



PROGRESS REPORT

(VOLUME I)

Of

**The Committee of Experts Constituted by the
Hon'ble National Green Tribunal
Principal Bench, New Delhi**

Headed by

JUSTICE BROJENDRA PRASAD KATAKEY
Former Judge, Gauhati High Court

Dated

October 31, 2020

**Constituted vide Order dated 24.06.2020 passed in OA 43/2020/EZ & OA 44/2020/EZ to
look into the issues concerning Well Baghjan-5 in Tinsukia District**

INDEX

Chapter	Particulars	Pages
A	Introduction	1-2
B	Methodology	3-6
C	Actions taken by the Committee of Experts I. Preliminary Report dated 24.07.2009 II. Order passed by the Hon'ble NGT III. Summary of Key Deliberations of the Committee IV. Submission of First Interim Report	6-11 6-8 8 8-10 10-11
D	Findings I. Infraction of Environmental Laws II. Health Assessment Survey III. Culpability of Oil IV. Ongoing Assessment of Environment and Bio-Diversity of the Affected Landscape V. Status on the Issue of Compensation to the Affected Families	11-42 11-18 18-19 19-24 25-39 40-42
E	Initiatives Taken For The Affected Families Of Baghjan	42
F	Recommendations	42-44
G	Conclusion	44-45

A. INTRODUCTION

1. Well Baghjan-5, located in Doomdooma Revenue Circle of the district of Tinsukia was started by OIL on 20.11.2006 and successful drilling on target was completed on 12.03.2007. However, a blowout on 27.05.2020 and a subsequent explosion on 09.06.2020 in Well Baghjan-5 led to filing of O.A No.43/2020/EZ titled Bonani Kakkar -Vs- Oil India Limited & Ors. and O.A No.44/2020/EZ titled Wildlife and Environment Conservation Organisations -Vs- Union of India & Ors before the Hon'ble National Green Tribunal (hereinafter referred to as Hon'ble NGT). The Applications inter-alia raise allegations of failure and negligence on part OIL amongst other Respondent Authorities in preventing the blowout and mitigating its impact.

2. In response to the aforesaid Applications, the Hon'ble NGT vide its Order dated 24.06.2020 constituted the present Committee of Experts under the Chairmanship of Justice Brojendra Prasad Katakey to examine the following aspects namely:
 - i) *Cause of gas and oil leak ;*
 - ii) *Extent of loss and damage caused to human life, wildlife, environment ;*
 - iii) *Damage and health hazard caused to the public ;*
 - iv) *Whether any contamination has been caused to water, air and soil of the area of the oil well and its vicinity ;*
 - v) *Extent of contamination of water of the Dibru River due to the oil spill ;*
 - vi) *For the purpose of (iv) and (v) above, it may be necessary to get the air quality monitored and, samples of soil and ground water of the area as well as the water of river Dibru downstream of the oil spill tested ;*
 - vii) *Impact on the eco sensitive zone of the Dibru-Saikhowa National Park and Maguri-Motapung Wetland ;*
 - viii) *Impact on agriculture, Fishery and domestic animals in the area ;*
 - ix) *Whether there were any mitigation measure put in place by OIL to offset the incidents such as the one in question ;*
 - x) *Persons responsible for the fire incidents and the cause of failure to prevent the incident ;*
 - xi) *Assessment of compensation for the victims and cost of restitution of the damage caused to property and the environment ;*
 - xii) *Preventive and remedial measures ;*
 - xiii) *Any other incidental or allied issues.*

3. Till date, the Committee has submitted two Reports i.e. a two volume Preliminary Report dated 26.07.2020 and an Interim Report dated 01.08.2020, the findings and recommendations of which are stated below, in compliance of the mandate given by the Hon'ble NGT. It be noted that vide Order dated 06.08.2020, the Hon'ble NGT had directed the Committee to submit its Final Report before 03.11.2020.

4. The Committee, however, regrets to inform that until the submission of this Report, all efforts to douse the fire have remained unsuccessful. Consequently, even after the lapse of 136 days from the date of the blowout, the fire continues to burn. Under such circumstances, the Committee is of the unanimous view that a long-term impact of the traumatic event of the blowout and the explosion, both on communities and environment, becomes critical and necessitates an exhaustive assessment in order to conclusively answer the Terms of Reference. Such long-term impact assessments underscore both the importance of longitudinal care of the affected individuals & villagers and in drawing up remedial and preventive measures for conservation of the environment, its ecosystem and habitats. It is respectfully stated therefore that this report may be treated as a status update reporting on the progress, assessment and findings of the Committee till date. The contents of the Report are based on multiple deliberations and discussions with stakeholders and site visits carried out both by members of the Committee and experts/ resource persons inducted into the Expert Committees as discussed below.

B. METHODOLOGY

- (1) The contents of this Report are based on multiple stakeholder deliberations and discussions combined with site visits carried out both by members of the Committee and experts/resource persons inducted into the Expert Committees as discussed below. The Committee since the submission of the Preliminary and Interim reports have been undertaking its deliberations through telephone and videoconferencing on a regular basis. This has enabled the Committee to report critical progress in order to initiate further follow-up so that a substantial portion of the mandate may be completed before the next date of hearing.
- (2) The Committee has continued its interactions and consultations with several stakeholders including representatives of the local communities such as the *Baghjan Gaon Milonjyoti Yuba Sangha*, environmental action groups and NGOs with domain expertise such as Aaranyak etc. Additionally, the Committee has been engaging with OIL to furnish their views and submissions with regard to the questions that are subject matter of the present reference. Further, the Committee has been engaging with the Government of Assam, specifically the Department of Environment and Forest, the Central Pollution Control Board, Pollution Control Board, Assam, Assam State Biodiversity Board and will continue to engage with these stakeholders. The information gathered till date including a detailed health survey of the affected families and aquatic habitat, air, water and soil analysis received from stakeholders such as OIL form the basis of the discussions contained in Chapter D onwards of this Report.
- (3) During the course of the Committee's deliberations and consultations, multiple reports have been furnished to the Committee by the various stakeholders including OIL. These include Reports from IIT, Guwahati; CSIR – NEIST, TERI, In House Monitoring report by OIL, Reports of the One-Man Commission constituted by the Government of Assam including the M.K Yadava Committee Reports, Environment Management Plans of DSNP etc., all of which form the basis of discussion contained in Chapter D onwards of this Report.
- (4) The Committee as mentioned in the Preliminary Report constituted a Multidisciplinary Committee to ascertain the impact on the eco-sensitive zone of the Dibru-Saikhowa National Park and Maguri-Motapung Wetland and assess the impact on agriculture, fishery, aquatic habitat, domestic animals, grasslands etc. in the neighbouring area. Members of the Committee of Experts including the newly constituted Multidisciplinary Committee under the leadership of Professor B.P Duarah have visited the site on multiple occasions. The composition of the Multidisciplinary Committee is as follows :

MULTIDISCIPLINARY COMMITTEE

Chief Coordinator: Prof. Bhagawat Pran Duarah, Department of Geological Sciences,
Gauhati University

Co-ordinator: Member Secretary, Pollution Control Board, Assam

Nodal Officer: Mr. Pankaj Nagbanshi, ACS
Additional Deputy Commissioner, Tinsukia

Expert	Discipline/Area	Study/Investigation Area
(a) Prof. Prasanta Kumar Saikia HOD, Dept. of Zoology Gauhati University (b) Dr. Mazedul Islam State Biodiversity Board, Assam (c) Wildlife Institute of India (d) Aaranyak	Wildlife and Biodiversity (Fauna)	Effects on fauna – mammals, invertebrates, reptiles, butterfly, birds, water birds, etc. & restoration plan
(a) Dr. Gajen Chandra Sarma Curator (Retd.) Department of Botany Gauhati University (b) Prof. Nilakshee Devi Department of Botany Gauhati University (c) Dr. Pranjal Bezbarua Research Associate Committee of Experts	Biodiversity (Flora and microorganisms)	Loss of plants (lower and higher groups), algae, phytoplankton, soil microflora, etc. Effects on grassland, plants, horticulture, microorganisms, etc.
(a) Dr. Rajib Rudra Tariang Head, Department of Zoology Digboi College	Butterflies and Insects	
(a) Dr. Jihosue Biswas Primate Research Centre NE India. House No. 4, Byelane No.3, Ananda Nagar, Pandu, Guwahati 781012	Mammals	
Prof. Dandadhar Sarma Dept. of Zoology, G. U.	Fishery & Wetland Ecology	Loss of productivity, fishes, aquatic insects, etc. Restoration plan if required

<p>(a) Dr. Asad Rahmani Member, Governing Board Wetlands International South Asia</p> <p>(b) Dr. Ritesh Kumar Director, Wetlands International South Asia</p>	Wetland Ecology	
Dr. Ranjan Kumar Das Department of Geography Tinsukia College, Tinsukia	Grassland and Wetland Birds and their Habitat	Assessment of impact on grassland and wetland birds and their habitat
<p>(a) Prof. B.C Choudhury Wildlife and Wetland Biologist</p> <p>(b) Dr. Ranjita Bania Fisheries Biologist</p>	Fisheries, Wildlife and Wetland Ecology	
Prof. Bhagawat Pran Duarah Dept. of Geological Sciences, G. U.	Mapping of affected areas, Hydrology,	Mapping of oil spill & affected areas, Well & Blowout related investigations, if required.
To be conducted by the Officials of the Department of Health of Tinsukia district, Assam under the supervision of DC, Tinsukia.	Impact on Human Health	Assessment of Health of the affected people
Dr. Manidipa Baruah Department of Psychology Gauhati University	Psychological and Mental Health	Assessment of Psychological and Mental Health among the affected people.
To be conducted by the Officials of the Veterinary Department, Tinsukia under the supervision of DC, Tinsukia.	Impact on the livestock	Assessment of impact on livestock
<p>(a) Dr. Ratul Mahanta Dept. of Economics, G.U.</p> <p>(b) Local experts / Volunteers identified by Dr. Mahanta, if required</p>	Socioeconomic Study	Assessment of loss of agriculture, horticulture, house property, etc.
<p>(a) Dr. Sourabh Barua Chief Scientist, CSIR NEIST, Jorhat</p> <p>(b) Wildlife Institute of India</p>	Seismicity	Micro-tremor & their effects on wildlife, buildings and residents

(a) Director CSIR- NEIST, Jorhat (b) CSIR- NEERI (c) Regional Office of the Director, CPCB, Shillong (d) Officials of PCB, Assam (e) Wildlife Institute of India	Water and air quality, Noise Pollution	Assessment of water and air quality – Estimation, distribution & mapping of blowout & burning related pollutants
(a) Director CSIR- NEIST, Jorhat (b) CSIR- NEERI	Soil quality	Assessment, distribution & mapping of soil pollutants related to Blowout & burning, soil reclamation plan
(a) Representative of Dept. of Forest, Govt. of Assam (b) Aaranyak (c) Wildlife Institute of India	Forestry	Restoration plan for degraded land, forests, Dibru-Saikhowa National Park, etc. if required

N. B: - Column 3 may be modified and confirmed by the respective expert/expert group. If there are uncovered areas, more experts may be added in the list.

C. ACTIONS TAKEN BY THE COMMITTEE OF EXPERTS

(I) Preliminary Report dated 24.07.2009

- (1) In compliance with the Order dated 24.06.2020 passed by the Hon'ble NGT, a Preliminary Report in two Volumes was submitted on 24.07.2020 which reported a set of preliminary findings and recommendations for consideration of the Hon'ble NGT. The Preliminary Report cited deficiencies in understanding technical operations such as removal of BOP; lack of adequate planning, management and supervision by the Contractor and OIL as the probable cause of the blowout and explosion. Further, based on primary evidence as furnished by OIL and PCB, Assam; the Report conclusively inferred that OIL did not have the mandatory Consent to Establish and Consent to Operate both under Section 25 & 26 of the Water (Prevention & Control of Pollution) Act, 1974, under Section 21 of the Air (Prevention & Control of Pollution) Act and the Rules framed thereunder and/or the authorization under Rule 6 of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016, either when it first started its drilling operations in Well Baghjan No.5 in 2006, or on the day of the blowout of Well Baghjan No.5 i.e.

27.05.2020 and subsequent explosion on 09.06.2020. Infact, it be stated herein that OIL, till date, does not have the required Consent to Establish and/or Consent to Operate to either carry out drilling and testing of hydrocarbons in the 7 locations under the DSNP Area under Section 25 & 26 of the Water (Prevention & Control of Pollution) Act, 1974, under Section 21 of the Air (Prevention & Control of Pollution) Act and the Rules framed thereunder and/or the authorization required under Rule 6 of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016.

Interim Measures and compensation

(2) Further, the Preliminary Report suggested certain interim measures including preventive steps to avoid similar blowouts and explosions, setting up multidisciplinary team comprising of experts on wetland ecology, hydrology, fisheries, water birds' specialists to formulate remedial measures for conservation of the ecology. The Preliminary Report also recommended a set of health safeguards for the survivors in the relief camps along with interim compensation to the affected families based on three categories namely;

- (i) Those whose houses have been completely gutted by the fire thereby causing grave injury to life and health, loss of livelihood, cultivable land, livestock, damage to standing crops and horticulture, fisheries etc.
- (ii) Those whose houses have been severely damaged, thereby causing grave injury to life and health, loss of livelihood, cultivable land, livestock, damage to standing crops and horticulture, fisheries etc.
- (iii) Those whose houses have been moderately / partially damaged or whose standing crops, trees etc. have been moderately/partially damaged thereby causing injury to life and health, loss of livelihood, cultivable land, livestock, damage to standing crops and horticulture, fisheries etc.

The scale of interim compensation as formulated by the Preliminary Report is as follows :

Category (i) – Rs.25 Lacs

Category (ii) – Rs.10 Lacs

Category (iii) – Rs. 2.5 Lacs

(3) The Report suggested inter-alia that one-time compensation amount of Rs. 25 lacs will be released immediately to all the affected under Category (i) mentioned above. While for Category (ii), the amount of Rs. 10 lacs would be released immediately within an outer limit

of 15 days. The compensation amount shall be deducted from the aforesaid amount of interim compensation. For the affected people in Category (iii), the disbursement of the amount would be completed expeditiously within an outer limit of 45 days from the passing of the order by the Hon'ble NGT for interim compensation. The interim compensation would be borne by OIL and would be paid out of the funds already made available by it to the District Administration.

One-time compensation

- (4) The Report also provided for one-time compensation amounting to Rs.30,000/- for those who had shifted to the relief camps on 27.05.2020 and amounting to Rs.25,000/- for those who had shifted to the relief camps on 09.06.2020 by way of direct bank transfer from the district administration. The Report also recommended that a health insurance policy including COVID-19 be made available to the affected individuals and families within 7 days of the Hon'ble NGT passing order for interim compensation.

(II) ORDER PASSED BY THE HON'BLE NGT

- (5) The Preliminary Report dated 24.07.2020 submitted by the Committee of Experts was taken on record by the Hon'ble NGT vide Order dated 29.07.2020. The matter was deferred to 06.08.2020, on request of counsel for OIL so as to enable OIL to file its submission in response to the Preliminary Report. Subsequently, the Hon'ble NGT vide its Order dated 06.08.2020 accepted the recommendation for compensation for three categories of victims with the clarification that the compensation already paid be taken into account and excluded from the interim compensation recommended by the Committee. The Hon'ble NGT also accepted the recommendation for one time compensation to families who have moved out of the relief camps after the blowout on 27.05.2020 and to families who have shifted to the relief camps after explosion on 09.06.2020.
- (6) The Order provided that other interim recommendations of the Committee be complied with to the extent there is no dispute, subject to a call being taken by the concerned statutory authorities and finally by the Hon'ble NGT on the next date. The Committee of Experts was requested to submit its final report before the next date of hearing which is 03.11.2020.

(III) SUMMARY OF KEY DELIBERATIONS OF THE COMMITTEE

- 1) The Committee since the submission of the Preliminary and Interim reports have been undertaking its deliberations through telephone and videoconferencing on a regular basis. This has enabled the Committee to report critical progress in order to initiate further follow

up so that a substantial portion of the mandate may be completed before the next date of hearing. This section presents a short overview of some of the key deliberations of the Committee.

- 2) The Committee met virtually on 10.08.2020 to discuss the follow up action following the Order dated 06.08.2020 passed by the Hon'ble NGT post the submission of the Preliminary Report. The meeting focused on four key areas of deliberation including the assessment of damages to the ecology and monitoring of health conditions of affected individuals. The members of the Committee agreed that primary data must be gathered to assess extent of environmental damage, for which ambient air, water, soil & noise levels may be monitored in and around the site for adequate duration. In view of the expertise available and also restriction of movement due to pandemic, it was recommended that North East Institute of Science & Technology (CSIR-NEIST) may be requested to conduct the monitoring in association with National Environmental Engineering Research Institute (CSIR-NEERI). The modalities for the health impact assessment were discussed and the Member Secretary, PCB, Assam was entrusted to identify local health experts, preferably from Government Hospitals/Institutions.
- 3) A subsequent meeting of the Committee was organized on 19.08.2020 to discuss specifically the formation of the Multidisciplinary Team comprising of community members including experts on wetland ecology, hydrology, fisheries to formulate a restoration plan for the Maguri Motapung wetland. Apart from the Committee members, the meeting also invited the participation of the Shri M.K. Yadava, IFS, Addl. PCCF and Chief Wildlife Warden, Government of Assam, Shri K.S.P.V. Pavan Kumar, IFS, Addl. PCCF (P&D) and Member Secretary, Assam Biodiversity Board.
- 4) Further, on 22.09.2020, another meeting was convened by the Committee which saw the participation of Shri K.S.P.V. Pavan Kumar, IFS, Addl. PCCF (P&D), Shri Y. Suryanarayana, IFS, Addl. PCCF (Afforestation) and Chairman, PCBA, Aaranyak and WWF-India. Several significant decisions were made with regards to the setting up of a multidisciplinary committee. The framework for the health impact assessment was formulated and it was agreed that the impact assessment would primarily study how human health has been impacted and the effects on the wildlife and aquatic habitats. Reports of the Deputy Commissioner pertaining to the modalities of compensation were also discussed. It was clarified that as per the reports, the Office of the Deputy Commissioner, Tinsukia assessed the Baghjan village and identified the affected individuals and families, which included 57 families whose properties have been completely gutted/damaged and 543 families whose lives have been severely impacted, they being within the radius of 0 to 1.5

Km from the site of the incident. The Report further suggested that the 57 families identified by the DC/District Magistrate, Tinsukia be included in Category (i) and paid Rs. 25 Lakhs each as interim compensation. Additionally, Category (ii) and (iii) ought to be merged and the interim compensation be enhanced to 15 Lakhs INR and disbursed among the 543 families having been the worst sufferers.

- 5) A joint meeting was convened between the members of the Committee, the Multidisciplinary team through virtual medium. The members came to a unanimous consensus that the submission of the final report before 03.11.2020 may not be possible since the source of damage is still operating at the blowout site. Dr. Qureshi from WII suggested streamlining of work between the two teams to avoid duplicity and cautioned that the scientific data collection will require time since the source of damage is still operating and final report is only possible when the source of damage comes to an end. It was also suggested by Dr. B.C. Choudhury that OIL should make all out efforts for containment of the blowout, since it is the first priority to control the source of damage.

It is pertinent to note herein that the Deputy Commissioner, Tinsukia vide Letter No. TCA.03/2020/752 dated 15.09.2020 addressed to the Chief Secretary, Government of Assam stated that the diversion of flow of gas had been successfully executed on 13.09.2020 from the well head to Baghjan EPS as well as two flare pits. It has also been stated that the auxiliary flare was subsequently shut and the flaring has been diverted through the primary flare only. **As such, the Committee is of the considered view that OIL be directed by the Hon'ble NGT to take urgent measures to control the flare.**

(IV) SUBMISSION OF FIRST INTERIM REPORT

- (1) After the Order dated 06.08.2020 passed by the Hon'ble NGT, certain circumstances arose regarding amendment to the modalities of payment of interim compensation to the affected individuals and families, which necessitated the submission of an Interim Report by the Committee of Experts on 01.09.2020. These circumstances leading to the submission of the Interim Report will be discussed in detail in **Chapter D (V)** of this Report. The Interim Report made the following recommendations for urgent consideration of the Hon'ble NGT at p. 11 of the Report. The aforesaid recommendations are reproduced hereinbelow :

- (a) 57 families identified by the DC/District Magistrate, Tinsukia be included in Category (i) and they should be paid Rs. 25 Lacs each as interim compensation;*
- (b) 543 families as identified by the DC/District Magistrate, Tinsukia be included in Category (ii) and they having been the worst sufferers, the payment of interim compensation to those families may be enhanced to Rs. 15 Lacs.*

(c) *The compensation, if any paid, shall be deducted from the aforesaid interim compensation.”*

D. FINDINGS

I. INFRACTION OF ENVIRONMENTAL LAWS

(i) CONSENT TO ESTABLISH AND CONSENT TO OPERATE

(a) Statutory obligations mandate that all onshore oil drilling projects adhere to strict compliance of obtaining consent under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 (hereinafter referred to as the Water Act), the Air (Prevention & Control of Pollution) Act, 1981 (hereinafter referred to as the Air Act), and Authorization under the Hazardous Waste (Management & Handling) Rules, 1989 and the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.

(b) Based on a detailed analysis of records produced by OIL and PCB, Assam with respect to the projects pertaining to the Well Bahjan-5, the preliminary report noted flagrant violations of the procedure envisaged under Section 25 and 26 of the Water Act and Section 21 of the Air Act and Rule 6 under the Hazardous Waste (Management & Handling) Rules, 1989. From the face of the records before the Committee, it became evident that;

i) OIL had never procured and/or received any Consent to Establish / NOC and / or Consent to Operate under the aforesaid Acts and Rules in the manner prescribed for drilling operation of Well Bahjan-5 in 2006. Infact, OIL had never obtained any mandatory authorizations as required under the Acts and Rules other than what is stated below.

ii) OIL only had the mandatory consent under the Water Act and Air Act was approved by PCB, Assam for the years 2008-09, 2012-13, 2018-19.

For the years 2006-07, 2009-10, 2010-11, 2011-12, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, 2019-20, no consent has been issued by the PCB, Assam as per the records placed before the Committee. Thus, OIL had flagrantly and consistently violated the provision under the Water Act and Air Act except for the 3 years i.e. 2008-09, 2012-13, 2018-19.

iii) Further, the PCB, Assam and OIL were not able to place any CTE/NOC and/or CTO for any year including the year 2020 and/or for the Well

Baghjan-5. It was therefore inferred prima facie that on the day of the blowout of Well Baghjan-5 on 27.05.2020 and explosion on 09.06.2020, OIL did not have the mandatory consents including the CTE/NOC and/or the CTO under the Water Act, Air Act and/or the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016.

iv) Such omissions on the part of OIL meant clear violations not merely of the statutory mandate but also the conditions that have been stipulated under Clause 10 (iii) and (vi) of the Environment Clearance dated 11.05.2020 with respect to the Extension Drilling & Testing of Hydrocarbons at 7 locations under the DSNP Area, where the blowout and subsequent fire occurred with respect to Well Baghjan-5.

(c) Based on such findings, the Preliminary Report drew the following conclusion as stated below ;

... OIL does not have, till date, the required consent to establish and/or consent to operate to either carry out drilling and testing of hydrocarbons in Well Baghjan-5 under the DSNP Area, except for what has been stated in para 10 above. This indicates a serious and grave infraction against the statutory environmental safeguards, more particularly under Section 25 & 26 of the Water Act, Section 21 of the Air Act, the authorization under Rule 6 of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Environmental Clearance dated 11.05.2020 for the said project. This may therefore require scrutiny of all existing projects of OIL in the State of Assam to ascertain if they meet the mandatory requirements of obtaining consent / authorization under the aforesaid Acts and Rules. It is recommended that the Hon'ble NGT may also look into the activities of the PCB, Assam with regard to the grant of CTE / NOC and CTO for all the projects of OIL, presently in operation, in the State of Assam.

(d) Pursuant to such findings, the Committee sought further clarifications from PCB, Assam vide letter dated 18.08.2020, summoning all relevant documents pertaining to the status of the Consent to Establish and Consent to Operate under the aforesaid statutes pertaining to Well Baghjan No.5. In response vide their letter dated 21.09.2020, PCB, Assam placed a detailed summary chart titled "Consent Status of M/s Oil India Limited, Duliajan including Oil Well No. BGN-5 of Baghjan Oil Field

in Tinsukia District” which is appended hereto as **Appendix-A**. A bare perusal of the document makes it clear that the mandatory authorizations/consent had been “not granted” except for the years of 2007-2008, 2008-2009, 2012-2013, 2014-2015, 2018-2019. It can therefore be concluded that OIL had not been granted the mandatory Consent to Operate for drilling operation of Well Baghjan-5 in 2006-07, 2009-10, 2010-11, 2011-12, 2013-14, 2015-16, 2016-17, 2017-18, 2019-20. The document, therefore, clearly supports the conclusions drawn in the preliminary report and establishes the fact that OIL does not have the mandatory authorizations i.e. either the Consent to Establish / NOC and/or Consent to Operate under the Section 25 and 26 of the Water Act and Section 21 of the Air Act. Such omissions on the part of OIL amounts to a clear violation not merely of the statutory mandate, but also the conditions that have been stipulated under Clause 10 (iii) and (vi) of the Environment Clearance dated 11.05.2020 with respect to the Extension Drilling & Testing of Hydrocarbons at 7 locations under the DSNP Area, where the blowout and subsequent fire occurred with respect to Well Baghjan-5 as has been indicated in the Preliminary Report.

(e) The Committee therefore reiterates the conclusions drawn in the Preliminary Report and recommends that direction may be issued to the PCB, Assam to take appropriate legal action against OIL and its officials for violation of the mandatory requirements of the aforesaid Acts and the rules.

(ii) COMPLIANCE OR OTHERWISE OF ORDERS OF THE HON’BLE SUPREME COURT

- (a) As discussed in the Preliminary Report, the Hon’ble Supreme Court of India, vide an order dated 04.12.2006 in Goa Foundation vs. Union of India being W.P.(C) No. 460/2004, had mandated that under the Environment (Protection) Act, 1986, States should declare eco-sensitive zones (ESZs) around the protected areas to keep a check on their fragmentation that may result from industrial development. Accordingly, mining and most polluting industries were prohibited in these zones. The Hon’ble Supreme Court further ordered that till the States do not identify such ESZs, all the projects that require environment clearance and are within 10 km of a protected area boundary, including mining, would be allowed only after getting an approval from the National Board of Wildlife (NBWL).
- (b) Pursuant thereto, the Hon’ble Supreme Court, vide its Order dated 07.09.2017, I n R e T.N. Godavarman Vs. Union of India was pleased to relax the aforesaid prohibition in favour of OIL and granted conditional approval to OIL to undertake the present extraction of

hydrocarbons from the proposed wells including the Well Baghjan-5. As evident from the Order dated 07.09.2017, the relaxation granted by the Hon'ble Supreme Court necessitated compliance by OIL of the conditions which *inter-alia* included:

- i) OIL to carry out a Bio-diversity Impact Assessment study through Assam State Biodiversity Board, for which budgetary offer have already been obtained on 12.05.2017.
- (c) Based on the review of documents and records produced by both OIL and the Assam State Biodiversity Board, the Preliminary Report indicated a prima facie non-compliance *vis-à-vis* of conducting the Biodiversity Impact Assessment study as was mandated vide Clause 1 of the aforesaid Order passed by the Hon'ble Supreme Court. The observations read as under:

Neither OIL nor the Assam State Biodiversity Board have presented any Biodiversity Impact Assessment study that was undertaken after 07.09.2017. To a specific request for submission of all expert committee reports pertaining to DSNP and its biodiversity, the Assam State Biodiversity Board clarified that such Reports, if any, were available only with the Wildlife Wing of the Assam Forest Department, which administers the DSNP and the biological diversity contained therein under the Wildlife Protection Act, 1972. The statement of the Assam State Biodiversity Board thus implies in clear terms that Assam State Biodiversity Board was not approached by OIL to carry out a Biodiversity Impact Assessment. In fact, OIL, in their reply to the Committee's query has stated to have engaged the Institute of Advanced Study in Science & Technology to prepare Biodiversity Impact Assessment study. It is not clarified by OIL whether they had informed the Hon'ble Supreme Court before making such deviations. In any case, as on date, there appears to be no such Biodiversity Impact Assessment study, either prepared by the Assam State Biodiversity Board or any other agency engaged by OIL, on record, till date.

- (d) Pursuant to the findings of the Preliminary Report, OIL vide its letter dated 19.08.2020 has informed the Committee that it had awarded a contract to carry out the Biodiversity Study to the Institute of Advanced Study in Science and Technology vide OIL letter ref no. OIL/CONT/LOA/S/594/2018-19 dated 20.11.2018 with necessary permission from the Principal Chief Conservator of Forests (Wildlife) and Chief Wildlife Warden, Government of Assam vide ref Order No. 54 dated 28.02.2020. OIL has further submitted that the Institute of Advanced Study in Science and Technology vide letter No.IASST/1316/2019-20/103 dated

27.04.2020 had expressed their inability to carry out the Biodiversity study. A copy of the letter dated 19.08.2020 submitted by OIL is attended hereto as **Appendix-B**.

- (e) The Assam State Biodiversity Board has also informed the Committee that pursuant to the order dated 07.09.2017 passed by the Hon'ble Supreme Court, the Board have not conducted Biodiversity Impact Assessment. They have also filed their affidavit dated 05.08.2020 before Hon'ble NGT, Eastern Zone Bench, Kolkata in Case No. 04/2020/EZ and IA No. 34/2020/EZ to the affect that though the board sent a budgetary offer of Rs. 21.23 lakh for conducting such study to the Joint Manager (HSE) and Nodal Officer Oil India Limited, Duliajan on 12.05.2017, the OIL did not communicate anything in that regard thereafter. A copy of the said communication dated 21.08.2020 and the affidavit dated 05.08.2020 are appended hereto as **Appendix-C**.
 - (f) Further, it has not been made clear by OIL whether they had approached the Hon'ble Supreme Court of India to modify the said Order dated 07.09.2017 to the extent of having the Biodiversity Study conducted through the any other agency. The actions of OIL therefore stand in clear contravention of the directions of the Hon'ble Supreme Court granting conditional approval to OIL to undertake the present extraction of hydrocarbons from the proposed wells including the Well Baghjan-5.
 - (g) Therefore, as on date, **OIL has been unable to carry out the Biodiversity Impact Assessment Study either through the Assam State Biodiversity Board, as was mandated by the Hon'ble Supreme Court, a fact that stands corroborated by the Assam State Biodiversity Board, or by any other agency. Such actions place OIL in continuing contempt of the directions passed by the Hon'ble Supreme Court of India, specifically its Order dated 07.09.2017 granting conditional approval to OIL to undertake the present extraction of hydrocarbons from the proposed wells including the Well Baghjan-5.**
- (iii) **ENVIRONMENT PROTECTION ACT, 1986**
- a) As observed in the Preliminary report, it was *prima facie* inferred that OIL did not have the necessary Environmental clearance (hereinafter referred to as the EC) for Baghjan Petroleum Mining Lease (PML) when it became operational in 2003 under the then Environment Impact Assessment (EIA) Notification, 1994. OIL has submitted three ECs pertaining to the Baghjan oilfield, the first of which is dated 01.11.2011. To a query raised by the Committee of whether OIL had received any EC from the Ministry of Environment, Forest and Climate Change prior to 01.11.2011, OIL has stated that the EC dated 01.11.2011 was the first obtained by OIL from the Ministry of Environment, Forest and Climate Change for which the application was submitted in 19.11.2007. It is a stated position by OIL that their operations in Well Baghjan-5

had first commenced on 20.11.2006. Since the submission of the Preliminary report OIL has not placed any additional document to indicate if the mandatory EC was indeed obtained when it became operational in 2003. This leads the Committee to state conclusively that OIL had started the activities in Well Baghjan-5, 5 years prior to grant of EC by the Ministry of Environment, Forest and Climate Change, Government of India, which is mandatory. **The OIL therefore stands in contravention of the provisions of the Environment (Protection) Act, 1986 and the Environment Impact Assessment (EIA) Notification, 1994 under which it is mandatory to obtain EC for any onshore drilling projects before commencement of activities on 20.11.2006.**

- b) Further, verification of the general and specific conditions as stipulated under the various ECs under the Environment (Protection) Act, 1986 and the EIA Notification 2006, indicate serious violations by OIL with respect to the projects pertaining to the Well Baghjan-5. In fact, the EC dated 11.05.2020 were subject to the strict compliance *inter-alia* of the following conditions that;

(i)

(ii) *Drilling in the National park/Wildlife Sanctuaries are subject to the recommendations of orders of Hon'ble Supreme Court, recommendations of Standing Committee of NBWL, recommendations of the State Chief Wildlife Warden and strict compliance of the conditions imposed therein.*

(iii) *Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board.*

.....

(vi) *Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.*

The discussion under Section D. I. (i) and D. II. (ii) above clearly indicate a serious non-compliance by OIL in adhering to the strict compliance as mandated under the EC dated 11.05.2020 and more specifically the environmental safeguards envisaged under the aforesaid Acts and Rules. Such omissions amount to a clear contravention of the statutory mandate and

the conditions imposed thereon in granting approval and in continuing to carry out operations in extraction of hydrocarbons from the proposed wells including the Well Baghjan-5.

- c) The Committee has received multiple reports including those furnished by PCB, Assam and DC, Tinsukia. These reports provide a detailed record of the ambient noise level at different locations of the OIL blowout site at Baghjan at different time periods from the occurrence of the explosion on 09.06.2020 till date. These reports record a consistent increase in noise levels in and around the blowout site, with noticeable increase in sound beyond the prescribed standard irrespective of the zone. Initial reports of assessment made by the PCB, Assam dated 15.06.2020 indicate alarmingly high levels of ambient noise between 82.2 dB to 92.03 dB at a distance of 800- 200 meters respectively from the site of the OIL blowout. Infact, the noticeable increase in noise levels is evident from the report furnished by the PCB, Assam on 17.07.2020 which records ambient noise levels at 104 dB at a site located 50 meters from the Well Baghjan No. 5. Infact, ambient noise levels recorded on 07.10.2020 indicates continuing noise level recorded from a minimum of 94.3 dB to a maximum of 98.2 dB at sites within a 100-meter radius from the source. The reports of PCB, Assam and DC, Tinsukia are appended hereto as **Appendix D Colly**. The same stands corroborated by the Report furnished by TERI, as has been made available to the Committee by OIL, which notes as under:

...that the equivalent sound pressure levels (Leq) measured at 0.5. km from the well are exceeding the industrial noise level daytime standard of 75 dB (A) in all the monitored days except for few days.

The Noise Pollution (Regulation and Control) Rules, 2000 define the acceptable level of noise in different zones for both daytime and nighttime. In compliance with Rule 3 of the said Act, the area surrounding Well Baghjan No. 5 has been designated as both Industrial and Residential. The permissible limit for the area around Well Baghjan No. 5, as provided under the Schedule to the said Rules is stated to be as follows :

SCHEDULE

(see rule 3(1) and 4(1))

Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area / Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Based on the Reports received by multiple agencies, including PCB, Assam, it is evident that the ambient noise levels in and around Well Baghjan No. 5 are well above the permissible standards. It is therefore recommended that OIL be directed to take immediate and all other urgent measures to bring down the noise level within the limit prescribed under Rule 3(1) and Rule 4(1) of the Noise Pollution (Regulation and Control) Rules, 2000. Additionally, PCB, Assam may be directed to initiate appropriate legal action against the competent authorities of OIL under the provision of Rule 8 of the aforementioned Rules. Further, in the interim, a health fund may be generated by contributions made available by OIL, to be administered by the DC, Tinsukia, to defray the cost of treatment including any specialized treatment of any person(s) suffering from any ailment/condition/ illness due to the heightened noise levels. Such fund may be replenished from time to time as may be deemed necessary and appropriate by the DC, Tinsukia, which is appended hereto as **Appendix-D Colly**.

- (iv) Additionally, in this context, and as discussed in the Preliminary Report, the Committee seeks to draw attention to Letter No.B-29012/ESS (CPA) 2015-16 dated 07.03.2016 issued by the Central Pollution Control Board which classifies ‘Oil and gas extraction including CBM (offshore & on-shore extraction through drilling wells’ as Red Category industries and prohibits their operation in ecologically fragile areas/protected area. The aforesaid letter dated 07.03.2016 issued by the Central Pollution Control Board has been adopted by the State of Assam in the year 2019 vide Notification No. WG/G-1521/18-19/27 dated 04.05.2019. **Thus, the continuing extraction of hydrocarbons around the DSNP would qualify as a Red category project, having it been declared as an eco-sensitive zone (ESZ) and would place it in clear violation of the Notification No. WG/G-1521/18-19/27 dated 04.05.2019. Neither OIL nor PCBA have clarified their position before the Committee qua the inconsistency with the mandate given by the Central Pollution Control Board qua industries and extent of such non-compliance.**

II. HEALTH ASSESSMENT SURVEY :

- (i) The Committee directed the Deputy Commissioner, Tinsukia to carry out the health survey in respect of the persons living in the nearby villages of Well No. 5 Baghjan and also of the livestock, through the Joint Director of Health Services, Govt. of Assam and District Animal Husbandry and Veterinary, Tinsukia, Govt. of Assam, respectively. Assessment relating to the effect on the fish ponds and fishermen due to the blowout incident through the District Fishery Department Officer, Tinsukia, Govt. of Assam was also directed to be made.

- (ii) Pursuant to the said direction the process of conducting the health survey of persons effected and impact on livestock as well as the impact on fish pond and fisher man due to the blowout incident of Well No. 5 Baghjan is on and the final report in that regard is expected soon. Hence, final recommendation in that regard would be made by the Committee in its next report.

III. CULPABILITY OF OIL :

- i) The Committee in the Preliminary Report dated 24.07.2020 apart from the others made the following observation :

a) Cause of the Accident 1. *After going through the replies received from OIL to the queries raised by the committee and having reviewed the DPR from 20.05- 27.05.2020, prima facie, the Committee could identify, pending further investigation, the following probable causes of the accident i.e. blowout of Well Baghjan-5.*

(i) *There was a flaw in the operational plan. The decision to place a Cement Plug at a depth of 1000 Mtr in an inclined portion of the well (26 to 27 degree) as a secondary safety barrier itself was flawed. The cement plug should have been placed as near to the perforated Zone and in this case near to the Packer i.e. about 100 Mtr above packer by placing a 100 Mtr Sand plug above Packer to protect Packer from cement cutting falling during cement drilling.*

(ii) *Planned not to tag and test the Cement Plug was another flaw in the planning of Cement Plug job. It was planned to place 100 Mtr Plug but cement slurry surfaced during reverse circulation at a depth of 655 Mtr i.e. after pulled out of D/P by about 340 Mtr. Probably nobody read the cement plug job execution report of 27.05.2020. In such a situation, Plug should not only have been tagged and tested but also negatively tested to check its integrity of purpose as safety barrier before nipple down of BOP. This was a mandatory requirement as per the Standard Operating Procedure.*

(iii) *Moreover, when the cement slurry starts to set, slurry loses water and static gel develops. At this time, cement column would behave like water column and reduced Hydrostatic Head. Secondly, in static condition of gas well i.e. WOC time when well fluid was static, gas bubble enters slowly from the perforated zone and gas bubbles percolated up, and expanded and burst at surface. This process continued in static condition of well at a faster rate being well fluid was brine. Same phenomenon would have been*

little slow in case of viscous fluid like mud. But in the process, Sp gravity of fluid in the well was reduced slowly. In this well as cement plug was placed much above the perforated zone i.e. nearly 2700 Mtr. As a result, gas bubbles diluted a long column of brine solution in the well and so there was reduction of Hydrostatic Head of brine solution which was just above formation pressure of the perforated gas zone. The combination of gas bubble phenomenon and reduction of head due to long contaminated cement plug resulted reduction of Hydrostatic head in the well after 13-14 Hours of WOC and well became active. And as there was no tested secondary safety barrier in the well after removal of BOP, well slowly started flowing and within one and half hour or so final blowout of the Well Baghjan-5 took place. This is therefore, a reason to place cement Plug near to the perforated Gas Zone to work as secondary safety barrier.

- (iv) Against one of the queries raised by the Committee as to why it was not planned to set retrievable Bridge Plug (RBG) as a safety barrier in place of Cement Plug, OIL replied that use of Retrievable Bridge Plug is not in practice in OIL. The Committee found this to be surprising. SLB logging contract with OIL is in place, only needed a provision in contract to use Retrievable Bridge Plug as and when required basis. Such standard provisions in ONGC contract with SLB are there with well logging contract to utilize such services as and when required. Moreover, ONGC departmental Production Team also does this type of job departmentally. Setting of Retrievable Bridge Plug to isolate the Gas zone would have been more convenient and also time saving.
- (v) In the plan of cement plug job, it was mentioned WOC as 48 Hours. But in actual D/P were pulled out of casing after 12 hours of WOC and BOP was removed from well head after 15 Hours of WOC. This was a gross violation of written instructions of WOC of 48 Hours in the Plan. It is very hard to believe that Contractor Driller would act on his own to remove BOP after 15 hours of WOC against a written instruction of WOC of 48 hours unless Driller gets some instruction in writing or telephonically from someone from OIL.
1. From above discussions, it seems that Planning group and Execution team of OIL did not take the Cement Plug Job very seriously though it was placed as a secondary safety barrier before nipple down of BOP.

Probably, the planning group relied mostly on primary safety barrier i.e. hydrostatic head of well fluid which was sufficient to stop any activity and cement plug was just an additional barrier, even though it failed would not matter. Therefore, it was first decided by Planning Group to place the plug at a shallower depth inside the casing, testing of the plug to check its integrity was not planned considering it was not necessary. While execution of cement plug job also nobody bothered to watch how it was placed, cement slurry channeled and rose much more height than planned and cement slurry design for this plug job was also faulty. Only cement additive Retarder was used to give longer IST without control of water loss from cement slurry after placement. Vital parameter of Compressive strength was also not measured at BHCT (Bottom Hole Circulating Temperature) of 46 degree centigrade at plug depth of 1000 MT. So plug strength was not known.

2 So, in summary we find following probable reasons of this blowout :

- i) There was deficiency in understanding of the gravity of a critical operation like removal of BOP without having a confirmed and tested secondary safety barrier.*
- ii) There was deficiency in proper planning of critical operations. There was a clear mismatch between Planning and its Execution at site and deviations from the Standard Operating Procedure (SOP).*
- iii) There were serious deficiencies of proper level of supervision of critical operation at well site both from the Contractor as well as from OIL.*

b) Fixation of Responsibility for the Accident

- 1)** *The Committee has undertaken a preliminary investigation of the various activities that happened in the Well Baghjan-5 during the work over operation based on written documents received from OIL, replies from OIL against our various queries through mails. Replies on further queries and personal interaction with concerned officers and OIL management are pending. At present, investigations are ongoing, and the Committee will be able to give a clear finding on whom to fix the responsibility for this accident in its subsequent Reports.*

c) Immediate Preventive Measures to Avoid Similar Blowout and Explosions

(1) Based on the preliminary assessment, the Committee presents the following preventive measures which are subject to ongoing investigations.

- a) It is pertinent to note that the handling of Gas wells is different than Oil wells. Therefore, it is necessary to have different Standard Operating Process for Gas wells.*
- b) Isolation of any Hydrocarbon bearing Zone by a secondary barrier must be taken very seriously and needs to be planned properly. In such well situation the safety barrier cannot be relied upon only on Hydrostatic Head of well Fluid. There ought to be proper secondary safety barrier, which are tested both positively and negatively to check its integrity before attending any critical operation in the well like nipple down of BOP.*
- c) Placement of secondary safety barrier must be placed as near to the perforated zone, and cannot be placed anywhere in the well.*
- d) Placement of Cement Plug is to be always done in the vertical portion of Casing. If required to place Cement Plug in a deviated well, either a perforated Tubing/Drill pipe shoe is to be used and the string ought to be rotated during placement of cement slurry by using swivel joint or use the swivel joint with Kelly of the Rig. After balancing the Plug, the string needs to be pulled out slowly and while breaking the joints, Rotary is to be used to break the joint which will help cement slurry to spill all around and also to fall smoothly from inside string.*

Cement Slurry Design : -

- e) It is important to always design Cement Slurry with water loss additive to control water loss from cement slurry to bare minimum during setting of cement. Retarder may also be added to get the desired thickening time. Compressive Strength of the designed slurry are to be tested at 12 hours, 24 hours and 36 hours to decide upon WOC time. Contingency Plan.*
- f) Before doing any critical operation in well, a comprehensive contingency Plan must be in place to take immediate action to face any eventuality. In this particular well due to not having any such plan, driller at site alone was confused what to do when he observed well activity. Telephonic communication by IM to lower Tubing in Double, PE communicated to lower D/P instead. As a result, precious time was lost. Lowering of few Tubing with hanger cone would not had helped unless Xmas tree was installed. There were few probable options available to save this well.*

- f) (i) *To make an attempt to nipple up BOP again. Had the BOP been simply placed over the well head flange (7-1/16") within the available time, bolting of flange, connecting to choke manifold, flow lines etc. could have been done during flowing well condition also. This was not attempted considering it would take much more time.*
- f) (ii) *Alternately, Tubing Hanger (Cone type) could have been picked up with one single Tubing. The single tubing with cone could have been lowered and cone installed inside well head. The X-Mas Tree then placed with the X over spool, if required. Subsequently, the Crown Valve be closed and the side valves kept open for well flow to continue, if required. It is important to tight all the flange bolts. Then connect the pumping lines to flow arm of X-Mas Tree, open the valve, close side valve of X-Mas Tree and then Brine or Mud can be bulldozed to kill the well. The Committee is of the view that this operation would not have taken much time.*
- (2) *The Committee suggests the following procedure to be followed for placement of secondary safety barrier in different scenarios.*
- a) **SCENARIO-1 : PERMANENT ISOLATION OF A PRODUCING ZONE.**
- (1) *Perforate the tubing above Packer and circulate the well with kill fluid i.e. to have Hydrostatic pressure more than formation pressure of the Zone. Observe the well, if stable pull out tubing string, Run in a permanent Bridge Plug with tubing and set just above the Packer or zone to be isolated. Test the Bridge Plug at 1500 to 2000 psi. If found holding. Circulate the well with water to check integrity of Bridge Plug under negative Head. Next, place a cement Plug of 50 Mtr above the Bridge Plug, tag and test the plug at 2000 Psi to ensure permanent isolation of the Zone.*
- b) **SCENARIO-2: ISOLATION OF ACTIVE PERFORATED ZONE TEMPORARILY LIKE WELL BAGHJAN-5**
- (1) *Before any critical operation like perforation of the Zone, the surface equipment like Well Head, BOP, Choke Manifold are to be tested first. In this particular well testing of these equipment were done after perforation of the zone and found Well Head seals were leaking, required to isolate the zone which was already perforated for repair or replace the Well Head.*
- (2) *Now in a well situation when well was already perforated and Packer was set above perforation like Well Baghjan-5, the Committee recommends the following steps to follow.*

- i) Kill the well with Kill Fluid, observe the well. If stable, pull out Tubing String, lower a Tubing conveyed Retrievable Bridge Plug (RBG) with a perforated tubing single at bottom i.e. just above setting tool and set RBG just above Packer. This Packer can be retrieved after the job with tubing and reused.
- ii) Disengage Tubing setting tool from Packer, Test the packer at 2000 psi. If not holding, retrieve Packer and lower another Packer and reset again. Disengage setting tool from Packer and test the Plug at 2000 Psi. If found OK, displace well fluid with water to check integrity of Packer under negative Hydrostatic Head. Observe the Well for 2 to 3 Hours. If OK, replace the water in the well with Kill fluid and observe the well, if OK, pull out string. To be in safer side, a cement Plug should also be placed at a shallower depth in vertical portion of casing. First place a high viscous Plug of 200 Mtr followed by 100 Mt Sand Plug below the intended Cement Plug. These steps are suggested before placement of Cement Plug to avoid cement cutting falling during drilling of cement at top of RBG which would require to be retrieved later. Tag and Test the Cement Plug after WOC of 24 hours. If OK, pull out string. Check contingency plan and when ready then go for dismantle of BOP by keeping constant watch on the fluid level of the well. The operation of nipple down of BOP must be done as far as possible at Day time and also in presence of senior responsible officers.
- c) **SCENARIO-3: IF BOTTOM ZONE IS ISOLATED BY PERMANENT BP, NEED ARISES TO NIPPLE DOWN BOP.**
- (i) In such situation though BP was tested positively and negatively even then the recommendation of the Committee would be to place a Cement Plug at a shallower depth in vertical portion of casing, which should be tagged and tested before nipple down of BOP.
- (ii) The Committee would in his subsequent report indicate the person(s) responsible for the blowout incident as the investigation in that regard are still going on. Communications including email exchanges between Sri A. K. Hazarika, former CMD, ONGC, Member of the Committee, and the representative of OIL are appended hereto as **Appendix-E Colly**.

IV. ONGOING ASSESSMENT OF ENVIRONMENT AND BIO-DIVERSITY OF THE AFFECTED LANDSCAPE :

- (i) Some members of multidisciplinary team, reputed scientific organizations and individuals have been involved in damage assessment of the biodiversity and environment since last part of May, 2020 after the blowout incident in Baghjan Well No. 5. Samples were collected for different parameters and analysis is going on to find out the status of damage on environment and ecosystem of the Baghjan and surrounding landscape including Maguri-Motapung Beel, Dibru-Saikhowa biosphere reserve cum national park and human habitation. Meanwhile wave of multiple floods and complex Covid 19 crisis has caused hurdles in the study. However the committee continued to receive interim reports after the submission of preliminary reports to NGT. All the team members and other stakeholders feel that there is a need for long term study covering all aspects to assess the actual damage caused by the Well No. 5 Baghjan and design appropriate restoration plan for the landscape after complete stoppage of fire and killing of the well.
- (ii) Dr. Ranjita Bania, who is a fishery biologist and former researcher from Dibrugarh University has been involved in the research activities in Maguri-Motapung Beel area since last 15 years. Her team visited and surveyed the area for multiple times from the day one i.e. from 27th May, 2020 when the blow out incident of Baghjan well No 5 was occurred. Some of the findings of her reports in August, 2020 and October, 2020 are listed below and compared with other reports :

The planktons are noticeably declined in the Maguri-Motapung Beel. In a study during June-July, 2020 period only 11 species of phytoplankton (Table 1) and 13 species of zooplankton were recorded (Table 2) from the site. As mentioned in preliminary report submitted to NGT, rich phytoplankton (61 species) and zooplankton (210) diversity were reported (Noroh, 2013) from the Maguri Motapung wetland ecosystem.

It was assessed that Maguri has 87 species of ichthyofauna (Bania, 2011, 2018) out of which only 22 species were found (27th May, 2020-30th July, 2020) in the survey. The team recorded 35 varieties of dead fish species (Table 3) belonging to 13 families. Among the dead species, 22 species are lower risk, near threatened category as per IUCN status. A heavy decline in the catch amount is also reported after the blowout. According to the findings of WII (2020) that included in the preliminary report, PAHs were detected in fish tissue samples ranging between 104.3 to 7829.6 µg/Kg. The highest concentration was observed in fishes collected

from Maguri-Motapung wetland. The total PAHs concentration reported in fish samples appears to be 10 - 100 folds higher than the earlier reported concentration in India (WII, 2020).

*Recent study by the same team in October, 2020 reveals that some of the prominent species namely *Ompok pabo*, *Nandus nandus*, *Ailia coilia*, *Pseudeutopius atherinodes*, *Channa aurantimaculata*, *Danio rerio* are completely wiped out from the Maguri-Motapung wetland area. Interestingly, very few numbers of *Nandus nandus* were observed at fish landing centre of Gujanga. This is a cause of concern as even after 5 months of the incident, the fish diversity drastically declined in the Maguri-Motapung Beel ecosystem.*

*The pollutants from the blow out incident seriously affected the breeding season of fishes. *Mystus* species was found in gravid condition. But from last March to July end, no any fish seedling of the species was found in the Beel which clearly indicated that their breeding cycle was impacted. Besides, sudden change in body colour was also noticed for different fish species. The dead fishes were full of mucous layer with a different kind of smell. WII (2020) mentioned significant increase of the PAH in the water of Maguri Beel that caused death of different fish species.*

*The sudden shock, oil cover and change in dissolved oxygen level have caused death of large number of fishes. The nearby ponds are even affected. On 26th of June, 2020, it was noticed that heavy toll of fishes were coming to the upper surface of water for oxygen. They exhibited lethargic and irregular body movement. Large number of fishes died on the very next day and continued till 28th June, 2020 also. The dissolved oxygen value came down to 2.1 ppm which cause the high mortality of fishes. The prominent fishes found dead on the day were *Labeo gonius* which was table sized along with *Labeo rohita*, *Catla catla*, *Wallagu attu* being very high commercial value as food fish.*

Majority of the fisher who earn on an average minimum Rs. 2000/- per day has to stop their main occupation upto 3 months. This revealed that heavy loss of the local fisher community in their livelihood and will suffer till the restoration of the Maguri-Motapung Beel.

Significant decrease of encounter of River Dolphin was observed even after 5 months of the blow out incident. Only 2 numbers of river dolphins were observed on 18th October, 2020 in the river stretch from Sobha Nallah (River Dangori) to

Kalmi Nallah (River Dibru). The same team has observed 13 numbers of River Dolphins at Koliapani Ghat on 30th June, 2020. It was mentioned in the preliminary report that encounter rate of Gangetic River Dolphin in the area has decreased by 89% post of the oil blowout and also death of an individual.

During interaction with people of Baghjan village and representatives of Milanjyoti Yuva Sangha, it came to light that due to the blockage of pool (first pool from BGR 5 towards Notungaon), Baghjan village is suffering from water logging situation causing damage to their remaining crops. They used untreated water released from the Oil site and is expecting to have some chemicals as suspected by the villagers which again need further analysis.

The Baghjan EPS released heavy amount of oil smoke polluting the environment as reported on 8th October, 2020 (2 pm), 25 October, 2020 (7.45 am) and 27 October, 2020 (9.40 am) which continued for almost 30-45 minutes each time.

A report submitted by Milanjyoti Yuva Sangha dated 19/8/2020 showed that 28 years Sumitra Malla had given birth a still born baby boy on 17/8/2020 which was noted as baby IUFD (Intra Uterine Fatal Death). There is an urgent need to assess the effects of blow out on health of villagers specially pregnant women and children.

There is a need for survey to cover all the households in Dighaltarang Tea Estate, Baghjan Beel line, Guijan Ghat and other areas to assess the damage due to the blow out incident.

*It needs to be mentioned that Maguri Motapung harbours a wide range of ornamental fish species which are not easily available in other pockets and fetches high value in the international market. Habitat destruction of ornamental species like *Botia rostrata*, *Channa bleheri*, *Badis badis*, *Macrogathus punctatus*, *Badis assamensis*, *Devario rerio*, *Ailia coila*, *Chaca chaca* severely posed a threat to these species.*

Maguri-Motapung Beel has 57 species of aquatic macrophytes (Banja, 2011) out of which only 15 species (Table 4) under 12 families were recorded after the incident. In some parts of the Beel, complete burning was observed. The decayed parts were giving unpleasant odour and bubble of oil was observed when shacked with a bamboo pool. These are the habitats for many wetland birds and aquatic insects and other invertebrates.

Out of the 26 mollusc species (Kardong et al. 2016) reported from the Maguri-Motapung wetland only 4 species namely *Angulyagra oxytropi*, *Lamellidens marginalis*, *Pisidium sp.* and *Sphaerium indicum* are found after blowout in our survey. Important to mention that many people specially the lower economic class uses molluscs as their food and they play very crucial role in the food chain too.

Table 1 : Phytoplanktons found in Maguri Motapung aftermath Baghjan case

SL. NO.	Name
1	<i>Navicula sp.</i>
2	<i>Cholerella sp.</i>
3	<i>Clamydomonas sp.</i>
4	<i>Cladophera sp</i>
5	<i>Closterium sp.</i>
6	<i>Cosmarium sp.</i>
7	<i>Desmidium sp.</i>
8	<i>Netrium sp.</i>
9	<i>Volvox sp.</i>
10	<i>Anabaena sp</i>
11	<i>Oscillatoria sp.</i>

Table 2 : Zooplanktons found in Maguri Motapung aftermath Baghjan case

SL. NO.	Name
1	<i>Anuraeopsis fissa</i>
2	<i>Collurella sulcata</i>
3	<i>Depheuchlanis propatus</i>
4	<i>Fillinia longiseta</i>
5	<i>Keratella cochlearis</i>
6	<i>Lecane aceleate</i>
7	<i>Lecane ovalis</i>
8	<i>Monostyla bulla</i>
9	<i>Alona sp.</i>
10	<i>Alonella dentifera</i>
11	<i>Bosmina longirostris</i>
12	<i>Daphnia sp.</i>
13	<i>Diaptomus sp.</i>

Table 3: Dead fish species found in the Maguri Motapung wetland

Sl.	Name of fish species
1	<i>Notopterus notopterus</i> (Pallas)
2	<i>Barilius barila</i> (Ham-Buch)
3	<i>Catla catla</i> (Ham-Buch)
4	<i>Cirrhinus mrigala</i> (Ham-Buch)
5	<i>C. reba</i> (Ham-Buch)
6	<i>Esomus danricus</i> (Ham-Buch)
7	<i>Parluciosoma daniconius</i> (Ham-Buch)
8	<i>Labeo bata</i> (Ham-Buch)
9	<i>L. calbasu</i> (Ham-Buch)
10	<i>L. gonius</i> (Ham-Buch)
11	<i>L. rohita</i> (Ham-Buch)
12	<i>Puntius Conchonius</i> (Ham-Buch)
13	<i>P. gelius</i> (Ham-Buch)
14	<i>P. sarana sarana</i> (Ham-Buch)
15	<i>P. sophore</i> (Ham-Buch)
16	<i>P. ticto ticto</i> (Ham-Buch)
17	<i>Rasbora Rasbora</i> (Ham-Buch)
18	<i>Salmphasia (Salmostoma) bacaila</i>
19	<i>Acanthocobititis botia</i> (Ham-Buch)
20	<i>Botia dario</i> (Ham-Buch)
21	<i>M.ystus cavasius</i> (Ham-Buch)
22	<i>M. tengara</i> (Ham-Buch)
23	<i>M. vittatus</i> (Ham-Buch)
24	<i>Wallago attu</i> Scheidner
25	<i>Eutropiichthys vacha</i> (Ham-Buch)
26	<i>Clarius batracus</i>
27	<i>Heteropneustes fossilis</i> (Bloch)
28	<i>Mastacembelus. armatus</i> (Lacpede)
29	<i>Mastacembelus pancalus</i> (Ham-Buch)
30	<i>Pseudambassis (Chanda) nama</i> (Ham-Buch)
31	<i>Badis badis</i> (Ham-Buch)
32	<i>Trichogaster fasciatus</i> (Schneider)
33	<i>T. lalia</i> (Ham-Buch)
34	<i>Channa. punctatus</i> (Bloch)
35	<i>Channa aurantimaculata</i> (Musikasinthorn)

Table 4: Aquatic Macrophytes of Maguri Motapung Wetland

SL. No.	Name of Species	Ecological Habitat
1	<i>Ceratophyllum demersum</i> L.	OS
2	<i>Pistia stratiotes</i> L.	FF
3	<i>Ipomea aquatica</i> Forsk.	AFS
4	<i>Hydrilla verticillata</i> L. f.	OS
5	<i>Vallisneria spiralis</i> L.	OS
6	<i>Nymphoides indica</i> (L.)O. Ktze.	AFS
7	<i>Nymphaea pubescens</i> Willd.	AFL
8	<i>Ludwigia adscendens</i> (L.) Hara	AFS
9	<i>Spirodela polyrrhiza</i> L. Schleid	FF
10	<i>Hygroryza aristata</i> (Retz.) Neesex W &A	AFS
11	<i>Leersia hexandra</i> Swartz	AFS
12	<i>Eichhornia crassipes</i> (Mart.)Solms	FF
13	<i>Monochoria hastata</i> (L.) Solms.	EP
14	<i>Salvinia cucullata</i> Roxb. Ex Bory	FF
15	<i>Trapa natans</i> (L.) Roxb.	AFS



Photo 1 & 2- Sample collection in wetland of Baghjan area



Photo-3 : Examining faint cattle in the area

Photo 4- Condensate spill burnt root system of water hyacinth

A copy of the Report dated 01.08.2020 and the Report dated 27.10.2020 submitted by Dr. Ranjita Bania is appended hereto as **Appendix-F & G** respectively.

- (iii) Dr. Jihosue Biswas from Primate Research Centre North East India and a member of multidisciplinary team provided his findings on primates and other wild fauna affected by the blow out within the vicinity of a 5 km radius of Baghjan Well No. 5. His findings are given below :

*A dead gibbon (Hoolock hoolock) was born on 28th September 2020 in Purani Motapung village, believed to be a still birth. The Purani Motapung village under Barekuri is situated in the southern periphery of Maguri-Motapung Beel which is 4.3 km away from the blow-up site aerially (27° 33' 57.21" N & 95° 24' 46.84" E). It was reported that the female carried the dead baby for 4 days and on 2nd October 2020, she abandoned the body, and the carcass was taken by dog. According to the villagers and media, this incident of gibbon still birth was due to impact of Baghjan blow-up. While preparing this report, the investigator got the news of death of the mother gibbon also on 27th October. The said gibbon was sick, did not took any food for the last two days, ceased all activities, and rest on the tree top. Although, the veterinarian from Wildlife Trust of India and the local forest officials tried to treat the gibbon, but failed. A **post-mortem was conducted by the veterinarian of Wildlife Trust of India in presence of local forest officials and the viscera was sent to the forensic lab for further analysis.***



Photos 5 & 6: Carcass of the female gibbon at Purani Motapung village

The team visited area on 11th October 2020 to investigate the case. The gibbon group comprised four individuals, one adult male, one adult female, one sub-adult male and one juvenile female. Purani Motapung have two such gibbon groups each having three individuals and two floating males. The adult male of the group was missing and the mother of the deceased infant was hostile to the existing sub-adult male as an intense

fight between the female and the sub-adult male was observed. The sign of parturition in female was observed, which confirmed the birth episode. It is assumed that, since during pregnancy, the **female gibbon compelled to feed on contaminated leaves and plant parts apart from direct exposure to the xenobiotic pollutants, the domestic cattle were also exposed to such pollutants and must have experienced similar situation.** To assess this, the investigator decided to conduct a semi-structured face-to-face questioner survey (Huntington, 2000) of Purani Motapung village on recent infant death of domestic animals particularly cattle and goats.

The team interviewed 11% of households of Purani Motapung village and found that only 50% of households possess domestic cattle. After the Baghjan blow-up, during the last five months, 9 calves were born in these houses, and 44.4% of mortality or loss to all causes was observed. Among this, 22.2% of calves were born alive and died within a few days and **22.2% were stillbirth.** It was found that the death rate of calves in the Purani Motapung area was 0.29/year which is much higher than the state average in normal time. While the observed stillbirth rate of cattle was 0.14/year. Similarly, the observed death rate of the goat was 0.25/ year. The study thus suggests that calf mortality in domestic cattle in Purani Motapung village during this period could be linked to the xenobiotic pollutants of Baghjan blow-up and indicates possible impacts on Hoolock gibbon, since the animals were also exposed to toxic gases and condensate during pregnancy and consumed toxins in contaminated plant parts.

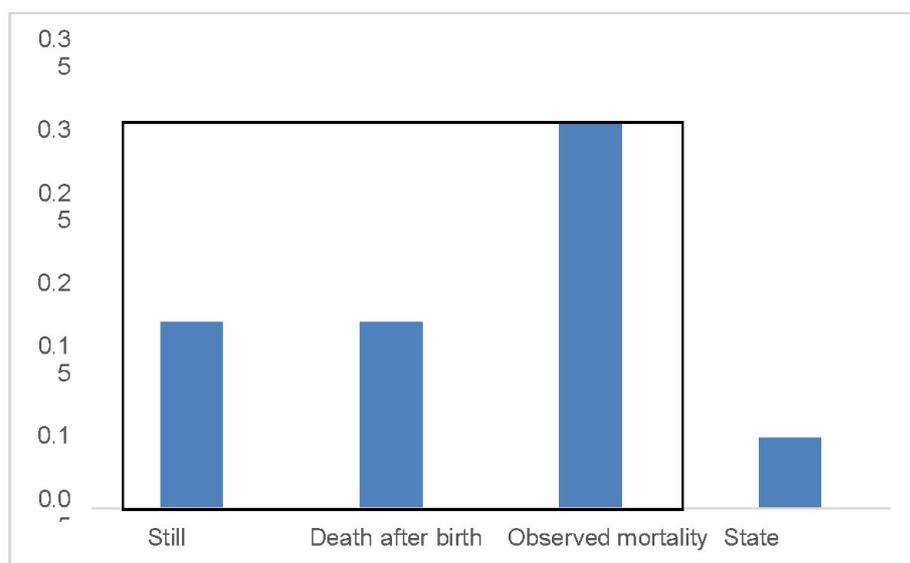


Fig – 1: Calf mortality rate at Purani Motapung village including stillbirth after Baghjan blow-up.



Photo 7: Calf died after seven days at Purani Motapung Coordinate - 27° 33' 38.43"N & 95° 25' 16.53"E)

The study also suggests that after blow-up during the period from 27.05.2020 to 08.06.2020 when the toxic gases with condensate were being blown out, the immediate impact of exposure on domestic animals was dizziness, as 89.6% of respondents said that the cattle and goats became unbalanced and restlessness and ceased all activities, while 55.3% respondents said that the animals were also suffered blur eyesight and 78.95% respondents said that they witnessed premature fall of leaves from trees during that period. 42.1% of respondents said that the cattle were suffering from skin diseases after blow-up (fig -2).

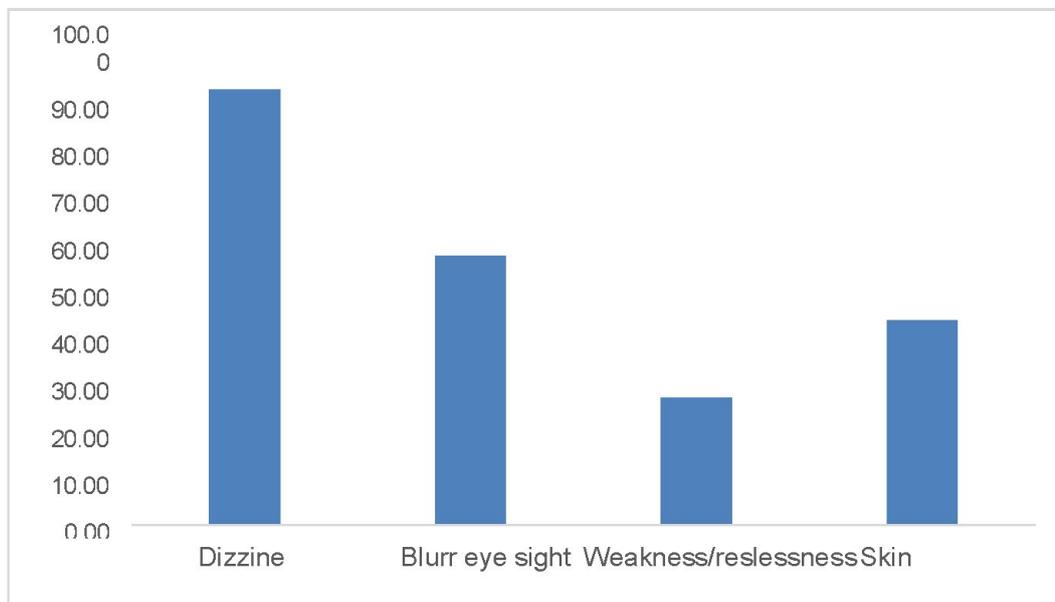


Fig -2: The impact associated with direct exposure of condensate to domestic animal in Purani Motapung village.

During the short bout of field survey (11th to 13th October, 2020) in the Maguri Motapung Beel and in the Dibru River, it was observed that bird density and diversity within a 2 Km radius of the blow-up site had reduced substantially and encounter rate was invariably low even after 5 months which indicates their populations lower than before. The team did not sight any threatened bird species in the grassland as most of their habitats have been badly affected. Even no migratory bird or winter visitors were observed during our visit in Maguri Beel, which is otherwise visited every year in the area in early to mid-October except wagtail. The noise pollution added extra deterrence to the winter migratory birds. They observed thin oil slick in Maguri Beel and in the Dibru River as small amount of oil and condensate still spill from the blow-up side and collected water samples from 8 such sites and hand over it to Gauhati University for further analysis.

*Regarding mammalian fauna inside the Dibru-Saikhowa National Park, very low encounter rate was observed. Amongst them Asiatic Water Buffalos (*Bubalus arnee*), Gangetic Dolphin (*Platanista g. gangetica*), Rhesus Macaque (*Macaca mulatta*) and Hoary bellied squirrel (*Callosciurus pygerythrus*). Except Gangetic dolphin and water buffalos, no death was documented on other mammalian species due to oil spill after blow-up. Inside the park, the team observed three fresh carcass of domestic buffalos in the river, which depict grave picture. Many others species like ungulates, primates, felid, canine and rodents group apparently dispersed during blow-up but might have secondary exposure and it is still too early to tell definitively what the impact has been for these species and required detailed study. A comprehensive impact assessment is urgently required along with an integrated ecological restoration plan for bioremediation of hydrocarbons polluting the soil and wetland.*

A copy of the Report dated 29.10.2020 submitted by Dr. Jihosuo Biswas is appended hereto as **Appendix-H.**



Photo 8: The investigator is collecting sample from difficult location of Maguri Beel



Photos 9 & 10 : Carcass of domestic buffalos inside the park (27°38'34.55"N 95°20'37.23"E & 27°38'02.21"N 95°20'16.72"E)

- (iv) The observation of Aaranyak, a member of multidisciplinary team is given below :-

The noise pollution from the Baghjan Well-5 along with periodic vibration is being felt in the surrounding areas of Baghjan. It is also learnt that affected people are still in temporary shelter camps and as per information received, affected families are being given some monetary compensation by Oil India Limited.

Due to monsoon rain and runoff of the water, some effect on soil and water pollution have been reduced to some extent but overall effect in surrounding habitats including Maguri-Motapung wetland can only be seen when surface water level goes further down.

As winter is approaching, the effect of the Baghjan Gas/Oil leakage leading to big fire on migratory bird species may only be ascertained from November onwards.

The team noticed consistent vibration still occurring around Baghjan Well-5 and its possible impact on falling down of concrete houses along the bank of Lohit River adjacent to Dibru-Saikhowa NP in Guujan area. There is a need of detail study in this regard.

There are some local reports on the death of about 100-150 Domestic Buffalos around Baghjan area, especially in Buffalo khutis. However, it is not known whether those deaths are due to any impact from Baghjan Gas/Oil leakage or subsequent fire or due to some other factors including diseases. Same may be investigated by the concerned government department to confirm the cause of such deaths.

- (v) Some restorations of habitants are seen in the photographs. In this regard the committee opined that there should be proper study to find out the toxicity of the plant materials. This will help in the investigation of the abnormal death of the domestic and wild animals as well as restoration design of the landscape. A copy of the Report dated 27.10.2020 submitted by

Aaranyak is appended hereto **Appendix-I**.

- (vi) Dr. Ranjan Kumar Das, a member of the Multidisciplinary Team vide his Report dated 30.10.2020 has presented an assessment of the impact on grassland and wetland birds and their habitats in and around the site. He states as under:

There are two very prominent phases of impact.

1) Impact during 27-05-2020 to 08-06-2020 when the toxic gases with condensate were blown out.

2) Impact from 09-06-2020 after the raging fire broke out which is continuing for more than 150 days at the time of preparing this report.

Phase-1

*Both the phases have their unique characteristics of damages that were very devastating. During the first phase the impact was widespread and the toxic gases dispersed to a long distances along with the wind directions. It was felt up to the distances of about 9 Km where I am writing this report at my place of residence. On the other hand the oil spill and condensate were thrown to a distances of about 2Km radius on the ground where all the phytoplankton and zooplankton were directly affected along with the effect on human life. During that phase many villagers complained with different health issues. Within the radius of 2 Km every plant and animal life was affected when most of the plants covered with oil and condensate, died off. There were coatings of oil film seen on each and every plant life, water bodies, tea gardens, agricultural fields and on the other manmade structures. The grasslands were severely affected and most of the breeding endemic Red data book grassland birds listed in the **Table: 1** abandoned their nest without hatching or left their chicks to die.*

Phase-2

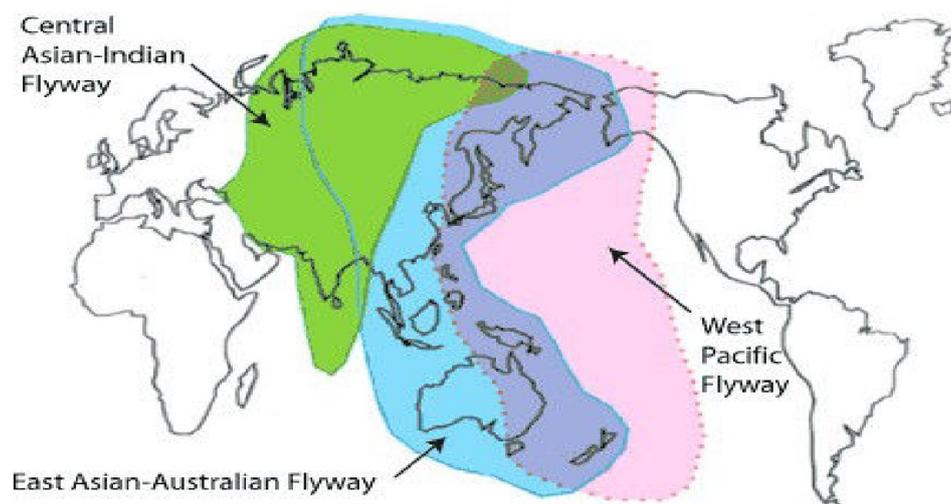
On 09-06-2020 suddenly the fire broke out and it engulfed a huge area. Immediately within the range of about 1Km radius everything came in contact with fire and almost all burned to ashes. Many people have been

evacuated immediately and most of the houses with all their belongings near the Baghjan well No. 5 were totally damaged by raging inferno. Most of the small tea gardens near the well No. 5 burned to ashes. But the fire engulfed the most of the grasslands towards the south western side as they were already highly inflammable due to the presence of oil condensate both on the grounds as well as on the trees and grasses. Another threat was the blowing wind at that moment when fire started to spread in the direction of wind. A large area of the grassland in the western side of the oil well got fire and the ecosystem was badly affected. Most of the breeding endemic threatened birds fled the place leaving behind their nests. During my preliminary field survey it was observed that bird density and diversity was very less within the radius of 1Km where basically a few numbers of common gregarious birds were seen. Not a single threatened Red Data Book birds were observed during my field survey as most of their habitats were badly affected by fire. Even after the three waves of floods we had seen the presence of oil sleek and condensate in the grassland habitat on 14-07-2020. Many species of herpitofauna, amphibian, and insect were killed after the fire broke out.

Phase-3

It's already been more than 150 days of continuous blowout which is still going on with high decibel noise, water and air pollution. This phase-3 has been based on the change of season which would be totally different from the view point of meteorological as well as hydrological characteristics. During winter the entire habitats for grassland and wetland bird changes. Some of the early winter migratory birds have already been arrived in the Brahmaputra valley through two different international flyways which are known as Central Asian-Indian flyway and East Asian-Australian flyway. Both these two flyways overlapped over north-east India.

Asian Migratory Bird Flyways



On 25th of October 2020 there was sighting report of Amur Falcon- Falco amurensis a migratory raptor which comes all the way from Japan and East Asia. Moreover, some Plovers, Wagtails and Warblers are already sighted in and around Maguri-Motapung wetland. But these are widespread visitors covering different habitats and they can somehow adopt themselves in some adverse environmental situations up to a limit. The major winter migratory birds like Ducks and Geese are not yet sighted which particularly needs undisturbed environmental conditions. By November last they will start to come. As the peak winter migratory season starts from last part of November to February both for the grassland and wetland birds, the constant monitoring during this period is most important. Only then the proper assessment of the impact on these birds can be done by observing their numbers, behaviors and foraging habit.

A copy of the Report dated 30.10.2020 as submitted by Dr. Ranjan Kumar Das is appended hereto as **Appendix-J**.

- (vii) All the experts from the multidisciplinary team and committee members expressed their views that there should be a detailed study on all the aspects to assess the actual damage on the environment, biodiversity and local communities caused by the blow out and subsequent fire on Well No. 5 Baghjan. Secondly a practical restoration plan for the affected landscape should be developed as well as arranging proper rehabilitation and compensation to the affected families. All reports that have been submitted including those made by independent members of the multi-disciplinary team are being assessed along with the samples and data

that are to be collected in future. A comprehensive report of the same will be presented in are subsequent reports. The reference list relied upon for this section is appended hereto as **Appendix-K.**

V. STATUS ON THE ISSUE OF COMPENSATION TO THE AFFECTED FAMILIES

- (i) The Hon'ble NGT in its Order dated 06.08.2020 in O.A. No. 43/2020 (EZ) and O.A. No. 44/2020 (EZ), *inter-alia* directed payment of compensation to victims of categories (ii) and (iii) subject to identification by the District Administration. In terms of the said Order, this process was to be completed preferably within one month and overseen by the Assam State Legal Services Authority.
- (ii) In compliance of the above-mentioned Order, the reports of the Assessment Teams dated 24.08.2020 constituted by the Office of the Deputy Commissioner, Tinsukia provided a finding of 57 families who had suffered Severe Damage and 561 affected families in the area. These reports were communicated to the Deputy Commissioner, Tinsukia by the Circle Officer, Doomdooma Revenue Circle and the relevant correspondence has been annexed to this Report. However, the list of affected families in the area submitted vide Letter dated 24.08.2020 was re-verified by the Assessment Team and the Magistrate-in-Charge wherein it was found that some of the names of beneficiaries had been repeated while some had been included in the first list enumerating those whose houses had suffered Severe Damage. The revised list after re-verification contained 543 beneficiaries as opposed to 561 and was communicated to the DC, Tinsukia by Circle Officer, Doomdooma Revenue Circle vide Letter dated 31.08.2020. A copy of the Letter No. DRC 16/2015-16/Pt-I/125 dated 24.08.2020 addressed by Circle Officer, Doomdooma Revenue Circle to Deputy Commissioner, Tinsukia is appended hereto as **Appendix-L.** A copy of the Letter No. DRC 16/2015-16/Pt-I/127 dated 24.08.2020 addressed by Circle Officer, Doomdooma Revenue Circle to Deputy Commissioner, Tinsukia is appended hereto as **Appendix-M.** A copy of the Letter No. DRC 16/2015-16/Pt-I/128 dated 31.08.2020 addressed by Circle Officer, Doomdooma Revenue Circle to Deputy Commissioner, Tinsukia is appended hereto as **Appendix-N.**
- (iii) In the intervening period, on 24.08.2020, about 120 persons comprising of a large number of women from Baghjan Gaon, led by the *Baghjan Gaon Milonjyoti Yuba Sangha* started a sit-in demonstration adjacent to the Office of the Deputy Commissioner, Tinsukia. They submitted a Memorandum dated 09.08.2020 to the Hon'ble Chief Minister, Assam and the said memorandum had also been forwarded to this Committee. The primary claims set out in the memorandum are reproduced herein below :

- I. *The families of Baghjan Gaon who have been affected fully/severely should be included in the Category (i) (Rs. 25 Lacs for each family) in terms of the Hon'ble NGT order in addition to those families whose houses have been gutted.*
 - II. *The remaining affected families from Baghjan Gaon should be included in Category (ii). They demanded that Category (ii) affected families from Baghjan gaon should each be paid advance amount of Rs. 20.00 Lacs.*
 - III. *They further demanded that instead of 03.11.2020 for declaring the final compensation by Hon'ble NGT, it should be done expeditiously.*
- (iv) The said developments were communicated to the Committee by the Deputy Commissioner, Tinsukia vide his letter dated 25.08.2020 and 26.08.2020. It is worth noting that these developments had also created a law and order situation in Tinsukia district. A final proposal for compensation to 57 families in Category (i) and 561 families in Category (ii) was submitted to the Committee by the DC, Tinsukia vide the above-mentioned letter dated 25.08.2020. The said proposal was subsequently endorsed by the Secretary, District Legal Services Authority, Tinsukia on 29.08.2020. The proposal was modified after re-verification of the list to include 543 families as opposed to 561 by a subsequent letter dated 31.08.2020 addressed to the Committee by DC, Tinsukia. In view of these events, the Committee was of the considered opinion that it was necessary to submit the First Interim Report dated 01.09.2020 to the Hon'ble NGT for its urgent consideration. A copy of Letter No. TCA.3/2020/570 dated 25.08.2020 addressed to the Chairman, Committee of Experts from DC, Tinsukia is appended hereto as **Appendix-O**. A copy of Letter No. TCA.3/2020/580 dated 26.08.2020 addressed to the Chairman, Committee of Experts from DC, Tinsukia is appended hereto as **Appendix-P**. A copy of Letter No. TCA.3/2020/602 dated 29.08.2020 addressed to the Chairman, Committee of Experts from DC, Tinsukia is appended hereto as **Appendix-Q**. A copy of Letter No. TCA.03/2020/706 dated 31.08.2020 addressed to the Chairman, Committee of Experts from DC, Tinsukia is appended hereto as **Appendix-R**.
- (v) As has been discussed above, the First Interim Report dated 01.09.2020 formulated the following recommendations for urgent consideration of the Hon'ble NGT :
- (a) *57 families identified by the DC/District Magistrate, Tinsukia be included in Category (i) and they should be paid Rs. 25 Lacs each as interim compensation;*
 - (b) *543 families as identified by the DC/District Magistrate, Tinsukia be included in Category (ii) and they having been the worst sufferers, the payment of interim compensation to those families may be enhanced to Rs. 15 Lacs.*
 - (c) *The compensation, if any paid, shall be deducted from the aforesaid interim compensation.*

- (vi) Following the submission of the Report on 01.09.2020, a tripartite talk involving the District Administration (including police officials), senior OIL India Ltd. officials and representatives of the *Baghjan Gaon Milanjyoti Yuva Sangha* was held in view of the agitation programme undertaken by the said organisation since 17.09.2020. As communicated to the Committee by letter dated 25.09.2020 from DC Tinsukia, inter-alia, the following moot points as regards issue of compensation were discussed and resolved as under :

“... (4) During the re-survey the list of additional affected families were prepared and added in the Category-I. An additional 104 families were inducted into Category-I to the earlier list containing 57 families which is being attached herewith as Annexure-E. Now the number of families stands at 161. The remaining 439 families have been categorized as Category-II (List enclosed Annexure-F).

...

In kind considerations of the above, the Experts Committee headed by your kind office may like to recommend to the Hon'ble NGT to consider the affected families of Baghjan Gaon in two categories- Category-I (12+57+104=173 Nos. of families) and Category-II (439 Nos. of families) as the final compensation of Baghjan affected families.”

A copy of Letter No. TCA.3/2020/PT-I/781 dated 25.09.2020 addressed to the Chairman, Committee of Experts by the DC, Tinsukia is appended hereto as **Appendix-S**.

- (vii) In the meantime, the Member Secretary, Assam State Legal Services Authority also made a site visit from 18.09.2020-19.09.2020. In its report submitted to the Committee of Experts, the ASLSA has provided a factual analysis of the situation at the site apart from enumerating its views and suggestions as regards compensation, which is appended hereto as **Appendix-T**.
- (viii) **The Deputy Commissioner, Tinsukia being one of the Members of the Committee appointed by the Hon'ble NGT and also the head of the Revenue in the District has re-surveyed the affected families and recommends that an additional 104 families be inducted into Category (i) to the earlier list containing 57 families. He has further recommended that for the disbursement of the final compensation, the affected families of Baghjan Gaon be revised into two categories and the number of affected families would be as follows :**

Category (i): (12+57+104 = 173 Nos. of families)

Category (ii): (439 Nos. of families)

The Committee is inclined to accept his recommendation for payment of Rs. 25 Lacs to the identified 173 nos. of families and Rs. 20 Lacs to identified 439 nos. of families, subject to the process being over seen by the Assam State Legal Services Authority. The amount already paid to any of the aforesaid families shall be deducted from the said amount. Hence, the Hon'ble NGT may consider passing necessary order in that regard for payment of interim compensation as suggested.

E. INITIATIVES TAKEN FOR THE AFFECTED FAMILIES OF BAGHJAN:

- i) The DC, Tinsukia has apprised the Committee that all the affected families and individuals who are staying at the relief camps have been relocated to suitable rented accommodation. The cost of such relocation has been borne by OIL India who have agreed to pay an honorarium of Rs. 50,000/- per month per family. Further, OIL has deposited an amount of Rs. 36.9 (Crore) to the Office of the Deputy Commissioner, Tinsukia for payment of compensation in various categories. As on date, Rs. 15.6575 (Crore) has been credited to the account of affected families in different categories.
- ii) Further, multiple schemes have been announced by the Hon'ble Chief Minister of Assam for the affected people upon his visit to the site. These include establishment of Model Hospital at Baghjan, construction of Veterinary Dispensary, proposal for Baghjan Rehabilitation through Handloom Weaving. A copy of the letter dated 27.10.2020 from the DC, Tinsukia addressed to the Committee of Experts is appended hereto as **Appendix-U**. Additionally, a Psychological counselling will be provided by a team of psychologists led by a team of Dr. Bitopi Dutta through an NGO named "Voluntary Association for Social Upliftment" based in Guwahati. The fund of Rs. 5.00 lakhs for such counselling will be borne by OIL India.

F. RECOMMENDATIONS :

- i) The Committee reiterates the conclusions drawn in the Preliminary Report and recommends that direction may be issued to the PCB, Assam to take appropriate legal action against OIL and its officials for violation of the mandatory requirements of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, and

Authorization under the Hazardous Waste (Management & Handling) Rules, 1989 and the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.

- ii) OIL has been unable to carry out the Biodiversity Impact Assessment Study either through the Assam State Biodiversity Board, as was mandated by the Hon'ble Supreme Court, a fact that stands corroborated by the Assam State Biodiversity Board, or by any other agency. Such actions place OIL in continuing contempt of the directions passed by the Hon'ble Supreme Court of India, specifically its Order dated 07.09.2017 granting conditional approval to OIL to undertake the present extraction of hydrocarbons from the proposed wells including the Well Baghjan-5.
- iii) The OIL stands in contravention of the provisions Environment (Protection) Act, 1986 and the Environment Impact Assessment (EIA) Notification, 1994 under which it is mandatory to obtain EC for any onshore drilling projects before commencement of activities on 20.11.2006.
- iv) Based on the Reports received by multiple agencies, including PCB, Assam, it is evident that the ambient noise levels in and around Well Baghjan No. 5 are well above the permissible standards.

It is therefore recommended that OIL be directed to take immediate and all other urgent measures to bring down the noise level within the limit prescribed under Rule 3(1) and Rule 4(1) of the Noise Pollution (Regulation and Control) Rules, 2000.

Additionally, PCB, Assam may be directed to initiate appropriate legal action against the competent authorities of OIL under the provision of Rule 8 of the aforementioned Rules.

Further, in the interim, a health fund may be generated by contributions made available by OIL, to be administered by the DC, Tinsukia, to defray the cost of treatment including any specialized treatment of any person(s) suffering from any ailment/condition/ illness due to the heightened noise levels. Such fund may be replenished from time to time as may be deemed necessary and appropriate by the DC, Tinsukia.

- v) Thus, the continuing extraction of hydrocarbons around the DSNP would qualify as a Red category project, having it been declared as an eco-sensitive zone (ESZ) and would place it in clear violation of the Notification No. WG/G-1521/18-19/27 dated 04.05.2019. Neither OIL nor PCBA have clarified their position before the Committee qua the inconsistency with the mandate given by the Central Pollution Control Board qua industries and extent of such non-compliance.

- vi) The Deputy Commissioner, Tinsukia being one of the Members of the Committee appointed by the Hon'ble NGT and also the head of the Revenue in the District has re-surveyed the affected families and recommends that an additional 104 families be inducted into Category (i) to the earlier list containing 57 families. He has further recommended that for the disbursement of the final compensation, the affected families of Baghjan Gaon be revised into two categories and the number of affected families would be as follows :

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G. CONCLUSION :

- (i) The Committee from time to time by issuing various e-mails have called for relevant information and reports from OIL and other Agencies including the various Committees constituted by various authorities including the Government of Assam to look into the issues arising out of the blow out. The information including the reports available with the OIL and the Government of Assam have been furnished to the Committee. Multiple reports including the following have not been furnished so far by OIL or other Agencies to the Committee as those are either not available with them or the reports are not ready :

- (a) Reports of Director General of Mines Safety, Ministry of Labour and Employment, Govt. of India,
- (b) Reports of Oil Industry Safety Directorate, Ministry of Petroleum and Natural Gas, Govt. of India,
- (c) Reports of Directorate General of Health Services, Ministry of Health and Family Welfare, Govt. of India,
- (d) Reports of M/S ERM(India) Pvt. Ltd,
- (e) Reports of Assam Agriculture University, Jorhat and
- (f) Reports of Soil Compaction Study.
- (g) Report of the 3 (three) members High Level Committee constituted by the Ministry of Petroleum & Natural Gas, Government of India.

- (h) Report of the Multi-Member Expert Committee headed by Sri M. K. Yadava, I.F.S., Additional P.C.C.F. constituted by the Government of Assam vide Notification dated 02.06.2020.
- (i) Report of the One Man Committee constituted by the Government of Assam vide Notification dated 12.06.2020.
- (j) Report of the Committee headed by Sri Maninder Singh, I.A.S., Additional Chief Secretary, Guwahati Development Department constituted by the Government of Assam vide Notification dated 12.06.2020.
- (ii) OIL has also informed the Committee that the study to be conducted by M/S ERM (India) Pvt. Ltd. and Assam Agriculture University, Jorhat would be completed only after the final killing of the Well. To carry out the Soil Compaction Study, the OIL has very recently engaged an agency, report of which is also not ready. In this context, the Hon'ble NGT may be pleased to consider whether a direction is necessary to all agencies including OIL to furnish their reports/findings to the Committee by a fixed date. It is imperative that these reports be furnished at the earliest to enable the Multidisciplinary Team to arrive at a reasonable assessment of the costs involved for restoration.
- (iii) The various report and / or information furnished by OIL and other agencies to the Committee and also information / data already collected and to be collected by the Multi-Disciplinary Committee have to be assessed after conducting further test(s), wherever required. The collection of primary data being still on the Committee is unable to submit its final report before 03.11.2020 as directed by the Hon'ble NGT, more so when the source of pollution is yet to be extinguished. In this context, the Hon'ble NGT may be pleased to direct OIL to undertake all urgent and necessary efforts to silence the well immediately.

The Hon'ble NGT, therefore, may be pleased to consider the aspects of this matter and pass necessary order as deemed fit and proper.



(BROJENDRA PRASAD KATAKEY)
Former Judge, Gauhati High Court
Chairperson of the Committee of Experts

Place : Guwahati, Assam
Date : 31.10.2020