BEFORE THE NATIONAL GREEN TRIBUNAL, EASTERN BENCH

AT KOLKATA

MEMORANDUM OF APPEAL

APPEAL NO. 4 OF 2015

(Under Section 18 read with Section 16(h) of the National Green Tribunal Act, 2010)

IN THE MATTER OF:

1. Mr. Pradip Kumar Bhuyan
   IITan and Senior Citizen
   Ghoramara, North Guwahati
   Guwahati – 781039
   Assam.

2. Mr. Joydeep Bhuyan
   S/o Mr. Pradip Kumar Bhuyan
   House No. 11, Kanya Mahavidyalaya Path
   Gitanagar, Mother Teresa Road
   Guwahati 781024
   Assam

APPLICANTS

Versus

1. Union of India
   Through the Secretary
   Ministry of Power
   Govt. of India
   Shram Shakti Bhawan
   New Delhi – 110001

2. Union of India
   Through the Secretary
   Ministry of Environment, Forests and Climate Change

Indira Paryavaran Bhawan, Aliganj, Jor Bagh Road
New Delhi - 110003

3. State of Arunachal Pradesh
Through the Chief Secretary
Govt. of Arunachal Pradesh
Itanagar 791111
Arunachal Pradesh

4. State of Assam
Through the Chief Secretary
Govt. of Assam
Dispur, Guwahati 781006
Assam

5. National Hydroelectric Power Corporation
Through the Executive Director (D&E and Environment)
NHPC Limited
NHPC Office Complex
Sector-33, Faridabad -121003
Haryana

6. The Arunachal Pradesh State Pollution Control Board
Through the Member Secretary
Arunachal Pradesh State Pollution Control Board
Department of Forest, Environment and Wildlife Management
Itanagar - 791111

RESPONDENTS

I. The address of the Appellant is given above for the service of notices of this Appeal.

II. The addresses of the Respondents are given above for the service of notices of this Appeal.

III. This is an Appeal to challenge the Environment Clearance under the Environmental Impact Assessment Notification 2006 alongwith its amendments under the Environment (Protection) Act, 1986, granted by the Ministry of Environment, Forests and Climate Change (MoEFCC) vide Letter NO. J-1201112512009-1A.1 dated 19.05.2015 for the construction of the 2,880-MW Dibang Multipurpose Project in Lower Dibang Valley district of Arunachal Pradesh to the Respondent No. 5.

A copy of the letter dated 19/05/2015 granting EC to the project proponent is being marked and annexed as **ANNEXURE A/1**.

IV. The present appeal is being filed under Section 16(h) of the National Green Tribunal Act, 2010,as it challenges an order given under the Environment Impact Assessment Notification 2006 and its amendment in 2009 under the Environment (Protection) Act, 1986, on 19/05/2015, i.e., after the commencement of the National Green Tribunal Act, 2010.

THE APPLICANT MOST RESPECTFULLY SHOWETH AS UNDER:

1. That the appeal arises out of the fact that the Respondent No. 2, i.e., MoEFCC while granting the environmental clearance for the construction of the 2,880-MW Dibang Multipurpose Project in Lower Dibang Valley district of Arunachal Pradesh to Respondent No. 5 has completely disregarded the irreversible environmental damage that the above project would cause and destroy one of the last refuge of pristine biodiversity of one of the mega biodiversity hotspot of the world. It is the Appellant's case that there has been no application of mind either at the scoping or at the appraisal stage and none of the substantive issues raised in the public hearing have been considered either by the Expert Appraisal Committee or the Respondent No.2. Moreover, owing to the huge number of trees that are likely to be felled in this pristine habitat causing irreparable damage, the Forest Advisory Committee has already rejected the said case twice. Further, the EC has been granted without considering the impact of the four hours peaking and the consequent downstream impacts, absence of cumulative impact assessment of projects in the river basin as well as on the same river, without considering the merit of the order passed by this Hon'ble Tribunal on the need for cumulative impact assessment; without following due process as clarified by this Hon'ble tribunal in various orders including not updating the Form-1 that is mandatory after the order of the Chief Information Commissioner dated 18.01.2012 formalized by MoEFCC vide order dated 20.03.2012; without taking into account the seismic vulnerability of the region; without taking into account the impact on the gangetic

dolphins, and other Schedule I species, concealment of critical information on wildlife and false information in the EIA Report; without taking into account the impact on rare, endangered and threatened (RET) species including medicinal plants; without any comprehensive social impact assessment studies on the vulnerable scheduled tribes including their constitutional rights among others described in more detail in the successive paragraphs.

2. That the Appellant No. 1 is a Senior Citizen of India and a permanent resident of Guwahati, Assam. The Appellant is a Graduate from the prestigeous Indian Instiute of Technology (IIT) and is associated with educational institutions and other social organizations. He is the Founder President of North East Initiative (NEI) which amongst other activities manages a portal - www.issuesofnortheastindia.org wherein pressing issues of the region including those of environment are highlighted for Government's attention and for public dissemination and more importantly for government action. The Appellant is also a recipient of 'Life Time Achievement Award in Education' in 2004 initiated by NE (TV), a leading television channel of North Eastern region. The Appellant is a socially active public spirited person, a nature lover and has a vast understanding of the North Eastern region from social and environmental perspective.

3. That Appellant No. 2 is a well known wildlife photographer, naturalist and nature lover.

4. That the Appellants above named have been raising serious and substantial questions relating to the environment especially with regard to mindless and mind boggling number of dams that are being sanctioned, cleared or in execution in the North Eastern region especially in Arunachal Pradesh without adequate environmental safeguards and with a potential massive disaster in the making due to lack of application of mind and adequate planning especially in terms of cumulative impact that might devastate the state of Arunachal Pradesh and Assam including ramifications in the entire north eastern region. Keeping in mind this fragile ecosystem of the State, the Appellants filed before this Hon'ble Tribunal, matter titled Pradip Bhuyan & Anr vs UoI & Ors (29/2015/EZ) on 30.04.2015 which came up for hearing on 07.05.2015 in which this Hon'ble Tribunal was pleased to take note of the seriousness of the matter and issued notice to the respondents.

5. That according to Sl. No. 4 of the Environmental Clearance for the Dibang Multipurpose Project (2880 MW) dtd. 19/5/2015 and as annexed as Annexure – A of this application, the project is proposed on the Dibang River near Munli village in Lower Dibang Valley district of Arunachal Pradesh. The project envisages construction of 278 m high concrete gravity dam across Dibang River about 1.4 km upstream of confluence of Ashu Pani river with Dibang river for the generation of 2880 MW hydropower. It is supposedly a storage scheme project with dual purposes, i.e., flood moderation and power generation. The total land requirement is about 5349.14 ha. Out of which 4577.84 ha is Un-classified State Forest, 701.30 ha is

community land without forest cover and 70 ha is land under wet rice cultivation. Total submergence area is 3564 ha (out of which 1176 ha is river bed). The total catchment area of the project is 11,276 sq.km. An underground power-house is proposed on right bank of river with 12 units of 240 MW capacity each. 115 families of 5 villages are likely to be displaced and 744 families of 39 villages are likely to be affected due to acquisition of land. The total estimated cost of the project is about Rs.25,347 crores and the project is likely to be completed in 9 years.

6. The applicant at the very outset begs to state that with regard to the need for Cumulative Impact Assessment, the applicant has filed before this Hon'ble Tribunal in Pradip Bhuyan & Anr. vs UoI & Ors in O.A No. 29/2015/EZ on 30.04.2015 which came up for hearing on 07.05.2015 in which this Hon'ble Tribunal was pleased to take note of the seriousness of the matter and was pleased to issue notice to the respondents. The tribunal further directed the respondents to:

"The respondents are further directed to submit status report on the next date disclosing the particulars of the hydro electric projects proposed and/or approved in Arunachal Pradesh within 4 hours peaking period and details of the number of the projects which as yet have been processed through prior environmental clearance and other procedural set up. They are also directed to set up proposal for scientific study of comprehensive cumulative environmental Impact Study with reference to construction of so many hydro electric projects in the State of Arunachal in terms of their effect on

downstream area on water source, biodiversity and socio- ecology of people."

It is pertinent to mention that despite the above stated order dated 7th May 2015, the MoEFCC has gone ahead and granted EC to the 2880 MW Dibang Multipurpose Project on 19th May 2015. The NGT order has clearly emphasized the requirement of cumulative impact assessment. Considering the DMP in isolation without the prior completion of the cumulative studies will be a violation of the letter and spirit of the precautionary principle, the EIA Notification of 2006 (the amendment therein) and the NGT order dated 7th May 2015 and therefore this is a fit case for the interference of this Hon'ble Tribunal against the erring respondent authorities, more particularly MoEFCC for issuing EC to DMP in violation of the above stated Order of this Hon'ble Tribunal dtd. 7/5/2015.

A copy of the above stated NGT Order dtd. 7/5/2015 is hereby annexed as **ANNEXURE –A/2.**

7. It is humbly submitted that every possible violation of norms, procedures and law is being committed in pushing clearances for the India's largest capacity hydropower project, which involves India's highest dam proposed so far & North East India's largest capacity reservoir: the 3000 MW Dibang Multi Purpose Project in Arunachal Pradesh. The project will need more than 4700 hectares of

biodiversity rich Forest area with several Schedule I species in Arunachal Pradesh. It will also have significant downstream impacts on the people & environment of Arunachal and Assam and Dibru Saikhowa National Park. Most of its impacts have not been either properly assessed or considered by the developer, EIA agency or the EAC & MoEFCC.

THE FOREST CLEARANCE FOR THE PROJECT HAS BEEN REJECTED TWICE BY THE FOREST ADVISORY COMMITTEE

8. That it is pertinent to mention here that the Forest Advisory Committee (FAC) rejected the recommendation given by the Cabinet Committee on Investment (CCI) to grant clearance to the Dibang Project**.** While considering the forest clearance to Dibang project, the statutory body FAC was under pressure from the Cabinet Committee on Investment (CCI) headed by the Prime Minister of India. The Respondent No.5 had approached CCI after FAC meeting of 11-12 July, 2013 where the forest clearance to the project was rejected for the first time. In its recommendation to FAC the CCI had stated – *"The Committee considered the note dated 25.10.2013 from the Ministry of Power (VidyutMantralaya) and in the light of all relevant facts, decided that Ministry of Environment and Forests may grant the requisite clearance for diversion of forest land expeditiously. The Committee further directed that appropriate measures for increasing the environment flow in the 1.2 Km along stretch between the dam and Tail Water Level (TWL) of the dam to Power House be taken and if required, adjustments in the project parameter be made at a later*

stage keeping in view the report of Water and Power Consultancy Services (India) Ltd."

That it is important to remember here that despite the above suggestion, while rejecting the forest clearance to Dibang, the FAC had clearly stated that "ecological, environmental and social costs of diversion of such a vast track of forest land, which is a major source of livelihood of the tribal population of the State, will far outweigh the benefits likely to accrue from the project."

Rationale for Rejection: FAC's Observation Regarding Dibang project

9. The FAC has made several significant observations in regard to this project and on the basis of which it has rejected the forest clearance to this project. Some of these observations in order of importance are listed here.

   1. "The revised proposal envisages reduction in dam height by 10 meter which will bring down the submergence of the forest area by only 445 ha, a reduction by less than 9%. The number of affected trees is marginally coming down to 3.24 lakhs from 3.5 lakh. Such a marginal reduction in requirement of the forest land may not be able to reduce the adverse impact of project on such a biodiversity rich mature forest ecosystem to the extent which could make the project environmentally as well as socio-economically viable in forest dependent tribal society of Arunachal Pradesh. The revised proposal, therefore, does not address the concerns raised by the FAC in its last meeting where too the project was rejected.

2. The reduction in power generation due to reduction of the Dam height by 10m it is to the tune of 2.3%. The User Agency has not given any convincing justification for their stand of not reducing the Dam height by more than 10 meter. Impact of reduction of the Dam height on the economic feasibility of the project has not been put forth before the committee.

3. The proposed forest land for Dibang Multipurpose Project is the major habitat of schedule I flora and Fauna. The major Schedule–I species like Elephant, Hollock Gibbon, MishmiTakin, Clouded Leopard, Tiger, Leopard cat, Fishing cat, Mithun, Slow Loris, Snow Leopard and Himalayan Black Bear etc are found in the area.

4. As per the SIR (Site Inspection Report) of RO (Range Officer) Shillong, there will be significant effect on removal of trees in the general ecosystem of the area. As the proposed diversion site is having a steep slope with patches of Jhum cultivated area, removal of the trees will affect the micro climate of the area and the Wildlife and Flora endemic in the proposed sub-mergence area. The trees and shrubs all along the submergence are to be removed so that they will not be left submerged thereby causing decomposition and lead to the accumulation of the methane gas causing Green House effect. The construction of the dam itself may lead to the increase in the temperature in the submergence area which may also effect the micro aqua habitat.

5. Earlier NHPC had submitted three alternatives directly to the ministry reducing dam height by 10, 30 and 40m. However, these proposals have not been mentioned in the revised proposal of the state government.

6. The FAC also made some observations regarding the revised proposal submitted by the Government of Arunachal Pradesh (vide letter no FOR.10/Cor./2003/VolIV/287) on 13.02.2014. Corresponding details pertaining to the revised proposal such as suitable map (Survey of India topo-sheet, Digital GPS map, forest cover map, etc) have not been submitted by the State Government.

8. Compliance of Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has also not been submitted by the State Government.

9. No clarification about the non-suitability of the land identified for Compensatory Afforestation, as per observation of the Regional Office Shillong made in the site Inspection Report, has been furnished by the state government.

10. CAT plan has not been submitted.

11. Earlier decision of FAC also noted, "Including Dibang HEP, there are several other HEP proposed in the same river valley. However there is no study conducted in to assess the cumulative impact of all these reservoir and it upstream and downstream impacts."

FAC CLEARANCE FOR DIBANG PROJECT:

10. A study by a researcher with Nature Conservation Foundationposted on November 13, 2014 by SANDRP reveals:

After the Second rejection, the FAC was reconstituted and the reconstituted FAC has obliged the Minister of Power in its very first meeting by according clearance to DMP by retaining the original stand of the Developer to reduce the dam height to only 10m! There is no legitimacy and sanctity in the clearance, because what was rejected twice has suddenly become 'acceptable' without any change after the FAC was reconstituted by the GoI with their minions as members.

(Note that the above is only a recommendation and no formal clearance has been obtained yet.)

The Ecological impact of the Dibang Multi Purpose HEP is simply awesome for which the FAC gave clearance in such a cavalier manner.

The project, in its earlier version involved diversion of more than 5000 hectares of relatively undisturbed grassland and tropical forest habitat. These and the adjoining forests harbour endangered species such as Tiger, Leopard, Serow as well as the critically endangered Takin, all of which are protected under Schedule I of the Wildlife

(Protection) Act, 1972 (these species are also listed as present in the area in the Environmental Impact Assessment report of the project, undertaken by National Productivity Council, Guwahati). The grasslands in the area harbour the critically endangered Bengal Florican, a grassland habitat specialist (Sinha et al. 2014). Other species recorded from the area include the critically endangered White-romped Vulture, the Slender-billed Vulture and the White-winged Wood Duck. The project site lies in an area identified by the Bombay Natural History Society as a Ramsar site and an Important Bird Area (Islam & Rahmani 2004). The habitat of six endangered plants (Aconitumferox, Coelogynemossiae, Dendrobiumaurantiacum, Paphiopedilumfairieanum, Paphiopedilumvenustum and Vandacoerulea) will be submerged by the reservoir (Chernaik 2007).

The project will also affect aquatic species; the dam will block the breeding migration of four species of fish: the vulnerable snow trout Schizothoraxrichardsonii, Endangered golden mahseer Torputitora, Near-Threatened mahseer Tortor, and chaguni Chaguniuschagunio. The recommendation of the Environmental Management Plan of the Project to establish fish hatcheries for these species is impractical and can have further damaging effects on the species due to collection of eggs and spawn from the wild population.

The project will have other collateral damages such as through Compensatory Afforestation (CA) that often involves converting an area with diverse native species into monocultures, as has been shown for other dams such as the Sardar Sarovar Dam on the Narmada river

(Bhatnagar 2004). The project involves CA of a relatively large area of over 100 sq. km (double the area of forest being affected by the project). The ill-effects of this conversion particularly for the project can be expected to be higher if tree-less natural grassland habitats in Dibang Forest Division, Namsai Forest Division and Anini Social Forestry that harbour grassland habitat specialists are planted with undesired native or non-native tree species. Perhaps the irreversible loss of biodiversity in the forests and grasslands that will be diverted for the project could never be 'compensated'.

Downstream effects include those on fisheries, agricultural lands and wetlands (beels) and the dam will also increase the vulnerability of the region to flash floods. For instance, in the year 2007, flash floods caused due to sudden release of water from the relatively smaller 405 MW Ranganadi project in the Lower Subansiri district in Arunachal Pradesh swamped 83 villages and caused huge loss of lives and property in the Assam State. The project will have a considerable impact on the Dibru-Saikhowa National Park in Assam which has not been studied in detail in the EIA.

ENVRONMENTAL CLEARANCE FOR THE DIBANG PROJECT:

Violation and Non-Compliance of Order dated 20.03.2012 issued by the Respondent No.2 regarding uploading specific documents on its own website

11. That the Respondent No.2 has not complied with the requirement of uploading information pertaining to Form -I, Form –IA and the prefeasibility report, among others submitted by the Respondent No. 5 on its website. This non-compliance is in violation of order dated 20.03.2012 which was issued in compliance to the decision dated 18.01.2012 of the Central Information Commission (CIC), issued by the Respondent No.2 regarding the requirement of MoEF to upload the abovementioned documents on its website.

This non-compliance has put the Appellants at a disadvantage and defeated the ends of justice with regard to non-disclosure of vital information regarding the project and therefore deserves the strictest view of this Hon'ble Tribunal to correct this major default on the part of Respondent No.2.

A copy of the above mentioned order of the Respondent No.2 dated 20.03.2012 has been marked and annexed as **ANNEXURE A/3.**

The appellant also craves the leave of this Hon'ble Tribunal to allow the appellant to file an additional affidavit critiquing the Form 1 of the Project Proponent as and when it is obtained by the appellant.

A copy of the abovementioned RTI to Respondent No.2 and 5 is appened and attached herewith as **Annexure A/4.**

Lack of Application of Mind by EAC at Scoping Stage

12. The Expert Appraisal Committee (EAC) of the MoEFCCrecommended Environment Clearance to 3000 MW Dibang Multipurpose Project in its 77th meeting on 16/09/2014.

The Project was given TOR (Terms of Reference) clearance on 17/8/2009. Public hearings in Lower Dibang and Dibang Valley districts were held on 11/3/2013 and 13/3/2013 respectively, with huge protests from affected people. The EAC earlier considered the project in 68th meeting in Sept 2013, in 73rd meeting in March 2014, in 74th meeting in May 2014 and now in 77th meeting in Sept 2014.

Non Application of Mind

Some key questions that arise as to how the EAC arrived at the positive recommendation:

12.1 Was there any Public Hearing in downstream Assam? Was there proper public hearing in Aruunachal Pradesh?

No

Although Dibang Multipurpose project will have impacts in the downstream Assam, as accepted by Respondent No 5. -NHPC Ltd, WAPCOS and recorded in EAC minutes, no public hearing has been conducted in Assam, in complete violation of the EIA notification which clearly states that in all affected districts public hearings must be held. The submissions from Assam were not discussed during EAC minutes. The people of Assam have been completely ignored in the decision-making about a project that will affect them. Several people who spoke at the Dibang Public Hearing in Arunachal Pradesh in March 2013 raised this issue, but MoEFCC and EAC failed to do anything about this even after SANDRP submissions to EAC also raised this issue.

Even in Arunachal, the public hearing process has seen several violations, leading people to oppose the project and the public hearings, see the quotes from the public hearings given below. Consequently, the public hearings were disrupted by the local people and had to be cancelled several times. The MoEFCC, unfortunately, has no concern for the quality of the whole consultation process and sees it as only a box to be tick marked. The EAC does not even look at issues related to public hearings.

12.2. Were the issues raised at public hearing in March 2013 addressed?

No.

As is clear from the report of the public hearing for the project held at Roing and New Anaya on March 11 and 13, 2014 respectively, the affected people raised a lot of critical issues about the project, EIA, EMP and Public hearing.

In the Minutes of the 68th meeting of EAC held in Sept 2013 and the 73rd EAC meeting held in March 2014, there is one paragraph (same para in both minutes) on public hearings: **"**Concerns Raised During Public Hearings. It was explained that in general, the people were satisfied with the EIA and EMP reports and proposed R&R plan and community and social development plan. R&R plan has been formulated in line with the State R&R Policy, 2008. They took keen interest in knowing the R&R package and community and social development (CSD) plan. However, during public consultation prior

to public hearing and during public hearings of Dibang Multipurpose Project, in addition to community and social development plan more infrastructural development in both Lower Dibang Valley and Dibang Valley Districts were sought viz., up gradation of District Hospitals in both districts, financial assistance for schools, colleges and polytechnic, and construction of cultural museum at Roing and ITI at Anini etc. Besides this for downstream people, the main concern was protection of downstream area in case of dam break / high flood. Keeping this in view, a lump sum provision of Rs. 17100 lakhs has been proposed for consideration of MoEF for mitigation measures at downstream and other infrastructural facilities as raised during public hearings in addition to R&R and CSD plan."

The claim that "in general, the people were satisfied with the EIA and EMP reports and proposed R&R plan and community and social development plan" is a complete lie, as we see from the quotes from the official public hearing minutes below.

It seems the EAC members have not bothered to read the public hearing report, and they have willingly or unwillingly been misled by the NHPC and EIA agencies. To illustrate the critical issues raised at the public hearings, we are giving below some quotes from the official public hearing report. Most of these reports remain unaddressed in the EIA-EMP submitted to the MOEFCC, but MOEFCC and EAC has not bothered to check this.

Shri Lokha Elapra, President, All Idu Mshmi Students Union: *"Poor planning of mitigation from impacts during construction phase. Mitigation measures fail to address issues of demographic impacts, socio-cultural concerns and preservation of traditional land and livelihood… EMP does not have any provision to address this. EIA and EMP does not have any mitigation measures to preserve nor compeansation for permanent loss of mithun grazing areas, fishing grounds and medicinal plants thus endangering the loss of Mishmi Takin (rare Animal), Mishmi Monal (rare Bird) and Mishmi Teeta (rare medicinal plant)… Flood control of Eze (Deopani River to protect Roing Township… A cumulative impact study in the Dibang river basin must be undertaken."*

Shri Raju Mimi, Member, Mishmi Scholar's Association: *"NHPC had undermined the seismic design parameters as recommended by the experts of IIT Guwahati, Guwahati University and Dibrugarh University in respect of the Subansiri Dam. In this regard can the community members of the affected areas be certain that such careless disregard for dam safety be not repeated by NHPC in this case? All the documents related to dam design and safety be made public. Also, the documents should be peer reviewed by* independent group of scientists. *Ecological concerns like extraction of boulders from ecologically sensitive Important Bird Area (IBA). No impact assessment made regarding this in the EIA report… Hence a cumulative impact study in the Dibang river basin must be commissioned. Socio-economic concerns like the catchment area treatment (CAT) plan will restrict land use resulting in loss of land*

and livelihood. NHPC must ascertain such losses and compensate the people affected by CAT… There is possibility of loss of land by destabilization of soil due to the huge reservoir. What mechanisms will be implemented to address these losses? "

Shri Kelo Pulu, President IMCLS: *"Environment Monitoring Cell to assess and review the various mitigation measures as mentioned in the EMP is not convincing. Therefore, the Government of Arunachal Pradesh should immediately notify the formation of an independent Committee consisting of less than 5 members of local Idu Mishmi people."*

Shri Moba Riba: *"Conduct Public hearing at Dambuk Sub division."*

Shri Jibi Pulu: *"Additional EIA-EMP must be undertaken to ensure the minimum impacts to the ecology of Dibang area. The Community people will lose an area of 10390 ha that will be required for CAT plan. This area being grazing area of Mithun will be lost. The EIA does not have any data or estimate/ valuation of this resource. Without any compensation the livelihood rights cannot be taken away from the community. EIA studies about wildlife conservation is inadequate. EIA studies carried out regarding assessment of economic and medicinal plants is not project specific nor community focused. It does not have any reference, assessment and compensation of economically valuable plants like Piper mellusa and Paris polyphylla. The impact of 1950 earthquake of 8.7 magnitude.. Is the dam axis and reservoir standing along the seismic fault line? The*

impoundment of the drainage system by building dam will have major effect.. Hence, EIA studies on downstream impact particularly study of Deopani drainage and its siltation status is absolutely necessary."

Dr Mite Linggi: *"As recommended by the Planning Commission Committee we demand for a Dam safety design panel for an independent assessment of safety of Dibang Dam. There are lacunae in EIA-EMP reports. This must be rectified."*

Shri MartinLego: *"Resistance capacity of the mountains which fall in the reservoir is not studied. Dam should be able to withstand flashflood. Construction of flood protection works with RCC wall supported by vegetative cover on both banks of Dibang River… Our demands must be fulfilled then only we will support."*

Shri Mibom Pertin, President Adi Bane Kebang (ABK): *"Till date no initiative has been taken by the State Government, the district administration or the NHPC to educate the people… the EIA EMP must be modified/ rectified wherein safety measures and actions to be taken in case of dam break… Until and unless the above points are fulfilled the holding of this public hearing is strongly opposed by ABK."*

Shri Jowar Moyang: *"Demand to establish a family dossier of the entire downstream people… Downstream not reflected in the EIA/EMP and DRP therefore, a separate guideline be made to include the downstream within the defined local area. The demands placed*

above must be addressed to within three months of this hearing or else will protest against the construction of the project."

Shri Nun Pertin, President, Dibang Adi Students' Union (DASU): *"Downstream people are unaware of the project benefits, impacts and other issues which are mandatory to be known before the commencement of the project. Therefore, public hearing in this regard must be conducted within blocks and subdivision of Lower Dibang Valley. This must be furnished in written assurance form within one week's time. "*

Shri Anjite Menjo, Zilla Parishad Member, Iduli Anchal Block and Shri Chiliko Meto, ZillaParishad Chairperson: *"Environment Monitoring Cell to assess and review the various mitigation measures as mentioned in the EMP is not convincing. Therefore, the Government of Arunachal Pradesh should immediately notify the formation of an independent Committee consisting of less than 5 members of local Idu Mishmi people… Hence a cumulative impact study in the Dibang river basin must be commissioned."*

Dr Mite Linggi, Representative of Kere A Initiative for Cultural and Ecological Security (KICES): *"It is evident that the 2000 MW Lower Subansiri Project is stalled since Dec 2011 because the technical, environmental and social concerns of the people of Assam were not considered earlier. Report of the Planning Commission appointed Committee of Dr C D Thatte and M S Reddy has raised several serious concerns about the downstream impacts of the 2000*

MW Subansiri Lower Project. Therefore, keeping this in mind, it is absolutely important that public consultation in Assam is carried out before the Dibang project gets environment clearance. Public consultation in Assam is not only necessary to address the concern of the people, but it is a pre-requisite for the people of Dibang Valley in the upstream… Ignoring downstream concerns will only ensure that this project to will meet the same fate as Subansiri Lower Project (2000 MW and get stalled by people of Assam. Rights of the people to use Catchment Area will be denied. Will compensation be included for them? Is it possible for NHPC Ltd to formulate new criteria for all those villages perched atop to include within affected families?"

Shri Lokha Elapra, President, All Idu Mishmi Students' Union (AIMSU): Raises most of the critical issues raised above including need for Cumulative Impact Asessment, inadequate EIA-EMP, Impacts of demographic changes, lack of assessment of loss of grazing land, fishing right. *"We do not want to be refugees in our land.. We the Idu Mishmi have a way of living where we live independently. Past history is proof of it. We had never been ruled and can never be ruled under any circumstance or vice versa. The plot which the NHPC Ltd claim giving free of cost is by virtue forcefully asking us to live in that piece of land where the PAFs are not satisfied."*

Shri Athupi Melo, Ex-ZPM, Anelih-Arju Block and Representing New Endoli village: *"Public hearing on Dibang Multipurpose Project (3000 MW) was postponed 10-14 times earlier as the consent*

of the public was not taken before preparing EIA and EMP reports. The NHPC Ltd had cheated the entire affected people by concealing information and letting the awareness remain within the high reach people only. The NHPC Ltd as per their survey has shown 5 villages, 72 families, 243 persons, 938.8 ha of agriculture land as to be affected by the project. Do they know that the storage reservoir will submerge the land mass which belongs to another 34 villages of the valley?"

Shri Kupu Miku-ASM Arzoo and Representative of Apako village: *"Had been resisting NHPC Ltd for the last ten years. Nothing was made known as to how much land would go and how much compensation would be provided."*

Shri Rezina Mihu, General Secretary, All Idu Mishmi Students Union (AIMSU): *"It has been six yeas of resistance till this morning. The former President of AIMSU sacrificed his life fighting against the Dibang Project… the EIA-EMP is still not upto the mark."*

This selection of quotes from the Public hearing and reading of NHPC response, EIA-EMP and EAC minutes show that not only NHPC has failed to satisfactorily respond to most of these issues, the EAC and MOEFCC has not even bothered to check the veracity of the claims of NHPC and uncritically accepted the NHPC claims. Inadequate response to the issues raised at the public hearing means that environmental clearance given to the project is legally untenable.

12.3. Has there been proper Environmental Impact Assessment of the project?

Kalpavriksh, South Asian Network on Dams Rivers and People (SANDRP) , affected groups from Assam and Arunachal have made several independent submissions to EAC on the inadequacies of the EIA (Environmental Impact Assessment). SANDRP itself sent four different submissions (dated Sept 20, 2013, April 2014, May 2014 and Sept 12, 2014) highlighting various inadequacies of the EIA including:

- Lack of compliance with the Terms of Reference of the EIA
- Lack of basin wide cumulative impact assessment
- Impact of mining of materials for the project not assessed
- Lack of downstream impact assessment (more details below)
- Lack of assessment of how climate change will affect the project and how the project will worsen the climate change impacts.
- Lack of options assessment
- Severe Impacts of Migration of Outsider on Local Tribal Community not assessed
- Impact of the project on disaster potential in the project area as well in the downstream including Assam not assessed
- Impact of changing silt flows downstream not assessed

As noted above, large number of speakers at the public hearing also pointed out the inadequacies of the EIA-EMP.

The Appellant craves leave of this Hon'ble Tribunal to produce all such studies and submissions which has been completely glossed over both at the scoping as well as the appraisal stage by the EAC and the Central Government.

12.4. Are downstream impacts on Assam & Arunachal Pradesh Studied?

No credible study of the impact of the dam, dam break and peaking on Assam and Arunachal Pradesh in the downstream has been done.

Several speakers at the public hearing raised this issue of inadequate downstream impact assessment, as can be seen from the quotes from the public hearing listed above.

It may be mentioned here that the biggest issue plaguing the LSHP is lack of downstream impact assessment, and the EAC, MOEFCC, NHPC or the EIA agencies. Even Respondents Government such as Assam and Arunachal Pradesh seem to be least bothered. Also, it seems no lessons have been learnt after Larji mishap when 25 students were washed away due to demand-driven water releases by upstream hydropower project.Thus for example what would be the impacts of loss of fisheries, loss of agricultural land on river islands, increased

vulnerability to floods caused by removal of boulders from riverbeds for dam construction, sudden release of water from the reservoir in the monsoons, and safety of the dam in a geologically fragile and seismically active region have all not been considered.

12.5. Has the impact of Peaking on Downstream Assam & Arunachal Pradesh studied?

NO

This is despite the fact that submissions were sent to the EAC from several organizations and individual also from Assam, drawing their attention to impact of peaking in downstream Assam, especially in lean season (winter) when flow fluctuations will range from 111 cumecs (Cubic meters per second) to about 13 time rise in volume at 1441 cumecs in a single day. Fluctuations can happen twice or thrice in a single day.

12.6. Has the impact on Dibru Saikhowa National Park in the downstream Assam studied?

NO

The EAC has shown total non application of mind in this respect. There are several hydropower projects being constructed on the three main tributaries of Brahmaputra upstream of Dibru Saikhowa National Park in Assam. All these hydropower projects will undertake peaking operations. It is believed that the EAC has considered these projects separately, as a part of basin studies and as a part of downstream impact studies on Dibru Saikhowa National Park. However, **in all these studies, the level fluctuation at the National**

Park when the three major projects in the upstream undertake peaking operations is different, as per the convenience of the project proponent! It is clear therefore, that although EAC has considered all these studies but without raising any questions about this convenient difference in figures even when the contradictions were brought to EAC's attention by agencies such as SANDRP.

The EAC has recommended Clearance to Dibang Multipurpose Project accepting the contention of the NHPC that **"water level fluctuation in Dibru Saikhowa National Park (DSNP) will be less than one meter."**

- However, the same EAC has considered EIA of Lower Siang HEP (by WAPCOS) where the fluctuation at Dibru Saikhowa when all projects are peaking is said to be **8 feet (2.38 meters)**

- The Report on "Effect of Peaking power generation by Siang Lower HEP, Demwe Lower HEP and Dibang Multipurpose HEP on Dibru Saikhowa National Park" also by WAPCOS states that level difference when all three projects are peaking is estimated to be **34 mts i.e. 7.67 feet**. (Page 26)

EAC did not question these glaring differences in these models even when a submission highlighting these points was sent to the EAC on 13.09.14, before the 77th EAC meeting. The submission is not

mentioned in the minutes, neither discussed, also violating Hon. Delhi High Court Orders (Utkarsh Mandal Case).

12.7. EAC decision violates its mandate; MoEFCC & NHPC guilty of misleading EAC.

During the entire appraisal process, the EAC has failed to pose any difficult questions to NHPC, has not taken a stand supporting Assam, has not even initiated discussion in that direction, has turned blind eye towards submissions it received raising critical concerns, has overlooked contradictions, has overlooked precautionary principle and welfare of people in the downstream Assam and has refused to learn any lessons from the LSHP experience or the Larji Mishap.

While discussion about height reduction of Dibang upto 40 meters were initiated in MOEFCC/ NHPC since Feb 2014, the MOEFCC or the NHPC has not brought this proposal to the attention of the EAC and the EAC has taken absolutely no notice of this and has not even asked for this 40 m height reduction. The only reference we can find to the height reduction proposal is in the minutes of the 73rd EAC meeting, where too there is reference to only 10 m ht reduction. And yet, there is no mention of this in the minutes of the 77th EAC meeting where the EAC recommended clearance to the project.

This alone is sufficient to make the EAC decision legally untenable and make both MOEFCC and NHPC guilty of not informing the EAC

about these developments more than six months after they were initiated.

The EAC on its part has not shown the will to ask for a realignment of the project to minimize its downstream impacts, peaking impacts and submergence impacts. Such biased conduct and the decisions of the EAC, sidelining genuine concerns are in complete violation of the mandate given to EAC and extremely damaging to environmental governance of the country and are a reason for increasing conflicts, delays, protests and strife underlining its callousness towards environmental impacts and local resistance.

The issues that FAC raised while rejecting the Forest clearance are the very issues that EAC should be concerned about since they are under their mandate. But not only EAC did not raise them on their own, but even after they were brought to the EAC's attention by SANDRP, the EAC failed to even discuss those issues.

12.8 Issues on Dibang raised in earlier EAC meeting remains unanswered

The decision making paragraph of the minutes of the EAC meeting of Sept 16-17, 2014 on Dibang Project reads: "After critically examining the proposal and considering the response to various issues raised in the earlier EAC meetings, the project was recommended by EAC for accord of Environmental Clearance to Dibang Multipurpose Project. However, EAC suggested that 20 cumec flow may be released towards e-flow in the 1.2 km diverted stretch as 15 cumec gives just

sufficient quantity. EAC noted that beyond this 1.2 km, adequate flow will be available from TRT which will be minimum in the order of 85 cumec at 80% rated discharge of one turbine."

It is clear that this paragraph does not reflect any application of mind by EAC if the response provided by NHPC to the various issues raised by EAC and others' submissions to EAC are adequate. Even in this paragraph, it is not clear what is the basis of EAC decision to recommend 20 cumecs flow downstream of the dam and not the norm that EAC is following for other projects (30% in monsoon, 20% in lean season and 20-25% in non monsoon non lean season). Nor is it clear what is the basis and impact of operation of one of the (there are 12 turbines, each of 250 MW installed capacity in this project) turbine at minimum 80% capacity round the clock. This non application of mind on the part of the EAC is the norm of EAC and not an isolated incident.

In fact, reading through the minutes of all the EAC meetings since Sept 2013 where Dibang EC (Environment Clearance) was discussed, it is clear that while EAC has raised a large no of questions and reported some of the information submitted by NHPC, no where can we find application of mind of the EAC where it is stated that the information/ responses provided by NHPC is adequate or not. The uncritical acceptance by the EAC about the information/ responses provided by the developer is another noteworthy feature of EAC decision.

Let us illustrate this. The minutes of the 73rd EAC meeting held in March 2014 says: “A detailed fisheries (also flora and fauna) survey was conducted by Centre for Inter-Disciplinary Studies for Mountain and Hill Environment (CISMHE), Delhi University in the month of December 2013.” Immediate question than arises is, why were the fisheries and other surveys done only in one month and not across the year as is the normal practice? What were the outcomes of the study? You will find neither critical questions, nor any answers in the EAC proceedings.

Here is another example. The minutes of the 74th EAC meeting held in May 2014 says: “It was informed that fluctuation in the water level at upstream of Dibang-Lohit confluence due to peaking operation will be about 17 cm which is almost negligible considering the size of the river.” Shockingly, the EAC does not even ask: A. If this estimate is sound and if it is consistent with conclusions of other studies; B. What will be the level fluctuation at different points along 60 km stretch of the river upstream from this point to the project site and what will be the impact there of. EAC’s such uncritical acceptance of apparently contradictory and inadequate responses from the developer is the norm and not an isolated incident. Considering that EAC was considering the largest installed capacity project of India, highest dam of India and biggest reservoir in North East India so far, one expected the EAC to be more diligent. This was even more so considering the experience of the LSHP.

To further illustrate, the minutes of the 74th EAC held in May 2014 says: "The point-wise reply to the two representations submitted by Kalpavriksh was submitted to MoEF and EAC members and the same was also presented before EAC during the meeting." Similarly, the minutes of the 73rd EAC meeting held in March 2014 says: "point-wise replies to the issues raised by Shri Chow Rajib Gogoi, Secretary, All Tai Ahom Student Union, Jorhat and Shri Pushp Jain, Director, EIA Resource and Response Centre (ERC), New Delhi were also given". But in both cases, there is not even a word as to whether EAC discussed the NHPC response and if they did what was their conclusion about adequacy or acceptability of the NHPC responses. As far as four separate submissions sent by SANDRP to EAC on Dibang Project are concerned, EAC neither mentioned them, nor did it seek NHPC's response on them.

Considering all this, the decision of the EAC to recommend EC to the Dibang Project is clearly wrong, based on inadequate appraisal, in the absence of application of mind and legally untenable.

The Seismic consideration of Dibang Multi Purpose HEP: Tallest gravity dam in the world.

13. **On shaky ground:** A critical issue with the project is that the site lies close to an active Fault Line in the Mishmi Thrust of the Mayudia Group in Eastern Arunachal Pradesh with a history of several seismic activities including the Great Assam earthquake of 8.6 magnitude in 1950 (Figure 1, Misra 2009). In the event of an earthquake, the project poses a risk of catastrophic submergence of several villages and vast

areas of forests downstream. The recommendations of the Environmental Impact Assessment (EIA) report of the project are cursory and suggest further research on the natural seismicity of the region as well as reservoir-induced seismicity, which should be the basis for the decision about the project.

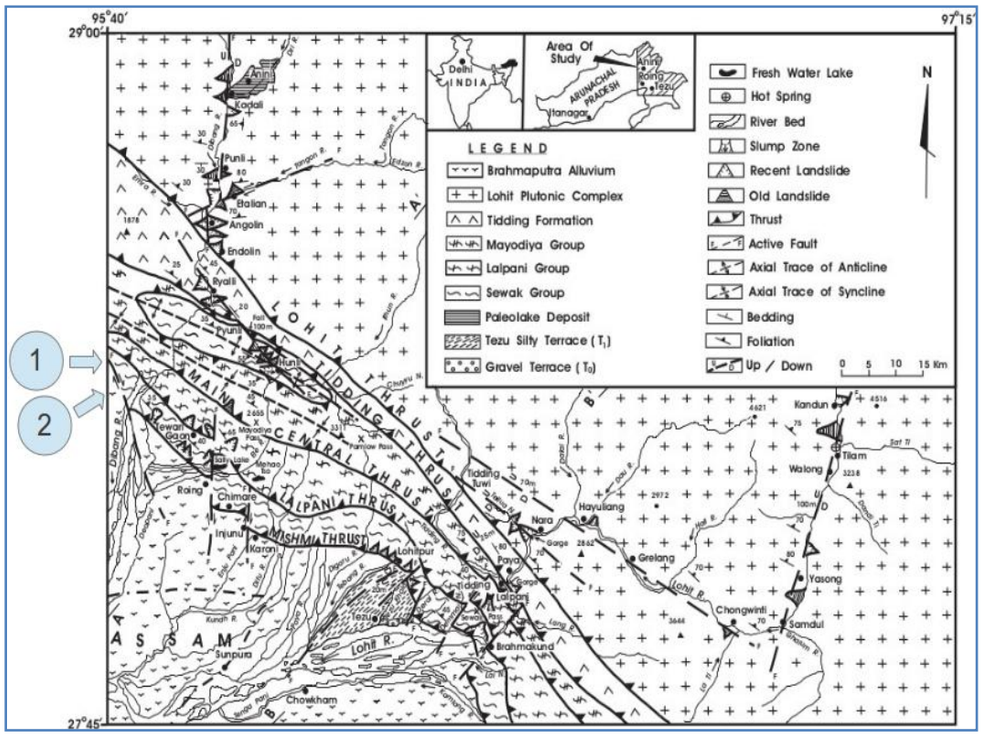

Figure 1: (Modified from Misra, 2009) showing the location of the fault lines around the proposed project site. 1 is the location of the Fault line and 2 is the location of the proposed site.

The beautiful Dibang valley that faces the threat of submergence due to the Dibang Multipurpose Project (Photography by Soumya Dasgupta).

NHPC misleadingly and baselessly claimed that they ‘were not in a position to reduce the height of the dam any further, as it would significantly affect the power generation’. The decision to provide clearance to the project seems like a hasty one driven by the blinders of development and the consequences of such projects is evident from the fate of the Lower Subansiri Hydropower Project in the same State, also by NHPC. After 12 years since the LSHP was initiated and after an expenditure of over Rs. 5000 crores, the work has been on a standstill for the last 35 months as a result of India’s biggest anti-dam people’s movement (Dandekar & Thakkar 2014). Considering the economic, ecological, environmental and social costs of the project as well as the geophysical risk it poses, it would be prudent to withdraw the project till a credible, detailed cumulative study covering these aspects is undertaken in a transparent and participatory way. While

the rest of the world is recognizing the ill-effects of dams, with the largest dam removal project on the Elwha river in the United States completed just three months back, it is paradoxical that we are heading in the other direction; of building the highest dam in the country and largest capacity reservoir of the North East India without even basic studies, credible impact assessment and democratic decision making process.

Quarrying, Tunnelling & Muck from DMP

14. From the Dibang Multipurpose project (DMP), during the construction it is estimated that the following boulders, sand will have to be extracted.

- Boulders to be extracted : **32,00,000 truck load** (32 lakh truck load)
- Sand to be extracted : **16,00,000 truck load** (16 lakh truck load)
- The project will generate **198,00,000 lakh cu^{3}m of muck**

Mind boggling, but for one project only! Unsustainable extraction of sand and boulder has significant negative effects on geomorphology, bank stability, flood character of the river, water quality, river flow and biodiversity in the river basin (*Padamlal el al 2008*). Removal of large quantities of boulder and sand increase many times the erosive power of rivers during flood condition as was witnessed in Uttarakhand.

A copy of the above stated study of Nature Conservation Foundation is hereby annexed as **ANNEXURE A/5**.

WAPCOS STUDY ON "EFFECT OF PEAKING POWER...":

15. In, a letter to Ms. Jayanthi Natarajan, then Minister of State, Environment and Forests (Independent Charge) by Parineeta Dandekar from SANDRP dtd. 8/12/2011, serious concerns were raised in regard to the WAPCOS study "Effect of Peaking power generation by Siang Lower HEP, Demwe Lower HEP and Dibang Multipurpose HEP on Dibru Saikhowa National Park" uploaded on MoEF website on Nov., 2011, which is given herein below:

15.1. Severely restricted scope of the study: The study confines itself to the impacts on Dibru Saikhowa NP due to only one single variable i.e. changes in water levels because of upstream dams.However, Dibru Saikhowa NP (and biosphere reserve) is a part of the riverine ecosystem and is affected by any change in the riverine ecology. Changes in the upstream water quality, fish assemblages, zooplankton and phytoplankton, turbidity, etc., will have cumulative impacts on the biodiversity of the National Park and all these factors are severely affected by hydro peaking. Hence, considering the park in isolation, that too studying only the impact of water level changes on the park is highly restricted, insufficient and does not give enough evidence for informed decision making. Ecological impacts of the drastically changed hydrological regime will have repercussions on all ecosystem components like:

Chapories in Lohit, which are an Important Bird Area and proposed Ramsar site supporting critically endangered bird species. Unlike the

Lower Siang EIA Study, Chapories do not even find a mention in this latest version.

Piscean diversity downstream of the dams, at and downstream of the confluence, which includes India's National Aquatic animal, the **Gangetic Dolphin.** As pointed out by Dr. Bibhab Kumar Talukdar in his submission to the NBWL on 11 Oct 2011, May 3, 2010 order of the National Environmental Appellate Authority (NEAA) has asked that the NBWL enquiry should also examine impacts in the downstream on Gangetic River Dolphin and Important Bird Areas (IBAs), which include the Dibru Saikhowa Complex, but the present report makes no mention of the impact of hydrological changes on either of these aspects.

As pointed out by Dr. M. Feroz Ahmed, Member of National Tiger Conservation Authority of India in his submission to the NBWL on the 2 December 2011, **Tiger corridors** exist in the riverine islands and tracts forests at the base of hills of the Dibang, Siang and Lohit, connecting this area to known habitats like Dibru-Saikhowa NP and forests in plains and lower hills in Arunachal Pradesh. Hydro peaking will affect these corridors and effectively, tiger populations in Dibru Saikhowa NP. This aspect has been entirely neglected by the current WAPCOS Study. This is only an indicative list, but it is clear that a more holistic analysis of the combined impact of all three projects on the downstream ecosystems, including and not limited to Dibru Saikhowa NP and biosphere reserve is needed.

15.2. No Conclusions drawn about impact of flow fluctuation on riverine and riparian ecology: The study draws absolutely NO conclusions about how the flow fluctuation and changes in hydrological regimes (to which many species are very sensitive) will affect the fragile riverine biodiversity and in turn biodiversity in Dibru Saikhowa and surrounding areas. Without analysing the impacts of modified hydrology on components of the ecosystem like fish, riverine islands, sediment flows, etc. arriving at an informed decision will be impossible.

15.3. Incomplete conclusions about impact of changing water levels on riverine and riparian ecology: The study claims that the fluctuation in water levels during winter peaking at Dibru Saikhowa as a result of Demwe Lower will be 0.78 meters that is 2.55 feet. At the same time, level difference when all three projects are peaking is estimated to be 2.34 mts i.e. 7.67 feet! **(**Page 26, Case I – Present Scenario Post 2003 – When Lohit has Changed to Southern Boundary of Dibru-Saikowa) Such a massive level change of water, at an average distance of 80 kms downstream of dam sites will have drastic impacts on the ecology of the riverine stretch between dams and Dibru Saikhowa NP, affecting the NP, which have not been assessed or addressed. We take a strong objection to the statement made in the report that these level changes"will not have any impact on the park as it is lower than lowest elevation of the Park". It is alarming to see blanket statements like these without any sort of ground-truthing, field studies or discussions with ecologists and scientists who have been working on the area. It seems impossible that a fluctuation of 7.67 feet

will not impact the amphibians, fish, mammals and nesting birds which use the river in different ways along its length and also in Dibru Saikhowa NP.

15.4. No mention on cumulative impact of dams on Sedimentation/ erosion pattern at Dibru Saikhowa NP: Dibru Saikhowa NP is strongly affected by sedimentation and erosion patterns of the rivers. All the three dams in the upstream will affect the sediment regime drastically. However, the present study does not address this issue at all.Dibang EIA has mentioned the issue briefly and claims that: “Dibru-Saikhowa National Park is subjected to three to four waves of flood every year. These recurring floods often change the course of Lohit and Brahmaputra rivers itself, causing both soil erosion and siltation, playing a significant role in modifying the habitat of the Park.” (This study was also done by WAPCOS.)Many wildlife experts have highlighted the importance of sedimentation and erosion in the existence of the park and it is shocking to see this element completely missing from the present study. In addition to a study on impact of sedimentation and erosion,an analysis of the impact of sudden water releases from all the three projects simultaneously at 1-in-100 year flood also is required. Similarly an analysis of impact of sudden annual release of silt from all the three projects simultaneously and separately is required.

15.5. Socio ecological impact of villages inside Dibru Saikhowa National Park: There are two forest villages inside the NP, with an approximate population of 1500 people. The impacts of hydrological changes on these villages in terms of transport, safety, etc., have not been addressed. The impact of the changed hydrological regime in further stretches of the rivers has also not been assessed.

15.6. Contradictory data presented: There are a number of contradictions in the data presented in the latest WAPCOS report.

1. **Distance of dams from Dibru Saikhowa NP boundaries:** Dibang EIA mentions that Dibru Saikhowa NP is 63 kms downstream of the dam site, however the latest WAPCOS report states that it is 87 kms from the dam site. This is a significant difference, especially considering the emphasis on flow attenuation based on distance.

2. **Eflows: Without providing any source, the report claims on page 10 that eflows are 'assumed' as:**

S. No.	Project	Minimum flow release, Cumec
1	Lower Siang HEP	328
2	Demwe Lower HEP	70
3	Dibang Multipurpose HEP	50

Firstly, these are not eflows, but just one component in the regime: the lowest releases in the leanest periods (January/ December).

Eflows stated in the EIA reports on which Environmental Clearance is based should be the logical basis for these figures, however, eflows figures in individual EIAs and latest WAPCOS Report differ.

- **Dibang Multipurpose HEP:**

The EIA states eflows at 49 Cumecs for November, 55 Cumecs for December and 60 Cumecs for January. WAPCOS study states a figure of 50 Cumecs. Also, the timing for lowest minimum flow releases for Dibang (**November**, not December or Jan) does not coincide with leanest period of Demwe Lower and Lower Siang.

3. Assumptions about eflows:

As with all the above cases, there are serious issues about eflows assessed for Dibang Multipurpose Project. According to the EIA, Building Block Methodology has been adopted to allocate a mere 15% of average inflow during this period as eflows.

("Season III: This season is considered as low or lean or dry flow season. It covers the months from November to March. The proposed minimum flow is taken as 15% of average flow during this period.")

On the other hand, for Lower Siang, which is an adjacent river basin, the Season III flows for November to March according to BBM are taken as "Season III as 20% of average flow during this period." What is the ecological basis for this difference? Also, what is the assumption for using these blanket percentages in the first place? The manner in which eflows has been assessed by all the EIAs and basin studies (3 out of 4 conducted by WAPCOS) are alarming, which will have irreversible impact on the ecology of the region, including the Dibru Saikhowa NP. No independent experts or experts from ecology and wildlife have been consulted in this exercise.

We strongly appeal to the NBWL to raise objections about this basic issue which will impact the entire river ecology, downstream livelihoods and associated wildlife, including the Dibru Saikhowa NP, IBAs and endangered species like Gangetic Dolphins and Golden Mahseer. Entire eflows section of the Lohit Basin Study done by WAPCOS which includes Demwe Lowerhas been based on several crucial flawed assumptions. The calculations and methodology adopted for eflows assessment can be considered arbitrary at best. Many organisations have written to the MoEF about the flawed assumptions and methodology adopted for the Lohit eflows study. Considering these facts, the basic eflows calculations need to be verified by a team of ecologists, wildlife experts and hydrologists including independent experts, and impact thereof on the power generation and project viability needs to be assessed and CEA and others informed, only then can informed

decisions regarding impacts of hydrology on biodiversity can be made.

CONCLUSION: It seems WAPCOS has severely misrepresented the data to give a wrong picture to the NBWL about the actual hydrological flow variations during peaking hours at Dibru Saikhowa NP and its impacts on wildlife, ecology and ecosystem goods and services. WAPCOS should be asked to explain this and if there are no reasonable explanations for such wide variations, the report should be rejected and an independent credible agency should be asked to redo this.

In any case, the very crucial role of an independent, credible agency with multidisciplinary panel of experts from the fields of ecology, wildlife, hydrology, geology, social sciences, etc., is imperative while making decisions of such gargantuan proportions, which have the power to create irreversible impacts on ecology and livelihoods. A single agency, that too with a major conflict of interest like WAPCOS, should not be solely relied on for this.

A copy of the above stated letter dtd. 8/12/2011 is hereby annexed as **ANNEXURE A/6.**

EVALUATION OF THE ENVIRONMENTAL IMPACTASSESSMENT REPORT AND ENVIRONMENTALMANAGEMENT PLAN

16. According to a study conducted by Environmental Law AllianceWorldwide (*www.elaw.org*) of the Environmental Impact Assessment Report and Environmental Management Plan for the Dibang Multipurpose Project, the said EIA and EMP fails to address a number of critical components of the proposed project. Some of the said contentions are given below:

16.1. The EIA fails to assess access roads that are an unavoidable component of the project

Form 1 of the new EIA notification states:

Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality: …Supporting infrastructure (**roads**, power supply, waste or waste water treatment, etc.)

Access roads will be an unavoidable component of proposed Dibang multipurpose project. The location of the proposed dam is in a remote, undisturbed forested area. Heavy equipment and materials would need to be moved to the site. The EIA states (on pages 6-4 to 6-5):

Impacts due to construction of roads: The topography of the project area has steep slopes, which descends rapidly into narrow valleys. The conditions can give rise to erosion hazards due to net downhill movement of soil aggregates. The project construction would entail significant vehicular movement for transportation of large construction material and heavy construction equipments. Some of the roads (19.5 km length) in the project area, would require widening and many new roads (a total of 64 km length) would have to be constructed. The construction of roads can lead to removal of trees on slopes and reworking of the slopes in the immediate vicinity of roads which increases the vulnerability of the area to landslides, erosion gullies, etc.

The indirect impact of the construction of new roads is the increase in accessibility of hitherto undisturbed areas, resulting in greater human interferences and subsequent adverse impacts on the ecosystem.

This is not an assessment, but a bare restatement of the issue. Missing from the EIA is any information about how the new roads would impact wildlife dwelling in the forested areas and adjacent water bodies that the new roads would bisect or impact. The EIA does not even identify the location or routes of these new roads. What impacts the EIA does list (increased incidence of landslides and soil erosion), the EIA does not quantify or even discuss the magnitude and extent of such impacts.

16.2. The EIA fails to assess power transmission lines that are an unavoidable component of the project

Form 1 of the new EIA notification contains the following:

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

New or diverted **transmission lines** or pipelines?

Environmental Impacts of Electricity Transmission

Electricity transmission systems include the transmission line, its right-of-way (ROW), switchyards, substations, and access or maintenance roads. The principal structures of the transmission line include the line itself, conductors, towers, and supports (e.g. guy wires). The erection and establishment of a transmission system is associated with severaladverse impacts.

Impact: Vegetation damage, habitat loss, invasion by exotic species along the ROW and access roads and around substation sites .... Runoff and sedimentation from grading for access roads, tower pads and substation facilities, and alteration of hydrological patterns due to maintenance roads

Power transmission lines will be an unavoidable component of proposed Dibang multipurpose project. The location of the proposed dam is in a remote, undisturbed forested area. The amount of power generation will vastly exceed the needs of the population in close proximity to the proposed project. In fact, Section 1 of the EIA describes the likelihood that power from the proposed dam would be exported. Page 1-6 of the EIA states:

Boosting up of electricity generating capacity is an urgent national need, because of the growing power demand year by year. NE region has huge hydel potential for electricity generation and also has the advantage of **exporting** the same to other SAARC/South Asian Countries due to its strategic location.

Like a ghost, the EIA for the proposed Dibang multipurpose project is completely silent on the issue of power transmission lines, pretending that, despite the remote location of the project and the facts described above, that transmission lines would not be a component of the project.

16.3. The EIA fails to assess the impacts of greenhouse gas emissions

Global warming is emerging as the most critical environmental challenge society has ever faced. Averting global warming is necessary to prevent catastrophic consequences, such as sea level rises, crop failures due to changing weather patterns, massive

extinction of species unable to adapt to new climate regimes, and increased frequency of destructive storms.

The EIA for the proposed Dibang multipurpose project contains a brief, one-page discussion of how the project would impact the environment by emitting air pollutants during the construction of the dam. Omitted from this analysis is the key question of emissions of greenhouse gases from the reservoir that the proposed dam would establish.

A recent review of scientific data about greenhouse gas emissions states:

- All reservoirs can be presumed to produce methane (CH4) and CO2. Reservoirs are also sources of the potent greenhouse gas nitrous oxide (N2O). ...

- The gases are released via diffusion across the water surface and in bubbles that rise from the reservoir bottom. There can also be significant emissions, especially at dams in the tropics, from the degassing of water released through turbines and spillways. When water from below the surface of the reservoir is discharged at the dam, the pressure acting upon it suddenly drops and – according to the chemical principle of Henry's Law – it is able to hold less dissolved gas. …

- The major component of the warming impact of boreal reservoirs is diffusive CO2; the major component of the warming impact from the surfaces of tropical reservoirs is methane bubbles. For at least some tropical reservoirs the majority of their warming impact is due to methane degassing. …
- The gases are formed by the decomposition in the reservoir of dissolved and particulate organic carbon. The main sources of this carbon – the "fuel" for the reservoir emissions – are the vegetation and soils flooded when the reservoir is first filled, the organic matter washed into the reservoir from upstream (which may be from natural or farmed ecosystems, or sewage from cities), the plankton and aquatic plants which grow and die in the reservoir, and the vegetation that grows on the "drawdown" land temporarily exposed during low reservoir periods. Reservoirs absorb atmospheric CO2 due to photosynthesis by plankton and aquatic plants; this uptake can occasionally exceed CO2 emissions. …

- Methane emissions occur due to bacteria that decompose organic matter in oxygen-poor water. The bottom layer of water in tropical reservoirs tends to be seriously depleted of oxygen. Some methane bubbles are oxidized to carbon dioxide as they rise to the reservoir surface – thus shallow tropical reservoirs where bubbles have less time to become oxidized tend to have the highest methane emissions.

- Emissions per unit of area flooded are much higher from tropical reservoirs than from those in boreal zones, which are in turn generally higher than those in temperate zones.

- Reservoirs emit greenhouse gases over their lifetime. There is an initial high pulse of emissions in the first few years after reservoir filling because of the huge amounts of carbon in the biomass and soils in the area flooded. Emissions generally appear to decline over subsequent decades. The actual rate of decline varies widely between individual reservoirs and climate zones. Some reservoirs fail to show any clear decline, and researchers have sometimes recorded increased emissions over time when sampling the same reservoir several years apart.

- Emission levels vary widely between reservoirs depending upon such factors as the area and type of ecosystems flooded, reservoir depth and shape, the local climate, the duration of winter ice-cover, the area of the reservoir covered in aquatic plants, water quality (especially pH and nutrient content), the way in which the dam is operated, and the ecological, physical and socio-economic characteristics of the dammed river basin. Among the factors influencing degassing emissions are the concentrations of methane at different reservoir depths, the depth of turbine and spillway intakes, and the type of spillway design.

- Surface emissions vary widely among different parts of the same reservoir (largely due to changes in depth, exposure to wind and sun, and growth of aquatic plants), and from year to year, season to season, and between night and day. This greatly complicates efforts to develop reliable whole-reservoir estimates from a limited set of samples measured at specific points in the reservoir during specific time periods. Confidence in the measurements themselves is also hampered by the different results obtained through different measuring equipment and techniques, and disagreements over which measuring methods are most appropriate. Factors affecting degassing emission volumes include variations in the volume of water discharged, and the proportion of turbined water versus that which is spilled.

- Calculation of the warming impact of reservoirs should be based upon net emissions. This requires adjusting measurements of gross emissions at the reservoir surface and dam outlets to allow for whatever sinks and sources of greenhouse gases existed in the reservoir zone before submergence, the uptake of carbon through reservoir photosynthesis, and the impact of the reservoir upon the pre-dam flows of carbonthroughout the wider watershed.

According to this reference work, dam reservoirs in tropical areas emit, on average, 5470 milligrams of carbon dioxide per day per square meter; and emit, on average, 189 milligrams of methane (a gas

that is 1500 times more potent than carbon dioxide at trapping heat) per day per square meter. According to page 1-8 of the EIA, the reservoir will occupy an area of 40 square kilometers at full reservoir level (equivalent to 40,000,000 square meters). **Thus, the reservoir would likely emit nearly 80,000 metric tons of carbon dioxide per year, and another 2,760 metric tons of methane per year. This does not include the substantial loss each year in the amount of carbon dioxide that would no longer be taken up through photosynthesis by vegetation that exists in the submergence area.** Considering the number of similar hydroelectric projects that are planned in Arunachal Pradesh, it is imperative to assess the cumulative impacts of all these projects on global climate.

17. The EIA inadequately assesses impacts to wildlife and biodiversity

India is a signatory to the Convention on Biological Diversity (CoBD). Article 14 of the CoBD states:

Article 14. Impact Assessment and Minimizing Adverse Impacts

1. Each Contracting Party, as far as possible and as appropriate, shall:

(a) Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures; …

Although the CoPB does not define "appropriate procedures," in March 2006, the Eighth Meeting of the Conference of the Parties to the CoBD agreed to the following decision:

Decision VIII/28, Impact assessment: Voluntary guidelines on biodiversity-inclusive impact assessment.[1] These guidelines state:

The Conference of the Parties to the Convention on Biological Diversity:

5. Urges Parties, other Governments and relevant organizations to apply the voluntary guidelines on biodiversity-inclusive environmental impact assessment as appropriate in the context of their implementation of paragraph 1 (a) of Article 14 of the Convention and of target 5.1 of the provisional framework of goals and targets for assessing progress towards 2010 and to share their experience, inter alia, through the clearing-house mechanism and national reporting;

…

8. Pertinent questions from a biodiversity perspective. Taking into account the three objectives of the Convention, fundamental questions which need to be answered in an EIA study include:

(a) Would the intended activity affect the biophysical environment directly or indirectly in such a manner or cause such biological changes that it will increase risks of extinction of genotypes, cultivars,

varieties, populations of species, or the chance of loss of habitats or ecosystems?

(b) Would the intended activity surpass the maximum sustainable yield, the carrying capacity of a habitat/ecosystem or the maximum allowable disturbance level of a resource, population, or ecosystem, taking into account the full spectrum of values of that resource, population or ecosystem?

(c) Would the intended activity result in changes to the access to, and/or rights over biological resources? …

10. Types of existing screening mechanisms include:

(c) Expert judgement (with or without a limited study, sometimes referred to as initial environmental examination or preliminary environmental assessment). Biodiversity expertise should be included in expert teams; …

29. Assessing impacts usually involves a detailed analysis of their nature, magnitude, extent and duration, and a judgement of their significance, i.e., whether the impacts are acceptable to stakeholders and society as a whole, require mitigation and/or compensation, or are unacceptable.

30. Available biodiversity information is usually limited and descriptive, and cannot be used as a basis for numerical predictions.

There is a need to develop biodiversity criteria for impact evaluation and measurable standards or objectives against which the significance of individual impacts can be evaluated. The priorities and targets set in the National Biodiversity Strategy and Action Plan process can provide guidance for developing these criteria. Tools will need to be developed to deal with uncertainty, including criteria on using risk assessment techniques, precautionary approach and adaptive management.

31. A number of practical lessons with respect to the study process have emerged including that the assessment should:

(a) Allow for enough survey time to take seasonal features into account, where confidence levels in predicting the significance of impacts are low without such survey;

(b) Focus on processes and services, which are critical to human well-being and the integrity of ecosystems. Explain the main risks and opportunities for biodiversity;

(c) Apply the ecosystem approach and actively seek information from relevant stakeholders and indigenous and local communities. Address any request from stakeholders for further information and/or investigation adequately. This does not necessarily imply that all requests need to be honoured; however, clear reasons should be provided where requests are not honoured;

(d) Consider the full range of factors affecting biodiversity. These include direct drivers of change associated with a proposal (e.g. land conversion, vegetation removal, emissions, disturbance, introduction of invasive alien species or genetically modified organisms, etc.) and, to the extent possible, indirect drivers of change, including demographic, economic, socio-political, cultural and technological processes or interventions;

(e) Evaluate impacts of alternatives with reference to the baseline situation. Compare against legal standards, thresholds, targets and/or objectives for biodiversity. Use national biodiversity strategies and action plans and other relevant documents for information and objectives. The vision, objectives and targets for the conservation and sustainable use of biodiversity contained in local plans, policies and strategies, as well as levels of public concern about, dependence on, or interest in, biodiversity provide useful indicators of acceptable change;

(f) Take account of cumulative threats and impacts resulting either from repeated impacts of projects of the same or different nature over space and time, and/or from proposed plans, programmes or policies;

(g) Recognize that biodiversity is influenced by cultural, social, economic and biophysical factors. Cooperation between different specialists in the team is thus essential, as is the integration of findings, which have bearing on biodiversity;

(h) Provide insight into cause – effect chains. Also explain why certain chains do not need to be studied;

(i) If possible, quantify the changes in biodiversity composition, structure and key processes, as well as ecosystem services. Explain the expected consequences of the loss of biodiversity associated with the proposal, including the costs of replacing ecosystem services if they will be adversely affected by a proposal;

(j) Indicate the legal provisions that guide decision-making. List all types of potential impacts identified during screening and scoping and described in the terms of reference and identify applicable legal provisions. Ensure that potential impacts to which no legal provision applies are taken into account during decision-making.

Section 6.6 of the EIA for the Dibang multipurpose project provides only the following assessment of how the project would impact endangered wildlife:

“Mehao Wildlife Sanctuary is located in south-east direction at a distance of about 11 km from reservoir periphery. Likewise, Dibang Wildlife Sanctuary is located in north-east direction at a distance of about 35 km from tail end of the reservoir. Since, no portion of these wildlife sanctuaries is getting affected, as a result of the proposed project, hence no impact on fauna is anticipated as a result of the construction and operation of the proposed project. Likewise, an

intervening distance of about 11 km and 35 km between project site and the above referred ecologically sensitive areas provides adequate buffer for the protection of the sanctuaries from adverse impacts due to various construction activities."

This assessment is illogical. Endangered species, especially mammals with large individual ranges, are not capable of determining when they are within the boundaries of a wildlife sanctuary, which are established by government decree. There will be impacts to endangered fauna because the project area presently provides habitat to these species, even though the project area has not been decreed a wildlife sanctuary. Furthermore, the existence of two wildlife sanctuaries in the Dibang valley are not sufficient by themselves to ensure the survival of species that would be impacted by the project.

The EIA for the Dibang multipurpose project violates several apparent legal requirements of the CoBD (as expressed in the Voluntary guidelines on biodiversity-inclusive impact assessment) namely:

1. According to the EIA, the submergence area presently provides habitat to six endangered plants (*Aconitum* ferox, *Coelogyne* mossiae, *Dendrobium* aurantiacum, *Paphiopedilum* fairieanum, *Paphiopedilum* venustum and *Vanda* coerulea) on the red list of the Botanical Society of India, and a further seven species of mammals (*Ailurus* fulgens [Red panda], *Bunopithecus* hoolock [Hoolock gibbon], *Cuon* alpinus [Wild dog], *Hylopetes* alboniger [Particoloured Squirrel], *Panthera* tigris [Tiger], *Panthera* uncia [Snow leopard], *Trachypithecus* pileatus

[Capped langur]) having the status of endangered on the International Union for Conservation of Nature and Natural Resources Red List of Threatened Species. The EIA does not address the question of whether the proposed project would 'surpass the maximum sustainable yield, the carrying capacity of a habitat/ecosystem or the maximum allowable disturbance level" of any of these thirteen species "taking into account the full spectrum of values of that resource, population or ecosystem." See paragraph 8(b) of the guidelines.

2. The EIA does not include biodiversity expertise within the EIA team. The acknowledgements for the EIA list a study team or four persons, with assistance from an additional five resource persons, none of whom are conservation biologists. See paragraph 10(c) of the guidelines.

3. The EIA does not provide information about the "nature, magnitude, extent and duration" of the project's impact on the Indian tiger, Indian leopard, and other endangered and threatened species. See paragraph 29 of the guidelines.

4. The EIA does not specify the survey time used for assessing impacts to biodiversity, or assess whether the time was sufficient to "take seasonal features into account." See paragraph 31(a) of the guidelines.

5. The EIA does not consider "the full range of factors affecting

biodiversity," including "indirect drivers of change" such as demographic, economic, socio-political, cultural and technological processes that might have impacts on the Indian tiger, Indian leopard, and other endangered and threatened species. See paragraph 31(d) of the guidelines. For example, the EIA did not consider how demographic changes in the project area that would result might impact biodiversity.

6. The EIA does not "quantify the changes in biodiversity composition, structure and key processes, as well as ecosystem services" with respect to the Indian tiger, Indian leopard, and other endangered and threatened species. The EIA also did not "explain the expected consequences of the loss of biodiversity associated with the proposal, including the costs of replacing ecosystem services if they will be adversely affected by a proposal." See paragraph 31(i) of the guidelines.

7. The EIA does not "indicate the legal provisions that guide decision-making" with respect to the Indian tiger, Indian leopard, and other endangered and threatened species. See paragraph 31(j) of the guidelines.

The Biodiversity Conservation and Management Plan for the proposed project is not sensible. For mitigation of impacts to endangered plant species, the Biodiversity Conservation and Management Plan envisions cultivating such species among 5 hectares

of land subject to compensatory afforestation. The proposed project would cause the loss of more than 5000 hectares of forest cover. It is not possible to adequately provide habitat on just 5 hectares of land to the plants that would be lost from 5000 hectares of forest cover, even assuming that the 5 hectares of land subject to compensatory afforestation have characteristics suitable to the propagation of these endangered plants. For mitigation of impacts to endangered mammals, the Biodiversity Conservation and Management Plan envisions establish 4 checkposts manned by 8 guards to lessen the incidence of poaching by an imported workforce of 5000 persons. This measure will do nothing to ameliorate the fact that more than 5000 hectares of habitat for seven endangered species of mammals would be permanently lost.

A copy of the above referred study by Environmental Law Alliance Worldwide is hereby annexed as **ANNEXURE A/7.**

SPECIFIC CONTENTIONS OF E.C LETTER DTD. 19/5/2015

18. That it is stated in Sl. No. 3 of the EC that –

"The Public Hearings were conducted on 11.03.2013 at Roing for Lower Dibang Valley district and on 13.03.2013 at New Anaya for Dibang Valley district of Arunachal Pradesh."

The applicant begs to state that the Public Hearings for DMP was treated merely as a statutory requirement. As highlighted earlier the issues raised by the Public are hardly addressed while granting Environmental and Forest Clearances.Minute of Environmental Public Hearings of Dibang Multipurpose Project (3000 MW) conducted on New Anaya, Dibang Valley District, Arunachal on 12/3/2013, saw many issues being raised by the Public but which were never addressed by the project proponent.

A copy of the Public Hearing is hereby annexed as **ANNEXURE A/8.**

19. That in Sl. No. 5 (iv) of Part A: Specific Conditions of the Environmental Clearance issued to the project proponent by MoEFCC, it is stated that –

"All the commitment made during the public hearings shall be fulfilled completely by the developer."

That there has been genuine concerns from the local people wherein one of the participant of public hearing Shri Lokha Elapra, President, All Idu Mishmi Students' Union had stated that –

"*The population of Idu Mishmi tribe is only around 12000. The influx of a large number of outsiders will outnumber the locals and this will negate the constitutional and legal safeguards provided to small population of Idu Mishmis. This will impinge on the traditional way of life and rights of the Idu Mishmi people."*

But the respondent authorities and the project proponent are completely silent on this issue as to - How the said demographic changes will be addressed without hampering the demographic profile among others of the indigenous and tribal people of the Lower Dibang Valley district wherein the DMP is located?

These mega dams will need huge work forces. As per NHPC's web page information, on Salal Hydro Electric Power Plant in J & K, a work force of about 12,000 people was employed. The 3000 MW DMP, touted as the world's highest gravity dam (288m), will need many times more work force than Salal Hydro Electric Power Plant (690MW). According to the contentions of the project proponent, there will be more than 5000 workers and around 850 NHPC personnel. All the other 16 HEPs of the Dibang Valley are mega projects. When the work on these projects will start, the huge work force will totally outnumber the 10-12,000 or so of the indigenous community of the Idu Mishmis of the Lower Dibang valley. It will

create very serious socio-cultural and demographic issues and these concerns have been expressed by many people from Arunachal Pradesh including the President, All Idu Mishimi Student's Union (AIMSU) in the Public Hearing for the Dibang Lower Dam. These small tribal communities of rich and unique cultural heritage are now protected by the Inner Line Permit System.

According to an article published in www.indiawaterportal.org titled 'Water Conflicts in Arunachal Pradesh: The Dam Debate' by Raju Mimi, it is stated that –

"*Arunachal Pradesh has the least population density in the country, with just over 13 lacs of people living in the vast area of over 80,000 kilometers square. Proponents of large dams in Arunachal see these projects as 'economically viable' as it has little direct 'displacement' and negligible 'rehabilitation and resettlement' issues. Such estimates are grossly underestimated. For example, the Dibang river basin is home to small indigenous Idu Mishmi community whose population according to the 2001 census is 9350. One single dam, the 3000 MW Dibang Multipurpose project proposed in Dibang river requires an estimated workforce of about 5800. Local affected groups has claimed that cumulatively for 17 large dams proposed in Dibang river basin will bring in population workforce of more than one lakh. Similarly, the 1250 MW Hutong II hydroelectric project proposed in Lohit river basin in Anjaw district is likely to submerge the habitation of half of the population of Anjaw district. Collectively 11 dams are proposed in Lohit river basin in Lohit and Anjaw district. Therefore,*

direct and indirect displacement is high if looked at in the perspective of local population. As a result, there have been protests against large dams in Lohit river basin, where affected people had staged road blockade to demand scrapping of controversial dams. Also Dibang project have faced more than 6 years of public opposition and public hearing for the project cancelled 14 times.

Resettling displaced people to other locations might also be a difficult task. In Arunachal, lands are traditionally demarcated between different tribes and clans. So, attempt to resettle displaced people to areas that belong to other tribes or clans can lead to conflicts. The Chakma and Hajong tribes resettled in Arunachal Pradesh as a result of Kaptai dam had led to serious conflicts with the local tribal groups. This dam built in the Chittagong Hill Tracts of East Pakistan (now Bangladesh) in the 1960s had submerged the traditional homelands of the Chakma and Hajong tribes, and forced them to migrate into parts of Northeast India.

Arunachal is predominantly mountainous characterized by rugged and undulating terrain, so there isn't much land available for permanent cultivation and habitation. The cultivable land is found mainly in lowland areas near the rivers where settlement is high. For example, the Adi people practice their wet rice cultivation mostly in areas near the Siang river. So if these lands are submerged then it is a significant threat to their land and livelihood. Therefore, protest sparked off over 2700 MW Lower Siang project since the first public hearing notice was issued on April 28 2010. Several affected villagers

protesting against the dam on May 25, 2010 were injured after police resorted to baton charges. Even female members of the community were severely beaten up.

Protests against dams have also intensified in Tawang district of Arunachal Pradesh. On December 24, 2012 hundreds of people, mostly monks and villagers led by the Save Mon Region Federation (SMRF), took out a rally in protest against the construction of dams in the district. The local Monpa tribe of the district fears that the dam construction will lead to distortion of the cultural dynamics of the area. The population of Tawang district is 49,950 as per 2011 census with an area of 2085 sq km lying close to Indo-China border. Due to its strategic importance, it is heavily militarized. More than a quarter of land in the district is occupied by Indian military forces. Another quarter is acquired by the civil administration that leaves very little land for common man's sustenance. The influx of labourers due to dam construction will further put pressure on resources10. Each dam building requires more than 2000 to 3000 workers with fifteen dams planned in Tawang. These outside labourers will completely overwhelm the local indigenous population, which will have a serious health, cultural and social impacts."

How will the respondent authorities and the project proponent address the said issue after the constitutionally protected indigenous tribal people are completely out-numbered by outsiders, including possible workers of doubtful nationalities?

A copy of the above stated article by Raju Mimi is hereby annexed as **ANNEXURE A/9.**

20. That in Sl. No. 5 (vi) of Part A: Specific Conditions of the Environmental Clearance issued to the project proponent by MoEFCC, it is stated that –

"A minimum environmental flow of 20 cumec shall be maintained throughout the year through an un-gated opening. Moreover, at least one turbine out of 12 turbines shall be operated 24 hours in full/part load throughout the year."

That the environmental flow was mentioned without providing any source, the WAPCOS report claims on page 10 that environmental flows are 'assumed' as:

S. No.	Project	Minimum flow release, Cumec
1	Lower Siang HEP	328
2	Demwe Lower HEP	70
3	Dibang Multipurpose HEP	50

These are not eflows, but just one component in the regime: the lowest releases in the leanest periods (January/ December). Eflows stated in the EIA reports on which Environmental Clearance is based should be the logical basis for these figures, however, eflows figures in individual EIAs and latest WAPCOS Report differ.

As with all the above cases, there are serious issues about eflows assessed for Dibang Multipurpose Project. According to the EIA, Building Block Methodology has been adopted to allocate a mere 15% of average inflow during this period as eflows.

("Season III: This season is considered as low or lean or dry flow season. It covers the months from November to March. The proposed minimum flow is taken as 15% of average flow during this period.")

On the other hand, for Lower Siang, which is an adjacent river basin, the Season III flows for November to March according to BBM are taken as "Season III as 20% of average flow during this period."

What is the ecological basis for this difference?

Also, what is the assumption for using these blanket percentages in the first place?

The manner in which eflows has been assessed by all the EIAs and basin studies (3 out of 4 conducted by WAPCOS) are alarming, which will have irreversible impact on the ecology of the region, including the Dibru-Saikhowa NP. No independent experts or experts from ecology and wildlife have been consulted in this exercise.

Therefore we strongly appeal to this Hon'ble Tribunal to intervene in this basic issue which will impact the entire river ecology, downstream livelihoods and associated wildlife, including

the Dibru Saikhowa NP, IBAs and endangered species like Gangetic Dolphins and Golden Mahseer.

21. That in Sl. No. 17 of the Environmental Clearance issued to the project proponent by MoEFCC, it is stated that –

"*After 5 years of the commissioning of the Project, a study shall be undertaken regarding impact of the project on the environment and downstream ecology.*"

This clause is indeed surprising wherein a study is to be conducted on the impact of Dibang Multipurpose Project on the environment and downstream ecology after 5 years of the commissioning of the project, making a complete mockery of the Environmental Impact Assessment process in utter violation of the Environment Protection Act, 1986 and Rules framed therein and the Precautionary Principle as espoused by the NGT Act, 2010 and on this ground itself the Hon'ble Tribunal is required to intervene and stay the Environmental Clearance issued to the project proponent, i.e., NHPC for the Dibang Multipurpose Project.

22. **Upfront Payment by Project Proponent:** Govt. of Arunachal (GoA) takes upfront payment on signing of any MoU for a Hydro Power Project. As per clause 9.13 of the Hydro Power Policy 2008 of Govt. of Arunachal Pradesh, the Developer(s) of viable projects shall have to deposit non-refundable 'Upfront Premium' including Processing Fee as stipulated hereunder

Minimum Upfront Payment

- 25MW – 95mm Rs. 1.00 lakh per MW
- 100MW – 499mm Rs. 2,50 lakh per MW
- 500MW – 999mm Rs. 3.50 lakh per MW
- 1000MW – 1499mm Rs. 5.00 lakh per MW
- 2000MW – 2999mm Rs. 6.00 lakh per MW
- 3000MW and above Rs. 7.00 lakh per MW

The Developer(s) pay huge Upfront Payments as they are confident of receiving the necessary clearances as a matter of formality only. This has vitiated the safety, security and the need to exercise due diligence on behalf of our forests, wildlife and people from these Hydro Power Projects.

A copy of the above stated Hydro Power Policy 2008 of Govt. of Arunachal Pradesh is hereby annexed as **ANNEXURE A/10.**

23. **Annihilation of the Gangetic Dolphins**, India's National Aquatic Animal in Schedule I of the Wildlife Protection Act (1972) and in the red list of IUCN. A study by Aranyak, a reputed nature conservation organization, the following facts are revealed about the effect of the proposed mega dams in Arunachal Pradesh, more particularly DMP on the Ganjetic Dolphins. These dams in the present format are death knell for the dolphins. The dams which have the maximum possibility to affect the Gangetic dolphins:

Name of the Dam	**Name of the River**	**Production capacity (MW)**	**Dam location**	**Dam height (m)**	**Status the Dam**	**Minimum distance to known dolphin habitat(km)**
Lower Siang Dam	Siang River	2700	Rotung (near Pasighat) of Arunachal Pradesh	65	Proposed; undergoing environment clearance	12
Dibang Multi purpose Dam	**Dibang River**	**3000**	**Near the confluence of the Ashu Pani and Dibang Rivers and about 43 km**	**288**	**Proposed; undergoing environment clearance**	**5**

			from Roing in Arunachal Pradesh			
Lower Demwe Dam	Lohit River	1750	Near Parasuramkund of Arunachal Pradesh	124	Proposed; received environment clearance	30
Lower Subansiri Dam	Subansiri River	2000	Near Gerukamukh of Assam-Arunachal Border	116	Undergo-ing construction	12
Kulsi Dam	Kulsi River	36	Near Ukium village of Assam-Meghalaya border	42	Proposed	15

Why these Dams will cause serious threats to the Brahmaputra dolphins?

- Dam construction and operation cause major changes in the flow regime, sediment load, and water quality of running waters (Smith & Reeves, 2000). Dams degrade the dynamic attributes of downstream waters and reduce the flow of sediments essential to the formation of stream channel islands and bars (Ward 1975, Sioli

1986, Ligon *et al.* 1995). Downstream discharge is often prevented from reaching the critical magnitude necessary for water to overspill riverbanks onto adjacent floodplains, thereby resulting in dramatic decreases in biological production (Junk *et al.* 1989). Many riverine fishes in India rely on the annual flood to spawn on the floodplains. Dams suppress natural fluctuations in flow, temperature, and detritus loading, which encompass optimum conditions for a large number of aquatic organisms, and the number of ecological riches available for supporting diverse biotic communities is reduced (Smith & Reeves, 2000). The combination of these radical changes in environment and ecology downstream of the dams will likely affect the Ganges River Dolphins by changing the type and seasonal availability of prey, changing the geomorphology of dolphin habitat and disrupting the natural flow regime of the river.

- **The Siang, Dibang and Lohit Rivers are the main water sources for Brahmaputra River in India and Bangladesh**. The Siang River has a water flow of average 830cumecs in January (source: EIA Report of Lower Siang Dam; http://www.apspcb.org.in/japl_eia_emp.html). Likewise, the Dibang River has 400 cumec average flow in January (source: draft DPR) and the Lohit River has 350 – 400 cumecs water flow in winter season (source: EIA report on Lower Demwe at http://www.apspcb.org.in/eia_demwe.htm). All these water flow level will fluctuate greatly when the proposed dams begin operation. For example, in the Siang River, the water flow will

fluctuate from 60 cumecs (when water will be stored behind dam for approximately 20 hours) to 5440 cumecs (when water is released during power generation during peak load hours of 3-4 hours). Likewise, in the Lohit River the flow will fluctuate between 35 to 1729 cumecs. These huge flow fluctuations will result in rapid unpredictable increases and decreases in depth and velocity. This has caused a reduction in fish diversity and abundance in other rivers subject to similar fluctuations (Bain *et al.*, 1988). The dramatic and rapid changes in discharge downstream of the dams will likely make the downstream of the rivers unsuitable for dolphins and will also affect the species in the Brahmaputra mainstream.

- Within Assam, the Subansiri and Kulsi River are the last two tributaries of Brahmaputra River, where dolphins are found round the year. The Subansiri River has about 23 dolphins and the Kulsi River has about 29 dolphins (Wakid & Braulik, 2009). The Subansiri River has a water flow of 250-550 cumecs in winter season (Expert Committee Report, 2010), which after construction of the dam will fluctuate between 6 cumecs (when water will be stored behind dam for approximately 20hours) and 2560 cumecs (when water will be released during power generation during peak load of 3-4 hours). The 2560 cumecs is equivalent or more than average monsoon flows, which will be released for a few hours in winter. The same event of unusual flow variations in winter will also impact the Kulsi River. These types of alternate starving and flooding on a daily basis with massive flow fluctuations will be

strong enough to wipe out these two last remaining dolphin populations from these two rivers.

A copy of the above stated report prepared by Aranyak is hereby annexed as **ANNEXURE A/11.**

SEISMICITY AND RISK FROM EARTHQUAKES

24. **Grave safety risks to Arunachal valleys & Cumulative Risk Impact in Assam:** In the report of the Technical Expert Committee (TEC) of Thatte & Reddy to study the various aspects of Lower Subansiri HEP, the TEC opined that there is 'risk' of "panic release" of the reservoir by the 'operator' in monsoon, apprehending a probable maximum flood, thereby, creating catastrophic consequences. TEC also commented that, 'seismic science' based on which safety of the dam is established, is not an exact science yet. These are ominous warningsby the apex Technical Expert Committee (TEC) as appointed by the Planning Commission for Subansiri Lower Hydro Electric Project. But these warnings are true for all the dams as proposed in Arunachal, more particularly the DMP.

The proposed DMP of Arunachal in the present format will destroy the environment and ecology of the pristine Lower Dibang valley and based on TEC's report on Subansiri, will also pose a major safety hazards to the people of the valleys. After what has happened in Uttarakhand where over 10,000 people lost their lives, in which, HEPs had a "significant impact", the warning of the TEC can be brushed aside only at our own peril, as it will impact safety and security of the people in Arunachal and in the Brahmaputra valley of Assam.

25. That the entire Arunachal Pradesh falls under Seismic Zone V, wherein the risk of major earthquakes, is much higher than any other region in India. Noted journalists and author Prem Shankar Jha's

article titled “Why India and China should leave the Brahmaputra alone” (*Source: www.thirdpole.net*), gives a fairly good idea as to the risk of Seismic events / Earthquakes in Arunachal, in the following words –

“*The 1950 earthquake was the severest ever recorded in the Himalayas. It occurred at Rima, in Tibet, not far from the site of the 1897 ‘quake. Measuring 8.7 on the Richter scale, it is one of the 10 most severe earthquakes in recorded history. Its epicentre also lay on the fault line where the Indian continental plate smashes into the Eurasian plate. Survivors from the region reported mudslides damming rivers and causing giant floods that brought down sand, mud, trees, giant boulders and all kinds of debris when these broke.*

These were neither isolated nor exceptional events. Earthquakes in the Himalayas regularly cause landslides that block rivers, causing them to rise till the pressure of the stored water breaks through. The result is a flash flood downstream that causes havoc among the villages and towns that lie in its path. The avalanches caused by the1950 earthquakes blocked several of the tributaries of the Brahmaputra. One such dyke in the Dibang valley broke quickly and caused relatively little damage. But another, at Subansiri, broke only after water had collected behind it for eight days and unleashed a seven-metre-high wave that submerged several villages and killed 532 people. Geological studies, including the radio carbon dating of sand found on the surface, have uncovered at least one other giant earthquake in the same area in 1548, and two others in the central

region of the Himalayas that were severe enough to rupture the earth's surface. The first of these occurred in 1255. The second was the devastating Bihar earthquake of 1934.

The 1934 earthquake, which measured 8.1 on the Richter scale had its epicentre about 10 kilometres south of Mount Everest. It devastated the northern part of the Indian state of Bihar and large parts of eastern Nepal, and killed at least 30,000 people. This was the death toll when there were no dams in the mountains. The dykes that the landslides created were made of mud and boulders, and they broke in a matter of days. But earthquakes of this magnitude will almost certainly crack concrete dams as well. The Richter scale is a logarithmic scale.

An 8.1 magnitude earthquake releases three times as much energy, and an 8.7 magnitude releases 23 times as much, as a 7.8 magnitude 'quake. Should any of the giant dams being contemplated by the two countries crack during an earthquake, the colossal wave of water, mud and boulders that will be released will kill millions of human beings and devastate tens of thousands of square miles of the downstream areas of Tibet, India and Bangladesh. The overwhelming majority of deaths will take place in India and Bangladesh.

India got a foretaste of what a flash-flood upriver in the Yarlung Tsangpo basin could do when one wiped out an entire island in the Brahmaputra, killing nearly all who lived on it. Chinese hydrologists knew that the flood would occur, but did not warn their Indian

counterparts. India got another taste of it in June 2013, when a landslide caused by three days of incessant rain blocked a tributary of the Bhagirathi river, one of the two main tributaries of the Ganga, 25 in mid-June 2013. When the dyke it had created broke on the third day, the resulting flash-flood destroyed the entire pilgrimage town of Kedarnath and killed between 5,000 and 10,000 pilgrims in a matter of hours. Had the hillsides overlooking the Bhagirathi not been ravaged by the construction of dams and tunnels for the Tehri hydroelectric project, this catastrophe might not have happened.

The Tehri project is a pygmy compared with the nine-cascade project proposed for the Big Bend, as its generating capacity is only 1,000 MW. The death toll from the fracture of even one of these dams will, therefore, run into millions. If the two governments go through with their plans for the Brahmaputra–Yarlung Tsangpo basin, the entire region will become a calamity waiting to happen."

It is indeed unfortunate that the EAC and the MoEFFCC has not applied their mind and have overlooked such a serious issue while granting EC for the Dibang project.

26. Dam induced Earthquakes and/or Reservoir induced Seismicity (RIS): On May 12, 2008, an 8.0-magnitude earthquake in Wenchuan, Sichuan Province, shocked the world. The immediate consequences of the Wenchuan earthquake were devastating: more than 80,000 Chinese citizens were killed, swept away by landslides and crushed by tumbling rocks and collapsing buildings. Since then, some 50 to 60

articles and studies have investigated this massive seismic event and its relationship to the Zipingpu reservoir.

That according to a study conducted by Fan Xiao, Chief Engineer, Regional Geological Survey Team, Sichuan Geology and Mineral Bureau, Chengdu, China on behalf of Probe International, Canada (http://journal.probeinternational.org/) to review the vast literatures available on the above mentioned earthwuake in Wenchuan, stated as follows:

"*Experts in the field of Earth sciences observed that a plethora of "abnormal" phenomena occurred in relation to the earthquake, which led them to suspect that the Zipingpu reservoir had induced the earthquake. For example, before the Wenchuan earthquake, no earthquakes over magnitude 6.5 had ever been recorded in the Longmenshan region. For this reason, China's national seismic zoning maps had classified the region as having a seismic intensity of VII. But the Wenchuan earthquake reached a seismic intensity of X, and even XI. Moreover, before the earthquake, the original ground motion parameters in the Wenchuan area ranged from 0.1 g to 0.15 g but, during the earthquake, the ground motion parameters reached six to ten times those figures. In addition, with a low tectonic deformation rate of only about 1-2 millimetres (mm) per year in the Longmenshan Fault Zone, the seismogenic process of stress change in the focal region of the earthquake could be characterized as slow growth. Therefore, in terms of medium and long-term seismic trends, no great earthquakes were expected along the Longmenshan Fault Zone.*

Therefore, in many ways the plethora of abnormal phenomena were associated with the Wenchuan earthquake."

Furthermore, the abstract of the above stated study stated as follows:

"*...that the mounting body of evidence and analysis indicates that the magnitude 8 earthquake was triggered by the mass loading and increased pore pressure caused by the Zipingpu reservoir. It also concludes that the initial seismogenic rupture of the Wenchuan earthquake did not occur along the Yingxiu Fault Belt at a depth of 14 to 19 kilometres, as previously thought, but at a depth of 6 to 9 km along the Shuimo-Miaoziping Fault Belt, which passes underneath the Zipingpu reservoir. This initial seismogenic rupture subsequently expanded and spread in a series of rupture events that were closely linked to each other for 90 seconds along the Longmenshan Central Fault, moving 200-300 km from southwest to northeast. The near absence of a typical precursor before the Wenchuan earthquake, in addition to seismic recordings of abnormal, small earthquakes in the reservoir area as early as April 5, 2008, suggest that this was not a conventional case of reservoir-induced seismicity (RIS) in which the accumulation of stress in a fault zone is nearing the critical point, and the impounding activities of a reservoir merely trigger the inevitable seismic event. Rather, the new findings suggest that the filling and drawdown of the Zipingpu reservoir triggered clusters of small earthquakes which caused new ruptures in the rock that, in turn, altered the stress field in the Longmenshan region and led to an accelerating release of energy. This series of events culminated in the*

giant rupture that became the Wenchuan earthquake. In light of these findings, Earth scientists and decision-makers alike must now address a dangerous new reality: if reservoir-induced seismicity can be considered humaninduced foreshocks to a major earthquake, then the science of reservoir-induced seismicity must consider the possibility that reservoirs can trigger unanticipated tectonic activity. Most urgently, the findings presented in this paper about the Wenchuan earthquake make a review of current plans to build dozens of large dams with accompanying large reservoirs, in and near areas of high regional tectonic stress in western China, a high priority."

That the DMP site lies close to an active Fault Line in the Mishmi Thrust of the Mayudia Group in Eastern Arunachal Pradesh with a history of several seismic activities including the Great Assam earthquake of 8.6 magnitude in 1950 (Figure 1, Misra 2009). In the event of an earthquake, the project poses a risk of catastrophic submergence of several villages and vast areas of forests downstream. The recommendations of the Environmental Impact Assessment (EIA) report of the project are cursory and suggest further research on the natural seismicity of the region as well as reservoir-induced seismicity, which should be the basis for the decision about the project.

Environmental Clearance (EC) without proper study of the seismicity aspect of the region where great earthquake of 8 and more in Richter scale may occur, is jeopardizing lives of thousands of people in Arunachal and in Assam, including conducting any study in regard to

the possibility of Reservoir Induced Seismicity (RIS) or Dam Induced Earthquakes resulting from DMP and/or the cumulative impact of all the big / mega dams on the Dibang river taken together. As stated above, earth scientists and decision-makers alike must now address this dangerous new reality so as to avoid any further devastation and death of thousands of people.

27. **The Nepal Earthquake, 2015:** That the Himalayas is one of the most highly fragile mountain ranges in the world, which amounts to nearly 12-15% of the Earthquakes globally and some of the most severe earth quakes in recorded history of the planet has occurred in the Himalayan region.

In an article titled **"**Nepal isn't the big one: The next Himalayan quake maybe far more serious, and closer to home", published in the First Post, dtd. April 27, 2015, stated as follows – (http://www.firstpost.com/world/nepal-isnt-the-big-one-the-next-himalayan-quake-maybe-far-more-serious-and-closer-to-home-2214286.html)

Quote -

Even as the death toll from the 7.9 magnitude earthquake climbs to over 3,200 and stunned survivors struggle to come to terms with the magnitude of the disaster, experts say the worst is yet to come.

The quake, which reduced large parts of Kathmandu to rubble, is not the 'great Himalayan quake' that the region has been bracing for.

Down To Earth magazine quoted Roger Bilham, geologist with the University of Colorado Boulder who studies the seismicity of the Himalayan area as saying, "At a magnitude of 7.9 on the Richter scale, the April 25 earthquake has caused devastation but it is not the anticipated “great Himalayan earthquake”. This does not qualify as a great earthquake which needs to be of magnitude 8".

And Prof Sankar Kumar Nath of IIT Kharagpur, who has studied seismic activity in the Himalayan region had an even more gloomy outlook.

“This earthquake would only be classified as medium in terms of energy released. That area, the 2500-km stretch from the Hindukush region to the end of Arunachal Pradesh, is capable of generating much bigger earthquakes, even nine on Richter scale,” he said. “If you look at it differently, we are actually lucky that only a 7.9-magnitude earthquake has come. I would be very happy to have a few 7.9-magnitude earthquakes than a 9-magnitude earthquake which would be absolute disaster. The trouble is that in terms of energy release, which is what causes the damage, it would take 40 to 50 earthquakes of magnitude 7.9 to avoid an earthquake of magnitude 9,” he told the *Indian Express*.

- Un-quote

That the devastating earthquake which has just occurred in Nepal on Saturday, 25 April 2015, is a clear sign of warning for people in general and the proponents of mega dam projects in particular which highlights the power of nature, especially when interfered with. It is further stated by the applicant that the respondent authorities having being fully aware of the fragility and eco-sensitivity of the entire Himalayan region is still allowing such large scale, unsustainable and massive dam projects, like the 2880 MW DMP in the state of Arunachal Pradesh, in one of the highest ecologically sensitive, fragile and seismic zone V (*has witnessed earthquakes above 8.5 in the richter scale*), thereby throwing all winds to precaution and sustainable development. The said action of the respondent authorities to pursue a policy and program of mega dam building in the state of Arunachal Pradesh more particularly the DMP, by putting at grave risk the life and safety of the people and animals of Arunachal and Assam, including the Environment and Biota at large, is therefore a fit case for the interference of this Hon'ble Tribunal.

28. DIBRU-SAIKHOWA NATIONAL PARK AND BIOSPHERE RESERVE: Dr. Asad Rahmani's report on the Demwe Lower HEP threw up grave issues of concern about the project for which Environmental Clearances is already given, especially in regard to the Cumulative downstream impact of proposed HEP's on Lohit, Dibang and Siang rivers.

Some extracts of Dr. Rahmani's report as given below reflects the grave environmental impact which were ignored by the EIA.

- **Dibru-Saikhowa National Park and Biosphere Reserve in Assam:** Dibru-Saikhowa National Park, Poba Reserve Forest, Kobo *chapori* (river islands) proposed reserve forest, Amarpur *chapori*, Maguri and Motapung *beel* (lake), and the adjacent riverine tract of the Brahmaputra and Lohit rivers form one of the major biodiversity areas of Assam. This complex has been identified as an Important Bird Area by BNHS and Birdlife International in 2004. Dibru-Saikhowa has the largest salix swamp forest in North-Eastern India. Tropical Moist Deciduous, Tropical Semi-evergreen, Evergreen Forests and grassland forms the main habitat type. (Choudhury 1998). The Dibru-Saikhowa National Park proper covers 34,000 ha in the districts of Tinsukia and Dibrugarh in eastern Assam. It is 13 km north of Tinsukia town. A larger area of 765 sq. km. is also a Biosphere Reserve. The area is known as a major haunt of the globally threatened White-winged Duck *Cairina scutulata*, Black-breasted Parrotbill *Paradoxornis flavirostris* and Marsh Babbler *Pellorneum palustre*. The relatively

remote Amarpur area, on the northern side of the Brahmaputra river, not included in the Sanctuary but is a part of the wider Dibru-Saikhowa Biosphere Reserve, has significant areas of tall grass, which are largely absent in the other areas of the Sanctuary. The Amarpur peninsula within the Biosphere Reserve covers about 3,000 ha. It is generally low-lying and much of it is flooded during the monsoon season (Allen 2002). This grassland has some of the most threatened avifauna of the Brahmaputra Valley.

- **Globally Threatened Bird Species in Dibru-Saikhowa:** Dibru-Saikhowa is very rich in bird life, with more than 310 species already identified (Choudhury 1994, 1997). Out of the 15 Critically Endangered bird species of India, the following five are found in Dibru-Saikhowa: White-bellied Heron *Ardea insignis*, Oriental White-backed Vulture *Gyps bengalensis*, Slender-billed Vulture *Gyps tenuirostri*s, Red-headed Vulture *Sarcogyps calvus*, and Bengal Florican *Houbaropsis bengalensis* Among globally Endangered species, we have White-winged Duck *Cairina scutulata* and Nordmann's Greenshank *Tringa guttifer*. Earlier, Masked Finfoot *Heliopais personata* was also reported from Dibru-Saikhowa. The tall wet grasslands of Dibru-Saikhowa are important for many threatened and non-threatened species. Swamp Francolin *Francolinus gularis*, Black-breasted Parrotbill *Paradoxornis flavirostris*, Jerdon's Babbler *Chrysomma altirostre*, Long-tailed Prinia *Prinia burnesii* and Marsh Babbler *Pellorneum palustre* are found in the grasslands. In the wetlands and beels, the following birds are seen; Spot-billed Pelican *Pelecanus*

philippensis, Greater Adjutant *Leptoptilos dubius*, Lesser Adjutant *Leptoptilos javanicus*, Baer's Pochard *Aythya baeri*, Pallas's Fish-eagle *Haliaeetus leucoryphus*, Black-necked Stork *Ephippiorhynchus asiaticus*, Oriental Darter *Anhinga melanogaster* and Greater Spotted Eagle *Aquila clanga*. It is also an important wintering site of Black Stork *Ciconia nigra*. According to recent surveys, it has a total of 13 Vulnerable bird species.

- **Other key fauna:** Other fauna includes Asian Elephant *Elephas maximus*, Tiger *Panthera tigris*, Leopard *P. pardus*, Sloth Bear *Melursus ursinus*, Slow Loris *Nycticebus coucang*, Pigtailed Macaque *Macaca nemestrina*, Rhesus Macaque *M. mulatta*, Assamese Macaque *M. assamensis*, Capped Langur *Trachypithecus pileatus*, Barking Deer *Muntiacus muntjak*, Hog Deer *Axis porcinus*, Flying Squirrel *Petaurista* sp., Gangetic River Dolphin *Plantanista gangetica*, Monitor Lizards *Varanus bengalensis*, *V. salvator*, various turtles including *Kachuga sylhetensis*, snakes including Cobra *Naja naja*, and Python *Python molurus.* Assam Roof Turtle *Kachuga sylhetensis* was also recorded for the first time in the area, constituting the easternmost limit of its distribution (Choudhury 1994). The Lohit river influences the eastern and southern part of the Dibru-Saikhowa area and given the richness of the habitat as described above, comprehensive and prior studies are required on the impacts of flow fluctuations on the park. WAPCOS was given the consultancy to conduct this study last year and has submitted a modeling study

recently to indicate flow fluctuations in the park. But we are very surprised during our interaction with the DFO, Vaibhav Mathur, that no field work has been done inside the NP in different seasons by the consultants (nor has permission been sought from the Chief Wildlife Warden, Assam, to do so) to study the habitat and wildlife behaviour at different times of the year to co-relate it with the flow changes for impact assessment. This is indeed a serious issue. It is unacceptable to conduct wildlife impact assessment only using computer modeling (which may be vital for understanding flow variations).

- **Chapories of Lohit River as Important Bird Area:** The chapories or river islands of Lohit River existing in Arunachal Pradesh and Assam are extremely important from biodiversity point of view. Considering their importance for grassland, birds such as critically endangered Bengal Florican, White-bellied Heron, Red-headed Vulture, and endangered White winged Wood Duck and many other species, these chapories were identified as Important Bird Area by BirdLife International and BNHS. This IBA includes the entire riverbed of the Lohit River, at places more than 10 km wide with sandy and grassy tracts. The area is the floodplains of the Lohit River and the entire area is criss-crossed by numerous channels turning it in to a complex of waterbodies, riverine islands, grassland and forests. More than 140 species of birds have been listed during general wildlife surveys, and hence the total diversity could be more than 300 species, including large number of wintering waterfowl. There is extensive habitat for

Jerdon's Babbler and Black-breasted Parrotbill – two globally vulnerable species. As the area is remote and difficult to access, proper studies have not been conducted. Among mammals, Tiger, Asian Elephant and Asiatic Wild Buffalo and Hog Deer have been reported. The Gangetic Dolphin is occasionally seen towards extreme west. Even in the book ***Important Bird Areas in India***, published in 2004, it was written (page. 226) "The proposed dams in the upper reaches would have serious impact in downstream ecosystem and the entire riverine tract will be affected."

- **Cumulative downstream impacts of proposed HEP's on Lohit, Dibang and Siang rivers:** A WAPCOS report (November 2011) on impacts of peaking operations of projects on the Siang, Dibang and Lohit rivers has recently been uploaded on the MoEF website and was also forwarded to us before our field visit. The report involves flow estimation using computer simulated models and therefore cannot be verified fully by us. Some comments on flow data in this report have already been given earlier in the report. A few additional observations about the origins of this report and some findings. The Expert Appraisal Committee (EAC) on River Valley and Hydroelectric projects had in its August 2010 meeting while discussing the Lower Siang project observed that:

"The impact of Lower Siang Dam on the altered hydrology of Brahmaputra river was discussed. It was consciously felt that Brahmaputra river is influenced by significant contribution from Lohit and Dibang rivers. The operational pattern of terminal dams

on Lohit and Dibang may influence the flow in Brahmaputra, particularly in the downstream Dibrusaikhowa National park and Chapory. It is therefore decided that the three developers J.P., NHPC and Athena will coordinate to get the downstream impact study of Siang by a comprehensive examination of the three rivers Siang, Dibang and Lohit .The MoEF may issue necessary instruction in this regard."

Thus this study became a part of the downstream impact assessment, ToR granted as part of the Scoping process for the Lower Siang project. An earlier version of this study forms a part of the EIA report of the Lower Siang project currently uploaded on the website of the Arunachal Pradesh State Pollution Control Board (APSPCB) website. After the EAC meeting held on November 12, 2011, WAPCOS has modified this study and submitted a modified version on November 18, 2011 (present version on MoEF website). This requires more detailed scrutiny but a preliminary perusal indicates that there are substantial differences in the findings of the two reports (in terms of cumulative water volume and level fluctuations due to operation of three projects in downstream Dibru-Saikhowa). For example, the revised report shows less fluctuation in flows and level at Dibru-Saikhowa due to operation of three projects on Siang, Dibang and Lohit than the earlier version. Along with seeking a clarification from WAPCOS, this report also needs to be peer reviewed as modelling results can vary substantially due to their sensitivity to accuracy of parameters (e.g. boundary conditions, how different

water streams and channels have been accounted for while taking the computational channel and other factors). Since the project will also require permission from the Assam government as per section 35 (6) of the Wildlife (Protection) Act, 1972 since flow fluctuations will take place inside Dibru-Saikhowa National Park, they could be asked to take the opinion of local experts (IIT Guwahati and the local universities) on the report.

An important point to remember is that the floodplains of all three rivers – Siang, Dibang and Lohit – are Important Bird Areas and potential Ramsar sites. The Siang floodplain has the D'Ering sanctuary. Therefore, comprehensive individual and cumulative impact assessment studies will have to be conducted as this entire Brahmaputra tri-junction landscape is very sensitive from a wildlife/ecological point of view.

WHAT HAS BEEN SPECIALLY STRESSED IS CUMULATIVE DOWNSTREAM IMPACT OF PROPOSED HYDRO-ELECTRIC DAMS ON LOHIT, DIBANG AND SIANG RIVERS (AS CONSTITUENTS OF BRAHMAPUTRA).

A copy of the above stated report of Dr. Rahmani is hereby annexed as **ANNEXURE A/12.**

UTTARAKHAND FLOODS, 2013

29. The affidavit submitted by the Director of the Ministry of Environment, Forests & Climate Change (MoEF&CC) on 5th December, 2014, in the Alakananda Hydro Power Co. Ltd. etc – vs. – Anuj Joshi & Ors. before the Hon'ble Supreme Court of India, has significant ramification in the entire issue at hand as well as in the construction of Dams in Arunachal Pradesh with major downstream impact in Assam. The genesis of the said affidavit is the aftermath of the June 2013 disaster in the Himalayan basin of Ganga in Uttarakhand, with colossal loss of human and animal lives along with large scale destruction of property and infrastructure, which shook the entire nation. The Hon'ble Apex Court taking *suo-moto* cognizance of the said disaster in the above stated matter on 13th August, 2013, issued a number of directions, including directing the MoEF&CC as well as State of Uttarakhand not to grant any further Environmental or Forest Clearance for any Hydro Electric Power project in the State of Uttarakhand, until further orders, and also directed to constitute an Expert Body consisting of representative of the State Government, Wildlife Institute of India, Central Electricity Authority, Central Water Commission and other expert agencies to make a detailed study as to whether Hydroelectric Power Projects existing and under construction have contributed to the environmental degradation, if so, to what extent and also whether it has contributed to the tragedy occurred at Uttarakhand in the month of June 2013.

30. That according to the Affidavit submitted by MoEF&CC, it is stated in para 19 that,

"*It is clear from the report submitted by the Expert Body, which is inclusive of the findings of many researches/committees, that with the construction of hydro power projects the local ecology is certainly overburdened. There are clear citing of irreversible damages of environment, in terms of loss of forests, degraded water quality, geological, social impacts and that they enhance landslides and other disasters.*"

Furthermore, in para 20 of the said Affidavit, it is stated that,

"*It was commonly observed that all HEP (existing and under construction) in the disaster affected areas have been significantly impacted and the maximum damage sites, in the disaster affected areas, were located either just upstream, or around or immediate downstream of these HEPs. It is pertinent to conclude that there has been a direct and an indirect impact of the HEPs in the aggravation of the floods of 2013.*"

31. That the MOEF&CC has further stated in the above mentioned Affidavit, in Para A: Background section, that -

Quote -

(1) The rejuvenation of the river Ganga is on top priority for the present government in view of her current highly degraded state.

(2) A cradle of civilization, it is a life support system for about half-a-billion people who live in its basin today. All along her path anthropogenic interventions have overburdened the flow of the river. The restoration of an *aviral* and *nirmaldhara* of the Ganga has thus become essential immediate steps.

(3) In the upper reaches of the Ganga, growing concerns on *Aviral Dhara* of Ganga as well as deteriorating health of the fragile Himalayan ecology has been a primary concern for past decade. A large and small hydro power projects on the Ganga and her tributaries all over the Himalayas are a threat to the *aviral* and *nirmaldhara* of the Ganga.

(4) The construction of hydro projects, especially in upper stretches has been a contentious issue among the various representatives of civil society and concerned authorities. Concerns have been raised against the construction of series of hydro projects in the upper reaches by several peoples including spiritual leaders, environmentalist, experts, social activists and local affected population in the past few years in the state of Uttarakhand.

(5) After the formation of National Ganga River Basin Authority (NGRBA), in consideration of the Aviral Dhara of Ganga in

terms of her cultural significance and in relation to the eco sensitivity of the Ganga-Himalayan basin, the Govt. of India took cognizance of this issue and intended to reach a solution for conservation and protection of the Ganga.

- Unquote

That the applicant begs to state that the concern shown by MoEF&CC, Govt. of India as stated in the above submission is a welcome development, but why two different yardsticks, one for Ganga and the other for the Brahmaputra (Siang), Subansiri, Dibang, Lohit, etc?

If river Ganga is a cradle of civilization and life support system for the central Indian states like Uttarakhand, U.P, Bihar, etc, then the Brahmaputra (Siang) and its tributaries is a cradle of civilization, life support system and has equal cultural significance for the people of Assam and Ar unachal Pradesh. If the big dams of Ganga and her tributaries are a threat to the *aviral dhara (continuous flow)* and *nirmal dhara(unpolluted flow)* of Ganga, then there is no doubt that the mega dams over the Brahmaputra (Siang), Dibang, Lohit, Subansiri, etc in Arunachal Pradesh are a threat to the *aviral* and *nirmal dhara* of these rivers many folds more, being in a highly eco-sensitive and earthquake zone V.

32. That the MOEF&CC has also stated in the above mentioned Affidavit, at C (9) Role of HEP's on Environmental Degradation, that -

i. Based on reviews of available scientific studies, official documents and field visits the EB has concluded that existing and under construction hydro-power projects (HEPs) in Uttarakhand have led to several deleterious environmental impacts. Among the significant impacts it has identified are on the (i) river eco-system, (ii) forests and terrestrial biodiversity, (iii) geological environment and (iv) social infrastructure. These are elaborated below:

ii. All HEPs (big or small) have environmental and social impacts during their construction & operational phases. The negative impacts of small projects can be less intense and therefore mitigated more easily. Large projects often lead to massive impacts that are hard to mitigate and may result in permanent scarring of nature and society. Many of them are not even seen or felt immediately. They emerge over time. In the state of Uttarakhand, findings of Expert Body shows that the mitigation measures adopted by the project authorities are almost not effective and further the degradation is enhanced due to in-effective compensatory afforestation (CA) scheme, catchment area treatment plan (CAT) and violation of other stipulated norms and conditions by the project authorities.

iii. Most of Uttarakhand's HEPs are diversion projects which divert water upstream of a dam into a tunnel and drop it several kilometers downstream in order to obtain a large head. Series of dams are proposed for the major rivers of Uttarakhand. As per

this scheme a dam shall be built every 20 to 25 km of the length of river and in some cases in even shorter stretches. The rivers shall then be converted into a series of ponds (reservoirs behind the dams) connected by pipes (tunnels). Large fragments of these rivers could be left with minimal flow as almost all the river water is extracted for producing hydroelectricity, as per current practice. Scientific studies have shown that this has led to disruption of fish migration and the loss of aquatic biota and diversity.

iv. The construction of multiple dams on a river has led to fragmentation of the river's length, again affecting riverine biota and diversity. For example, a series of dams on the Bhagirathi between Maneri in Uttarkashi district and Koteshwar in Tehri Garhwal district which have disrupted free flow in a stretch of about 110 km, almost half the length of the Bhagirathi from its origin to Devprayag. Similar dried river beds can be seen downstream of Vishnuprayag in Alaknanda for a stretch of approximately 20 kms.

v. It is speculated that when large fractions of river lengths go dry or convert into a form of reservoir due to multiple projects on them, changes in the micro climate may occur. The temperature in the river valley may increase. The accompanying reduction in moisture can diminish the valley's biodiversity and productivities. In the long run it may also speed up the melting of nearby glaciers. The ratio of the river length diverted to its

total length is a good indicator of the cumulative impact of multiple dams.This is also reflected in the AHEC, WII and IMG reports. The affected river length was first determined by AHEC. IMG recommended that some of the rivers be maintained in a pristine state which would mean the cancellation of a few projects and hence changes in the river length affected.

33. That the MOEF&CC has also stated in the above mentioned Affidavit, at C (11) Impact of 24 proposed projects on Biodiversity, that –

i. In chapter-4 of the EB report, review of the 24 HEPs cited by WII concluded that the cumulative impact of all the 24 projects on biodiversity would be significant. There are several reasons for reaching to this conclusion.

ii. It is well known that in several river stretches of the Alaknanda and Bhagirathi basins there are series of dams. Hence, their cumulative impact on the biodiversity has to be considered also. The EB noted that all the 24 HEPs were located in sub-basins with high to very high biodiversity values (Table 4.2 of the Main Report).

iii. On the suggestion of the CWC representative in the EB for a peer review of the WII report, the EB Chairman with the concurrence of the Co-chair, requested Dr. Brij Gopal, an eminent ecological scientist, to review WII's report. In his

review (See Appendix 7a, Main Report), Prof. Gopal mentioned that the methodology adopted by WII had certain limitations. But he agreed with WII's findings that the 24 proposed hydropower projects would significantly impact the biodiversity of the Alaknanda and Bhagirathi basins. He added that WII could have gone further in its recommendations. Based on his own analysis, Prof Gopal recommended that several more than the recommended 24 should actually be dropped.

iv. In its analysis of the 24 projects the EB stated, "In discussions on WII's analysis and other terms of reference of the EB it was also realized that some of the HEPs would lie at elevations above 2200-2500 m. Field visits and published scientific literature, cited in Chapter 3 of EB report, show that these altitudes come in the paraglacial and glacial zones. In these zones the rivers are capable of mobilizing tremendous amounts of sediments, under intense rainfall conditions, from the moraine material left behind in the past by receding glaciers. In such situations, they cause havoc in the vicinity of HEPs as witnessed at the Vishnuprayag HEP barrage site and below during the June 2013 disaster.

vi. It may be noted that the Inter-Ministerial Group appointed by MoEF to consider issues related to HEPs and environmental flows recommended that six rivers, *viz*., Nayar, Balganga, Asiganga, Dhauliganga (upper reaches), Birahi Ganga and

Bhyundar Ganga be kept in pristine form. This would entail cancelling 11 out of the 24 projects.

vii. The stretch of Ganga from Devprayag to Rishikesh falls in the lower Himalayan range. A major spring-fed perennial river Nayar joins Ganga near Byasi and several small streams also drain into this basin. This area encompasses the subtropical sal and mixed forests, open grassy slopes and scrub, and patches of riverine forests along the river. This stretch of river Ganga has many deep pools and rapids, which are the most preferred habitat for large size fishes like *mahseers* and carps.

viii. This is the richest sector of the entire Ganga river basin in terms of fish diversity and abundance in Uttarakhand. A total of 56 species of fishes, including 30 restricted range fishes, 16 threatened fishes and 2 endemic fishes namely *Glyptothorax alaknandi* and *Glyptothorax Garhwali* have been recorded in this sub-basin. These two species are endemic to the upper reaches of Ganga. The threatened species of this basin are: *Tor putitora, Tor chelinoides, Schizothorax richardsonii, Bagarius bagarius, Garra gotyla gotyla, Garra lamda, Chagunius chagunio, Nemacheilus multifasciatus, Pseudecheneius sulcatus, Puntius arana, Puntius chola, Botia dario, Amblyceps mangois, Crossocheillus latius latius, Glyptothorax cavia* and *Glyptothorax telchitta*.

a. In the entire Ganga this is the only sector with a viable population of golden *mahseer*. This population moves along the Nayar river during monsoon for breeding. Based on the WII survey, the Nayar river is recognised as one of the critical habitat for the golden *mahseer* and associated species, and therefore proposed as 'Fish Conservation Reserve'. This is why the IMG recommended that the Nayar be maintained in a pristine form. (There are reports on the presence of otters, but potential otter habitats are present in some stretches along this basin.)

34. That Hon'ble Supreme Court in fact has scrapped around 24 out of 39 dams as these dams are significantly impacting the biodiversity of the basins. The Hydro Power dams of Uttarakhand had a great devastating impact on the catastrophe of June 2013 and this has been admitted now. The vital aspects of cumulative impact study of a river basin, longitudinal connectivity and aviral dhara (continuous flow) have been articulated by the government through MoEFCC now in its Affidavit to the Supreme Court and new norms for Environmental Clearances (EC) for Uttarakhand HEPs is in the pipeline, in fast track, based on these vital aspects of environment and ecology.

In view of the above whatever is applicable in the case of Ganga and other rivers of Uttarakhand, should also be applicable to Brahmaputra (Siang), Dibang, Dihang, Subansiri, etc, and all other rivers of Arunachal Pradesh.

35. The Environmental Clearance (EC) negates the Hon'ble Supreme Court's judgment in the above referred Alaknanda HEP matter, Sl. No. 27(i) on Safety & Security which states:

(i) Under the 'PRAYERS' of the Affidavit in Sl. No. 27(i) it is stated that - *"The Government is very concerned at the disaster of Uttarakhand. It's great cause of pain, anguish and outrage that so many lives have been lost and properties damaged. Any decision on developmental projects especially hydropower projects should therefore, be on very strong and sound footings with scientific back up."*

(ii) In the same case, the Hon'ble Supreme Court in its judgment has remarked in Sl. 36 that the - *"Safety and security of people are of paramount importance when a hydro electric project is being set up and it is vital to have all safety standards in which public can have full confidence to safeguard them against risks which they fear and to avoid serious long term or irreversible environmental consequences."*

But the Environmental Clearance of the Dibang Multipurpose Project completely disregards 'safety and security' of people staying downstream of the project and the EC must be scrapped for this reason alone.

A copy of the above stated affidavit of MoEF&CC dtd.

5/12/2014 is hereby annexed as

ANNEXURE A/13.

GROUNDS

That the Applicant is filling the present Application on the following among other grounds which the Applicant may take at the time of hearing of the matter:

A. Because the Environment (Protection) Act, 1986 defines environment to include water, air and land, and the inter-relationship which exists among and between water, air and land, and human beings and other living creatures, plants, micro-organisms and property. The definition of environment can be interpreted to indicate the inter-relationship that exists in and around the area of the proposed DMP in the state of Arunachal Pradesh and also the downstream areas of Arunachal Pradesh and Assam due to the construction and operation of the said Mega Dam project, which will interfere with this equilibrium and lead to consequences that will be disastrous to the fragile eco-system of Arunachal Pradesh with massive downstream impacts on Assam.

B. Because the Government's policy is 'power at any cost' as is evident from the fact that no comprehensive basin wise survey is undertaken for the Hydro Electric Projects in the Dibang river and due to the fact that it accepts upfront money in crores on mere signing of MOUs for these projects, fully confident that all statutory requirements will be taken care of as mere formalities at the total cost of safety, ecology, environment, livelihood and lifestyle of the riparian people.

C. Because, Aviral Dhara and Longitudinal connectivity as advocated by MoEF now for Uttarakhand HEPs is equally or more so, applicable to the HEPs in the rivers of Arunachal more particularly the HEP's in the Dibang river, that together constitute the major part of the flow of the mighty Brahmaputra. A naturally flowing Brahmaputra is a sacrosanct requirement for any HEP planning in the Arunachal valleys.

D. Because the Mega Dams of Dibang river – more particularly the Dibang Multipurpose Dam (3000 MW) which is also built as the tallest gravity dam in the world and other major dams with huge storage reservoirs are all located in a highly seismic region of highest seismicity zone (zone V) in a fragile Himalayan ecology, which poses a very potent threat to the people of the valleys in Arunachal and also in Assam.

E. Because 'People's Protest' is inevitable if the Government persist with present format of the DMP which will certainly create serious hurdles in construction of the dams and a impasse like the Subansiri Hydro Electric Project since Dec 2012 cannot be ruled out.

F. Because the '4 hr peaking generation type dams' as planned in Arunachal, if replicated by the Chinese in Tibet over Yarlung Sangpo(Brahmaputra), will make all the planned mega dams in Arunachal practically inoperable because the Chinese will then hold up water for 20 hours or so in their dams, making the proposed hydropower projects of Arunachal practically inoperable with losses of astronomical investments and more importantly a great irreparable setback to the Energy Plan of the country which will be pushed back by decades.

G. Because Clause 17 of Part A: Specific Conditions of the Environmental Clearance issued to the project proponent by MoEFCC, wherein it is stated that “After 5 years of the commissioning of the Project, a study shall be undertaken regarding impact of the project on the environment and downstream ecology.” is in utter violation of the Environment Protection Act, 1986 and Rules framed therein and the Precautionary Principle as espoused by the NGT Act, 2010.

H. Because it is a duty of the state under Article 48-A of the Constitution of India, that the “state shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.”

I. Because under Article 51-A sub-section (g) of the Constitution, every citizen of India has a duty to “protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.”

J. Because the Hon’ble Supreme Court in Vellore Citizens Welfare Forum vs. Union of India & Ors. (1996) held that the Precautionary Principle is part of the environmental law of India and stated further that the onus of proof is on the actor or the developer / industrialist to show that his action is environmentally benign.

K. Because the right to access to the waters flowing in the river can never be denied to the riparian regions, and the people living in those regions. “Water, one of the greatest gifts of nature, is an attribute of the right to

live" as observed by the learned Court in MC Mehta v. State of Orissa, AIR 1992 SC 522, p550 The present formats of 4 hr peaking dam will deny the people a flowing river in the winter for 20 hours or so every day.

L. Because non release of natural flow of water will devastate the riparian indigenous and tribal people whose livelihood and every aspect of life which is entwined with the river, will be affected very adversely in violation of Article 21 of the Constitution as right to livelihood is an integral facet of the right to life.

M. Because non release of natural flow of the rivers of Arunachal more particularly the Dibang is violative of the National Water Policy 2005, wherein amongst other benefits from any Hydel Project, consideration and implementation of 'ecological concerns' is a must.

N. Because National Water Policy suggests that project planning should pay special attention to the areas inhabited by tribal people and other disadvantaged groups such as Scheduled Castes and Scheduled Tribes, and evolve schemes of water distribution to all weaker sections of people. In all these ventures, equity in water distribution and use should be the basis.

O. Because the key word to development must be 'sustainable development' with ecological balance, especially more so, in the highly seismic and fragile Himalayan region of Arunachal Pradesh to avoid immense

environmental and human catastrophes like the one in Uttarakhand in 2013.

P. Because the NGT Act, 2010 in Sec.20 states that "The Tribunal shall, while passing any order or decision or award, apply the principles of sustainable development, the precautionary principle and polluter pays principle."

Q. Because as described above, there is complete non application of mind by the EAC and thereafter Respondent No.2 and hence violative of Article 21.

R. Because none of the issues raised in the public hearing have been reconsidered in the EIA process and hence it completely vitiates the grant of EC as the essentials of the EIA notification, especially Public Hearing have not been followed. This is in complete violation of the Environmenat Protection Act,1986 and on this ground alone, the EC is liable to be rejected.

S. Because there has been no consideration of any submissions by reputed agencies, which have raised technical and substantial question of environment and thereby demonstrating lack of application of mind in granting such environmental clearance.

T. Because the said EC violates the constitutional rights of indigenous communities of Dibang Valley and hence on this ground alone the said EC should be rejected.

PRAYER FOR INTERIM RELIEF

That in the light of the facts and circumstances of the present case, the Appellants humbly pray before this Hon'ble Tribunal be pleased to stay the operation of Environment Clearance dated 19.05.2015 granted to the 2880 MW Dibang Multipurpose Project otherwise irreparable loss would be caused to the environment which cannot be compensated in terms of money or otherwise.

LIMITATION

That the present appeal is within the limitation period and is being filed within 30 days from the date when the environemental clearance was granted.

PRAYER

The applicant humbly prays before this Hon'ble Tribunal, -

1. To quashthe Environmental Clearance issued to NHPC for the proposed Dibang Multipurpose Project of Arunachal Pradesh with immediate effect.

2. To declare the Dihang-Dibang Biosphere Reserve as a "NO GO ZONE" for any massive hydro development to preserve the biodiversity of the world hotspot area.

3. To carry out a detailed basin based assessments of the HEP's in the entire Dibang valley – A basin-wise comprehensive Cumulative Impact Assessment and/or Strategic Impact Assessment by an Interdisciplinary Expert Group, so that sites for the sustainable dams if at all and other parameters can be fixed scientifically.

4. To only allow true Run of the River Hydro Electric Projects with natural flow of the river unhindered through the dam, which may be constructed in Dibang river to ensure sustainable development in Arunachal and a naturally flowing Brahmaputra in Assam.

5. To ensure only 24x7 RoR Dams for release of natural flow of water from the HEPs during lean period to sustain the endangered dolphins and livelihoods of the Riparianpeople.

6. To carry out Biodiversity Assessment and the impact of all the HEP'sas the same is mandated under Section 36(4) of the Biological Diversity Act, 2002;

7. To carry out Social Impact Assessment from the impact of all the HEP's under-construction /planed/ proposed in the Dibang river on the indigenous and tribal people of Arunachal Pradesh;

8. To conduct a comprehensive study with independent experts in ascertaining the environmental flow of the Dibang river, more particularly during the lean months that is required to sustain the

environment, ecology, biota and the livelihood of the riparian people.

9. Pass any other such order(s)/directions(s) as this Hon'ble Tribunal deem fit and proper in the present case.

Drawn and Filed by

Sanjay Upadhyay / Vikram Rajkhowa / Salik Shafique / Eisha Krishn

Advocates for the Appellant

Date: 16.07.2015

Place: Kolkata