagoon 2

12. As the inspection could not be completed on 28<sup>th</sup> January 2019, it was resumed on the next day i.e. 29.01.2019

13. On 29.01.2019 the Court Commissioned accompanied by the officials reached the site at 10: 00 AM and assessed the present position in respect to the following.

- i. Open area, both Agricultural and non agricultural land with ash deposit & crop damage if any,
- ii. Uprooting of trees, if any,
- iii. Crop loss/damage, if any,
- iv. Step taken by the industry to remove the ash from the land,
- v. Steps taken by industry to prevent ash water flow to the river during monsoon from breached lagoon and open areas,
- vi. Status of village pond as reported by OSPCB, which was covered by ash
- vii. Extent of excavation / removal of ash deposit from river bed of river Bheden,
- viii. Disposal and management of excavated ash from river Bheden,
- ix. Present state of environment of deterioration in the area due to ash pond breach

14. The Court Commissioner made spot inspection on the village side of the breached dyke, nallah alongside the breached dyke, meeting point of nallah with the river and walked on the river bed in the upstream where ever accessible. During the visit some villagers of village Katikela came and requested to hear them. They told about the problems of damage of their crop fields, uprooting of some trees, air pollution, and ash water flow to river. They wanted the Court Commissioner to visit their village and listen to other villagers which was politely denied by the Court Commissioner as the village

has not been affected due to the breach.(Photos 8-17).After the field visit ,the Commissioner conducted a meeting in the Hotel to seek further information based on records available .



Photo 8: Visit to the Katikela village side



Photo 9: Discussion with Villagers



Photo 10: Inspection of river bed



Photo 11: Ash deposit in open land

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Photo 12: Check dam in the nallah

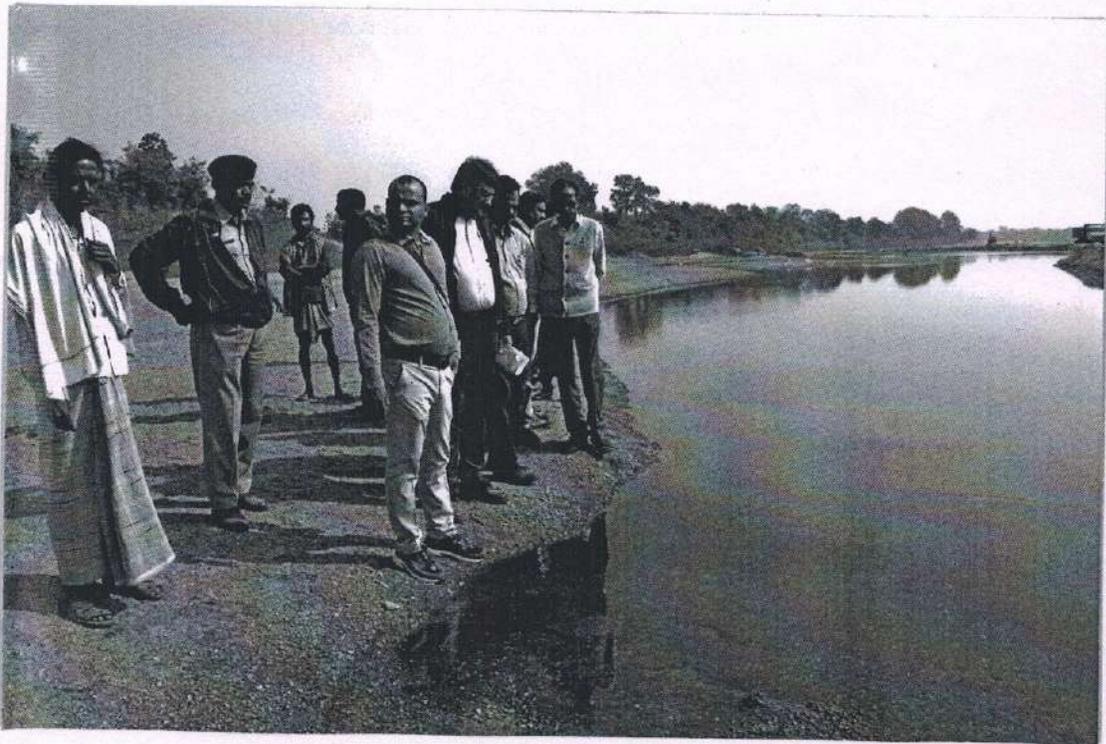


Photo 13. Clean river water near in the down- stream near discharge point



Photo 14: River bed near Kherual bridge site showing algal growth

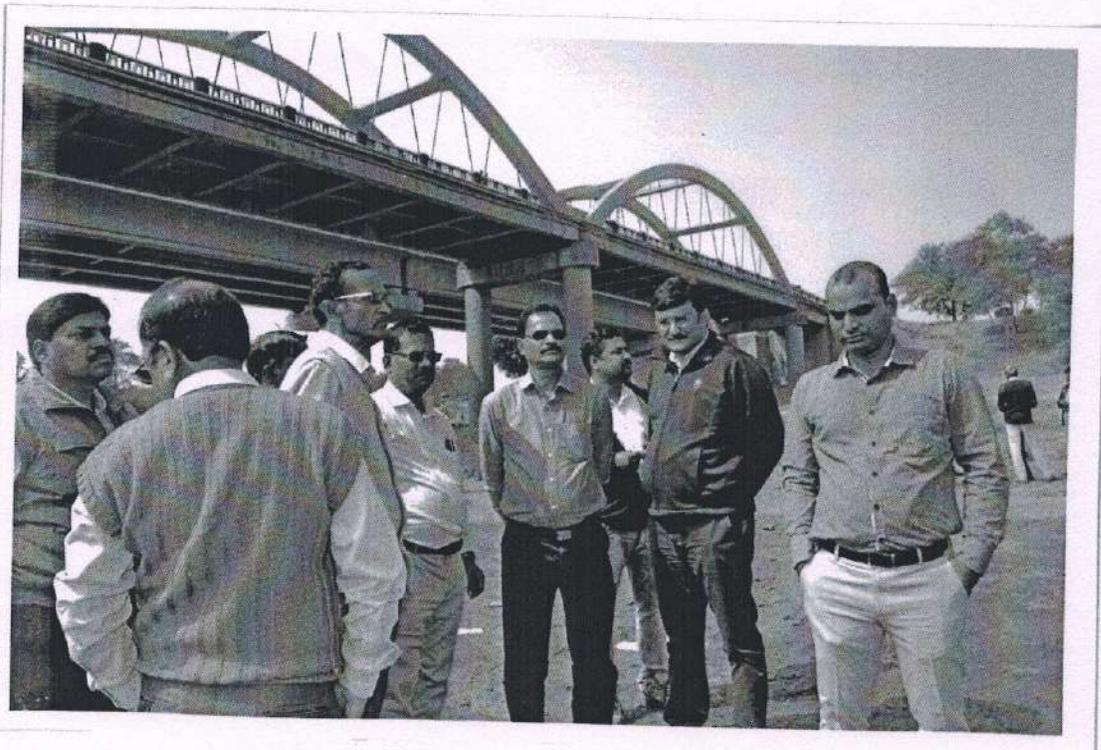


Photo 15: Discussion at Kherual bridge site

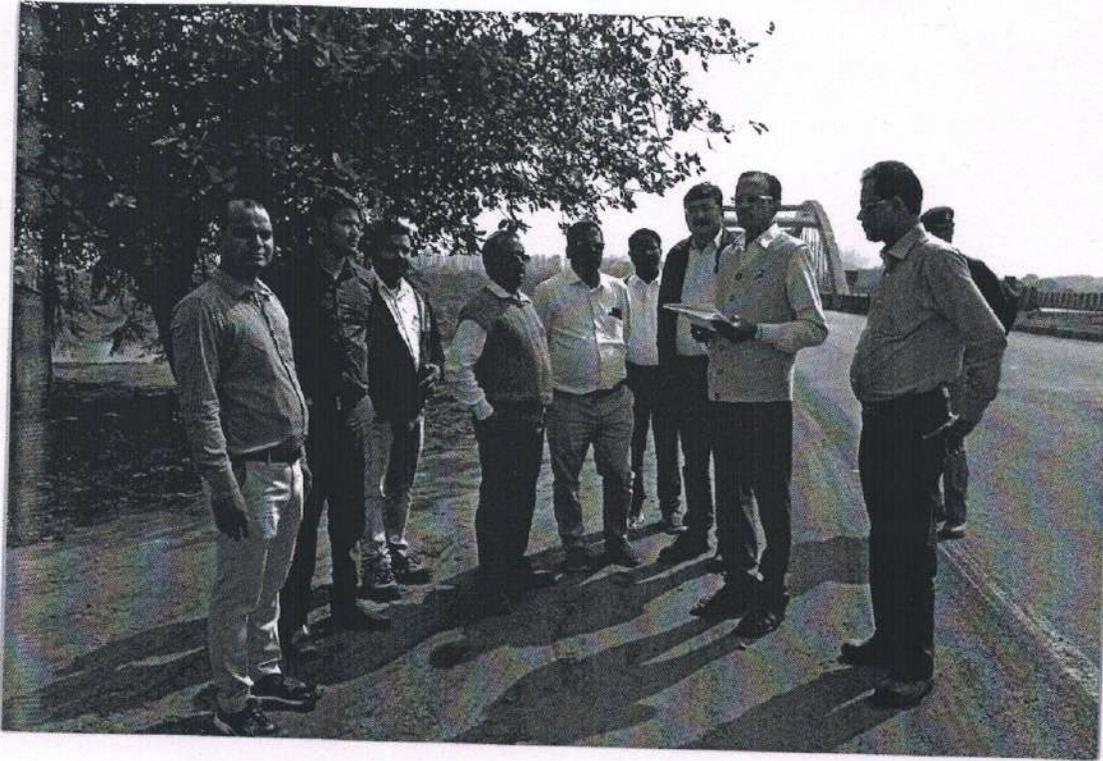


Photo 16: Discussion at Kherual bridge site

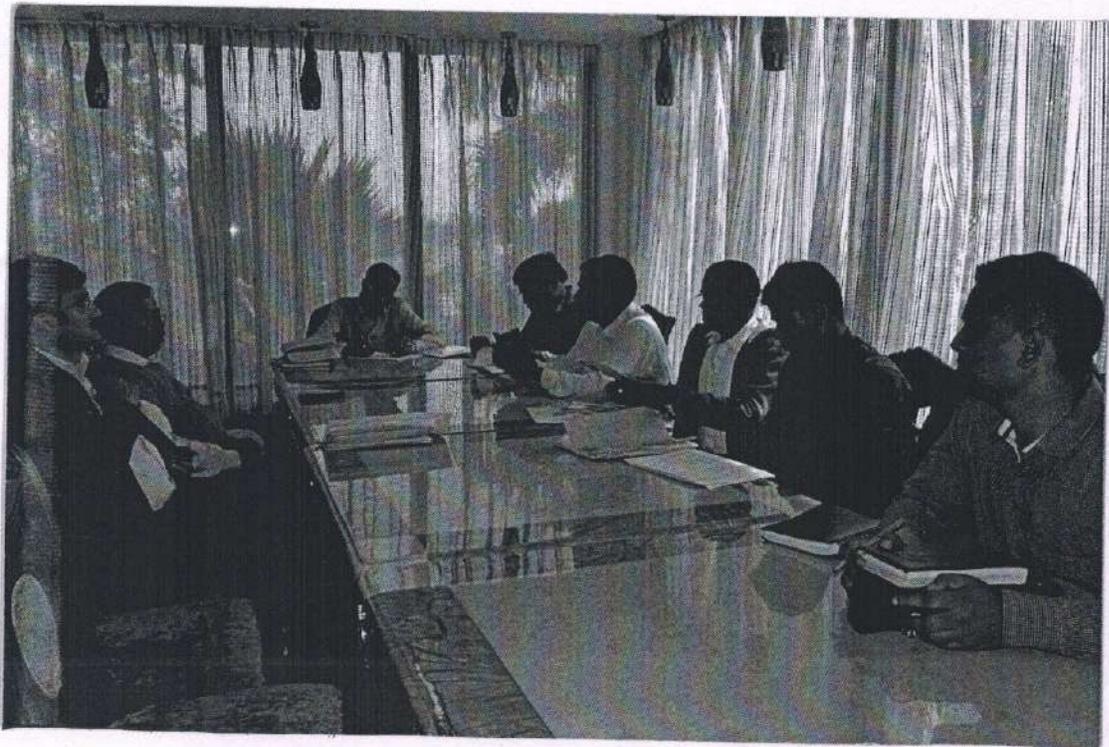


Photo 17: Meeting with officials after field visit

**Observation of the Court Commissioner(based on field visit ,available record and discussion)**

- 1.The eastern side of the Lagoon 2 of Katikela ash pond was completely breached to the extent of 800 m. The Lagoon 2 is now completely dry and not being used for any purpose. The Commissioner was informed that excavated ash from River bed was transported and deposited in lagoon 2.Part of the ash slurry spilled from the lagoon 2 got deposited in open areas in the open areas between the breached dyke and village boundary.
- 2.The nallah which is a storm water drain flowing alongside the breached dyke and drains to river Bheden is now fragmented due to construction of check dams in order to prevent washed out ash water coming from open areas during rain fall. At present it is dry.
- 3.With regard to use of Lagoon 2 ,the proposal of the industry for its further use as ash pond has been denied by MOEF & CC .The Industry submitted a proposal for remediation and restoration of Lagoon 2 as well as open areas and has already made a presentation before the State Pollution Control Board. The Consent from the State Pollution Control Board is awaited.
- 4.In the ash spilled area of 115 AC open land ,on excavation of ash has been undertaken as the consent is awaited from Pollution Control Board.It may be pertinent to mention that out of 115 acre of open area where ash has been deposited ,65 Ac is non agriculture land owned by the Industry and rest are agriculture land owned by villagers as per revenue records. Whole area of 115 Ac now looks like waste land .During 2017-18 with the intervention of district administration the industry has paid compensation to almost 95% of the agriculture land owners for crop loss and paid Rs.50,000/-per ac for ash removal. However ,no ash has been removed by the land owners. In the mean time ,the industry has purchased /acquired about 25 Ac of agriculture land. It

may be better to acquire rest of the land as it may be impractical for individuals to remove such huge quantity of ash and make the land suitable for agriculture.

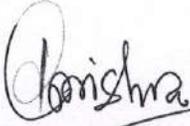
5. On the allegation of uprooting of trees in the open area no record is available with the district administration about the density and variety of trees. However, looking to the variety of trees standing in the boundary of the river and from discussion with the villagers, the Commissioner is of the view that very few trees of Mango, Neem and Mahul and a large Peepal tree have been uprooted.

6. With regard to the status of a village pond alleged to have been covered with ash, the Commissioner visited the spot and did not find any trace of a pond structure. Even the existence of such pond was not found in the revenue record. It was a low-lying area and when ash slurry got deposited there, it gave an impression of a pond.

6. The Commissioner visited the river bed of river Bheden from the slurry discharge point i.e the meeting point of Nallah with the river towards upstream, where ever accessible, till Kherual Bridge site and then the Hirma village, through which the river flows, to examine the extent of ash removal. The river distance from discharge point to Hirma village is approximately 12 Km according to GPS and there is complete removal of ash from the river bed. As river Bheden meets river Ib after 3-4 km from Hirma Village and river IB ultimately falls in Hirakud Dam Reservoir, there is back water flow making the river bed inaccessible beyond Hirma Village. On examination of river bed at Kherual Bridge, algal growth was observed, an indication of favourable environment for plants and animals.

7. Since a huge quantity of ash has been deposited in the open area since August 2017 and during the two rainy seasons much ash water might have percolated down to reach the ground water, it may be desirable to undertake a study on ground water quality by Central Ground Water Board to assess the

presence of toxic elements like Arsenic ,Mercury etc., if any, in ground water in the locality. In the event of its presence beyond permissible limit ,appropriate measures may be taken. Similar studies may be undertaken to study the water and sediment biodiversity in river Bheden and river Ib to assess the impact of ash deposit ,if any ,on flora and fauna.

  
31/1/2019  
Prof.Pramod Chandra Mishra