

**BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA**

.....

APPEAL NO. 11/2014/PB/5/EZ

IN THE MATTER OF:

1. Tenzing Lepcha,
Savong Lee,
Lower Dzongu,
North Sikkim-737116.
2. Chopel Lepcha,
Heegyathang,
Lower Dzongu,
North Sikkim-737116.
3. Norphey Lepcha,
Sandong,
Lower Dzongu,
North Sikkim-737116.
4. Norzang Lepcha,
Lingdong, Dzongu,
North Sikkim-737116.



सत्यमेव जयते

Versus

.....Appellants

1. Union of India,
Through its Secretary,
Ministry of Environment and Forests,
Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi-110003.
2. Sikkim State Pollution Control Board,
Through its Member Secretary,
Forest Secretariat Annex I,
Ground Floor, Deorali,
Gangtok-737102.
3. National Hydropower Corporation,
Through its Executive Director,
NHPC Office Complex,
Sector-33, Faridabad-121003

Haryana.

4. Mr. P. Abraham, Ex-Chairman,
Expert Appraisal Committee,
River Valley and Hydro Electric Power Projects.
5. Mr. Rakeshnath, Ex-Chairman,
Expert Appraisal Committee,
River Valley and Hydro Electric Power Projects.
6. Mr. B.B. Barman,
Member Secretary,
Expert Appraisal Committee,
River Valley and Hydro Electric Power Projects.
7. Principal Chief Engineer Cum Secretary,
Energy and Power Department,
Government of Sikkim,
Kazi Road
Gangtok-737201

.....Respondents

COUNSEL FOR APPLICANTS:

Mr. Ritwick Dutta, Advocate & Ms. Sayanti Sengupta, Ms. Sreeja Chakraborty, Advocate & Mr. Rahul Ganguly, Advocate, for Applicants.

COUNSEL FOR RESPONDENTS:

Mr. Gora Chand Roy Chowdhury, Advocate & Ms. Subarna Roy, Advocate, for Respondent No.1,

Mr. A. Mariaputham, Advocate General, Mrs. Aruna Mathur, Advocate & Mr. Avneesh Arputham, Advocate, for Respondent No. 2&7,

Mr. K.P. Pathak, Sr. Advocate & Mr. Ajit Puduserry, Advocate, for Respondent No. 3,

JUDGMENT

PRESENT:

Hon'ble Mr. Justice S.P. Wangdi, Judicial Member

Hon'ble Prof. (Dr.) P. C. Mishra, Expert Member

Reserved On: 02-11-2017
Pronounced On: 15.11.2017

1. Whether the Judgment is allowed to be published on the net? **Yes**
2. Whether the Judgment is allowed to be published in the NGT Reporter? **Yes**

Per Prof. (Dr) P.C. Mishra (EXPERT MEMBER)

Teesta-IV Hydro-Electric Project (in short, the Project) was proposed on the Teesta river near Chandey Village on left bank and near the Gyathang Village on the right bank in North district of Sikkim. The project envisages construction of a 65m high concrete gravity dam across Teesta river in downstream of confluence of Runchu with Teesta for a generation of 520 MW hydropower. According to the Project Proponent, M/s NHPC Ltd. (in short NHPC) this is a run-of-river scheme project. The total land requirement is about 324 ha. out of which 143.49 ha. is Government/Forest Land (including 31.5 ha. river bed and 14.40 ha. for underground works) and 180.58 ha. is private land. Total submergence area is 105.37 ha. (Government/Forest Land-68.82 ha.+ Private Land-36.55 ha.). The total catchment area of the project is 3910 sq. km. An underground powerhouse is proposed near Phedang Village on right bank of river with 4 Units of 130

MW each. A total of 256 families are likely to be affected due to the project with no displacement. The project falls within 10 km of Kanchendzonga National Park (KNP, in short) and Fambong Lho Wildlife Sanctuary (FLWS, in short). Based on these information provided by the project proponent and relevant documents submitted, the Expert Appraisal Committee (EAC, in short) for River-valley and hydroelectric Projects considered the project after the public hearing conducted on 29th March, 2012 and recommended for grant of Environment Clearance (in short, EC). The Ministry of Environment and Forest (MoEF, in short) accorded necessary Environmental Clearance on 9th January, 2014 for the Project as per the provisions of Environmental Impact Assessment Notification, 2006 (in short, EIA 2006) subject to compliance of the conditions prescribed.

2. This appeal was filed before the Principal Bench of National Green Tribunal at Delhi by Sri Tenzing Lepcha and three others belonging to Dzongu area, North Sikkim, challenging the grant of EC dated 09.01.2014 by Ministry of Environment and Forest, the respondent no.1 for construction of the Project. The case was transferred to the Eastern Zone Bench subsequently.

3. It is contended that the appellants have been opposing the construction of the Project because of its large scale impact on environment as well as their religious and traditional rights. It is alleged that the said Project is located between 1200 MW Teesta Stage III Project currently under construction and already commissioned 510 MW Teesta Stage V Project. The 4.37 Km long proposed reservoir will be connected to the power house by two headrace tunnels, one of 6.58 Km and other 6.47 Km length. On completion the Project will submerge 105.37 ha. of land. The appellants contend that the Project ought to have been rejected at the Scoping-TOR Stage because of the following reasons:

- (i) "Being a state of highest hydroelectric dam projects and highest species diversity, and more dam project is against the principle of sustainable development.
- (ii) Because of three projects, Teesta-III, Teesta-V and Teesta-VI, 70.6 Km of the river in Sikkim is not free flowing and proposed project would result in additional loss of 14.67 Km. Therefore, on completion of the Project, a total of 85.27 Km of the river would be affected in Sikkim."

4. The appellants contend that the EIA report suffered from the following deficiencies and lapses which the EAC and

MoEF had completely overlooked while granting EC to the Project:

(i) **Inadequate EIA report:** Some of the issues which are not covered in the EIA are:

(a) Location of KNP and FLWS within 10 Km radius of the project,

(b) Social-cultural aspects of indigenous Lepcha community including Dzongu Cultural Landscape and cultural importance of Tingkyong Lake below which the underground tunnel to power house will be laid.

(c) In cost-benefit analysis, the costs have been underestimated and benefits have been over-estimated resulting in a faulty cost-benefit ratio.

(d) The Centre for Inter-disciplinary Studies of Mountain and Hill Environment (in short, CISMHE) who prepared the EIA report for Teesta-IV Project did not consider their own report on carrying capacity of Teesta Basin in Sikkim prepared in 2007 and EIA also has not considered the impact of Glacial Lake Outburst Flood (in short, GLOF) on the Project which was mentioned in carrying capacity study.

(ii) **Faulty and incomplete public hearing:** 50% of the people did not attend the public hearing due to the call of the Power Minister of the State to boycott the public hearing.

(iii) **Non application of mind by EAC:**

EAC failed to consider various aspects like issues of e-flow, inadequacy in EIA report, strong opposition of Lepcha Community, issues raised in public hearing and cumulative impact of various other hydroelectric projects proposed in Teesta river. The office memorandum dated 28.05.2013 issued by MoEF, which deals with cumulative impact study,

was also not considered by EAC. EAC failed to take into consideration the report dated 18.05.2012 of the Additional Principal Chief Conservator of Forest on abundance of wildlife in the area which includes Leopard, a Schedule-I Species, proximity of KNP and FLWS, impact of tree felling on soil erosion and difficulties in undertaking compensatory afforestation.

(iv) **E-flow:** The EAC while considering the Project has considered the e-flow in isolation and fixed 15 cumec during lean and non-lean/non-monsoon months and 20 cumec during monsoon months of the year keeping the power generation in view, not the natural river flow. Fixing such two regime e-flow is a departure from EC granted to 300 MW Panan Project in Sikkim on 2nd September, 2013, and 612 MW Luhri project in Himachal Pradesh on 19th August, 2013, where three flow regime were prescribed by MoEF.

(v) Even when Teesta-IV Project sites satisfy the criteria of Pranab Sen Committee to be an ecologically sensitive area as communicated to EAC by Samir Mehta on 26.01.2013, it was not considered by EAC.

(vi) **Report of the National Board of Wildlife not considered:** MoEF failed to take into consideration the findings and recommendations of report of the Sub-Committee of Standing Committee of the National Board for Wildlife while granting EC which include the location two sanctuary and National Park having rich wildlife biodiversity including threatened and endangered species, inadequacy of e-flow, rich biodiversity in catchment between Teesta-III and Teesta-IV, reservoir induced seismicity and geological instability, necessity of obtaining consent of the local Lepchas who consider the Dzongu area as sacred etc.

(vii) **MoEF's Strategic Plan ignored:** Cumulative impact assessment is one of the strategies of the MoEF as envisaged in the Strategic Plan for the year 2012-13 to 2016-17 to meet the vision of conservation of environment and natural resources. In the present case MoEF & EAC have failed to take into consideration the cumulative impact assessment.

(viii) Downplaying Dzongu by State of Sikkim to promote Dams and hydropower project ignoring various studies and recommendations and opposition of local etc.”

5. Based on the above, the Appellants have prayed for following reliefs:

(a) “Quash the environment clearance dated 9.1.2014 for Teesta-IV HEP (520 MW) project in North Sikkim district in Sikkim.

(b) Pending the final hearing and disposal of this Appeal, restrain the respondents from carrying on any activities in furtherance of the impugned environment clearance dated 9.1.2014.

(c) Direct the Ministry of Environment and Forests to stipulate environment flows from dams on the Teesta, including its tributaries, using the holistic methodology such as Building Block Methodology.

(d) Direct the Ministry of Environment and Forests to carry out a comprehensive carrying capacity of Teesta including its tributaries and study its downstream impacts till the Bangladesh border and further restrain the Ministry from considering any projects on the Teesta, including its tributaries, until the carrying capacity study of the Teesta has been accepted or rejected, with reasons to be recorded in writing.”

6. Along with the OA, the Appellants filed M.A. No. 176/2014 for condonation of delay of 42 days in filing the Appeal against the impugned dated 09.01.2014 EC granted by MoEF in favour of Respondent no.4, the NHPC. Although there was strong resistance to this from the State Respondents, we allowed the application by a detailed order dated 29.8.2014 and condoned the delay considering the grounds set out therefor and the fact that the questions involved in the Appeal were of immense public interest that required examination. However, by the same order, the Miscellaneous Application No. 175 of 2014 filed by the Appellants for stay of operation of EC was rejected as the Project was found to be at its preliminary stage and the actual construction had not started leaving it open for them to file an appropriate application if the project proponent proposed to start construction of the works.

7. The MoEF, the Respondent no.1 and Sikkim State Pollution Control Board (SPCB, in short), the Respondent no.2, filed their reply affidavit on 20th October, 2014 and 4th December, 2014 respectively and the Respondent No.3, on 20th December, 2014.

8. The Respondent No. 1, the MoEF, in their reply pleaded that the NHPC applied for Scoping/ToR clearance to the Project as per the provisions of EIA Notification 2006. The project was considered by the Expert Appraisal Committee (EAC) for River valley Hydroelectric Power projects in its meeting held on 20-21st November, 2008 and sought additional information from the NHPC regarding issues raised in the representations of the NGOs, recommendations of Carrying Capacity Study in reference to Teesta-IV HE Project, a hydrograph of the proposed dam, etc. The information submitted by NHPC Ltd. in response to the queries was again considered by EAC in its meeting held on 16-17th February, 2009. Based on the representations of NGOs, the EAC decided to visit the site before taking a final decision on the proposal for TOR clearance. The EAC team visited the proposed project site on 20.04.2009 and thereafter the project was considered by EAC in its meeting on 21.04.2009 in Sikkim. The EAC requested NHPC Ltd. to go through the representations submitted by NGOs and offer their comments on the same. After the revised documents and clarifications were placed before the EAC the proposal was further considered in its meeting held on 14-15th May, 2009. The information and clarifications submitted

by NHPC Ltd. having found to be satisfactory, the EAC recommended clearance for pre-construction activity along with some additional TORs. Accordingly, the Ministry of Environment, Forest and Climate Change (MoEF & CC) granted TOR for the project in June, 2009.

9. Responding to the deficiencies alleged in the EIA report which were stated to have been ignored by the EAC, it was averred as follows :-.

“INADEQUATE EIA REPORT

6. The contents of paragraph 9(a) to 9(d) of the Appeal are as per record and no comments are offered from the answering Respondent No-1.

(i) However, it is submitted that Scoping/TOR clearance for the project was given on 4.6.2009. That based on the approved terms of reference (TOR), and Environment Impact Assessment Report (EIA) and Environment Management Plan (EMP) were prepared by the project proponent i.e. Respondent no.3. As mentioned the Environmental Impact Assessment (EIA)/Environmental Management Plan (EMP) for the project was prepared by Inter-disciplinary Studies of Mountain & Hills Environment (CISMHE), University of Delhi.

(ii) It is also submitted that project proponent i.e. Respondent No.3 submitted Teesta-IV HEP (520MW) project in Sikkim to Ministry for Environment Clearance (EC) as per the EIA Notification, 2006. The project for EC was considered by EAC in its meeting held on 7-8th September, 2012. That in its meeting held on 7-8th September, 2012 the EAC had

detailed discussions and deliberations on various environmental issues of the said project. It is submitted that in the said meeting, the EAC took note of the inadequate sampling and documentation of plant diversity, forest types & floristics, faunal species, EMP report, Fishery management plan, national parks/biosphere reserve, recommendations of the Carrying Capacity Studies etc.

(iii) That the information and clarification desired by the EAC vide its meeting dated 7-8th September, 2012 were provided by the project proponent and which were presented before the EAC in its meeting held on 23-24th November 2012. That a revised EIA/EMP report was also submitted by the project proponent incorporating all the relevant issues raised during the previous meeting, including provisions made by – (i) Teesta-IV project for Dzongu Area & (ii) Environmental flow to be released from Teesta-IV Dam.

(iv) That further with regard to the major concerns, the EAC asked the project proponent i.e. Respondent No.3 to submit the revised environment flow calculations based on the revised study for further consideration. The project proponent submitted a detailed response. These are as follows:

(a) The project proponent also mentioned that as per TOR a site specific study on environmental flow has been carried out by NIH, Roorkee and CIFRI, Barrackpore. The NIH study revealed that minimum release of 5.2 cumec from dam is adequate to meet the requirement of **Class-C River**. However, CIFRI, Barrackpore recommended a minimum release of 10 cumec for sustenance of ecological integrity between dam and TRT during lean season. The EAC appreciated the study conducted by CIFRI. However, the

committee observed that the spill during remaining seasons is not adequate and as such CIFRI was asked to work-out the environmental flow requirements for remaining seasons following widely accepted methodologies.

(b) The project proponent again submitted the reply and also presented before the EAC in its meeting held on 1-2nd February, 2013. The project proponent has worked out an alternative scenario of releasing 20 cumec as Environmental Flow during monsoon months which increase the d/s flow significantly during the period June-September including the contribution from intermediate catchment. Based on available hydrological data, as presented by the project proponent, the committee satisfied with the proposed Environmental Flow releases in the project and agreed for 20 cumec as environmental flow during monsoon months and 10 cumec during remaining months. The outcome of study as per the instructions of MoEF & CC will be adhered to by NHPC Limited.

“FAULTY AND INCOMPLETE PUBLIC HEARING”

8. With regard to the contents of paragraph 10, it is submitted that is denied that the public hearing conducted was faulty and the concerns raised by the people were not considered by the EAC. That from the scrutiny of the public hearing proceedings forwarded by the Respondent No.3 to the answering Respondent, it is indicated that all the procedure had been adopted/followed as per the EIA Notification, 2006. It may be mentioned that public hearing is not conducted by the project proponent but, by an independent agency i.e. State Pollution Control Board who follows stipulated norms.

It is submitted that State Pollution Control Board conducted the Public Hearing on 29.03.2012 on Namprikdang Mela Ground in North Sikkim. The main issues raised during the Public Hearing were adequate compensation for the land, employment opportunities to the locals, provision for construction of monastic school and commitments made in the EMP should be implemented etc. The project proponent has complied all the issues raised by the public, pertaining to them.

9. With regard to contents of paragraph-11 (a) to 11 (k), it is submitted that in view of the clarifications given by the project proponent and after detailed deliberations, the EAC appreciated the concerns shown by the project proponent. The committee further discussed about various representations received from Civil Society Organizations expressing their concern about the project quoting the recommendations of Carrying Capacity Study, Public Hearing Report and site inspection report submitted by MoEF, Regional CCF, Shillong for diversion of forest land for the project. The committee while expressing the satisfaction over the response, recommended EC for the project with the following major conditions:

(i) A separate provision under R&R Plan for bearing full expenses including tuition fees of at least two students of the project affected family (PAF) is selected on merit in a Government Engineering/Medical college. The maximum scholarship shall be limited to 2 students every year for five years. An additional provision of Rs. 25 lakhs have to be added in the R&R Plan.

(ii) In the Community & Social Development Plan – the water supply connection should be made available in each house in project affected area based on their requirement.

(iii) Enhance the budget of community toilets from Rs. 15 lakhs to Rs. 30 lakhs for nearby villages to ensure that 8 sets of good quality community toilets are constructed and maintained.

(iv) Solid Waste Management Plan - the committee desired that in addition to the solid waste management of the project colony, the proponent should also contribute towards the solid waste management in the project affected area. An additional grant of Rs. 25 lakhs to be provided to the local civic authorities to be used for waste management.

That accordingly, the answering Respondent, i.e. Ministry after considering all the mitigation measures proposed in the Environment Management Plan and only after being completely satisfied, has granted environmental clearance to the said project vide letter dated 9.1.2014 stipulating various general and specific conditions which are binding on the Respondent No.3, i.e. project proponent herein.

E-FLOWS

10. With regard to the contents of paragraphs-12 to 16, it is submitted that the project proponent mentioned that as per TOR a site specific study on environmental flow has been carried-out by NIH, Roorkee and CIFRI, Barrackpore. The NIH study revealed that minimum release of 5.2 cumec from dam is adequate to meet the requirement of Class-C River. However, CIFRI, Barrackpore recommended a minimum release of 10 cumec for sustenance of ecological

integrity between dam and TRT during lean season. The committee appreciated the study conducted by CIFRI. However, the committee observed that the spill during remaining seasons is not adequate and as such CIFRI was asked to work-out the environmental flow requirements for remaining seasons following widely accepted methodologies.

It is submitted that the project proponent again submitted the reply and also presented before the EAC in its meeting held on 1-2nd February, 2013. The project proponent has worked out an alternative scenario of releasing 20 cumec as Environmental Flow during monsoon months which increase the d/s flow significantly during the period June-September including the contribution from intermediate catchment. Based on available hydrological data, as presented by the project proponent, the committee satisfied with the proposed Environmental Flow releases in the project and agreed for 20 cumec as environmental flow during monsoon months and 10 cumec during remaining months. However, the MoEF & CC has further enhanced the flow to 15 cumec while granting EC.

That it is submitted that based on the observations and outcome of the studies on environmental flow, the MoEF & CC while granting environmental clearance to the project on 9.1.2014, stipulated a specific condition that-

“A minimum environmental flow of 15 cumec shall be released during lean and non-lean/non-monsoon months of the year. For the monsoon months (June-September), environmental flow of 20 cumec shall be released for sustenance of the aquatic life in the downstream. Continuous monitoring system for the flow measurement

shall be installed and data be displayed at appropriate site for civil society and stake holders. Six monthly results shall be submitted to the Regional Office of the Ministry and SPCB. ”

The outcome of study as per the instructions of MoEF & CC will be adhered by the project proponent i.e. Respondent No.3.

Report of the National Board of Wildlife (NBWL) not considered

11. With regard to contents of paragraph-17, it is submitted that the EAC discussed about various representations received from Civil Society Organizations expressing their concern about the project quoting the recommendations of Carrying Capacity Study, Public Hearing Report and site inspection report submitted by MoEF, Regional CCF, Shillong for diversion of forest land for the project. The committee while expressing the satisfaction, recommended granting of environmental clearance (EC) to the project. It is submitted that the Ministry while granting EC to the project on 9.1.2014, clearly mentioned at Sl.No.12 of EC that –

“The Kanchendzonga National Park & Fambong Lho Wildlife Sanctuary are within 10 Km of the project site. Clearance from the Standing Committee of NBWL shall have to be obtained as per Supreme Court Order. The EC would become operational only after obtaining approval from Standing Committee of NBWL. Construction activity associated with the project can commence only after Wild Life and Forest clearance is obtained.”

10. It was further stated that the EIA/EMP for the Project was prepared by CISMHE and that the methodology followed for each and every parameter had been critically examined by the EAC before recommending the project for EC.

11. SPCB, the Respondent No.2, in their reply stated that their role was limited in the EC process of conducting the public hearing and to forward its report to the MoEF. It was submitted that public hearing was first scheduled to be held on 22.07.2011 following the due procedure of law but was postponed and rescheduled to 29.03.2012 due to protests. According to the SPCB the public hearing held on this date fully complied with all the requirements of the EIA 2006. They would further state that there is no minimum benchmark of turn out that is required for the public hearing to qualify as a "Success" and the Appellants who now claim to be aggrieved by the project did not even attend the public hearing. A list of all the questions asked during public hearing and responses offered by the project proponent to the questions had been incorporated in the report. According to SPCB, the public hearing was well-attended by people from all sections.

12. In their reply, the Project Proponent, NHPC, the Respondent No.3 at the threshold, raised the following objections on maintainability of the Appeal :-

“PRELIMINARY OBJECTIONS:

- 4(A). That the present Appeal has been filed by the Appellants challenging the grant of EC to the answering Respondents vide letter dated 09.01.2014 in respect of Teesta IV HE Project in North Sikkim District of Sikkim. The Appellants does not have any locus standi to file the present Appeal as they are not affected by the Project. The Appellants have not enclosed any documents showing that they are the affected people of the Project.
- 4(B). That the present Appeal has been filed without basis which is an example of misuse of process of law with the sole objective to create obstruction to the ongoing project of national interest and to hamper over all socio-economic development of the area.
- 4(C). That all the legal requirements prescribed in the Environment Impact Assessment (EIA) Notification, 2006 has been complied with by the answering Respondent viz. SCOPING, Public Consultation, Appraisal etc. As such there is no ground available to the appellants for approaching this Hon'ble Tribunal.
- 4(D). That the appellants themselves admitted in the petition that they are the permanent residents of the Dzongu area where the Public Hearing was held. If they had any grievances, they would have attended the said Public Hearing and could have raised their issues at the time of Public Hearing itself. But, the Appellant wilfully and deliberately absented themselves at the time of public

hearing and therefore at this stage cannot be permitted to stall the progress for achieving their ill motive.

4(E) That since there were repeated representations by Civil Society Organizations (CSOs) on the issue of vanishing to Teesta river & impact on the protected area of the Lepcha Community, EAC undertook a site visit on 20th April 2009 and met the representatives of the Lepcha Community, residing in the Dzongu area. During the visit, the said representatives of Lepcha Community showed their impatience in delay of the start of the Teesta V HE project which is in fact at present generating electricity and belongs to the answering respondent i.e. NHPC as the said Project has not only provided jobs to the people of Dzongu area but also provided petty contracts and other means of economic activities which has improved their living conditions. It was also brought out during the said meetings by the representatives that NHPC is providing medical facility, unrestricted education in the schools and the transport facility to all. The above observation finds place in the minutes of 25th meeting of EAC held on 21-04-2009 i.e. immediate after the site visit which has been annexed by the Appellants himself as Annexure A-9(Colly), page-152-153. The above facts showed that the majority of the population of Dzongu area are in favour of the Project but filling of such baseless appeals, by the persons who have nothing at stake, to jeopardize socio economic development of the tribal peoples is devoid of merit and is liable to be dismissed.

4(F) That the Appellants failed to bring any legal issues under the provisions of Environmental Acts or Rules or Notifications etc. That can be contested before the Hon'ble Tribunal. The Appellants has invoked jurisdiction of the

Hon'ble Tribunal on the grounds such as religious sentiments being affected, lack of support from the local people etc., these grounds are not the legal & valid grounds to invoke the Jurisdiction of the Hon'ble Tribunal as the same is beyond the purview of the Hon'ble Tribunal."

13. In their preliminary submissions, the NHPC stressed on the fact that it is a Mini Ratna Public Sector undertaking owned and controlled by the Government of India having wide ranging experience in setting up and in the maintenance of hydro-electric projects in India and further, emphasised on the requirement of electrical energy in India vis-a-vis its advantages. On the Teesta-IV HE Project of 520 MW in Sikkim, it is stated would state that the project is proposed on the Teesta River near Chandey village (on left bank) and near Hee Gyathang village (on the right bank) in North District of Sikkim. The project envisages construction of a 65 m. high concrete gravity dam across Teesta river down-stream of confluence of the Runchu with Teesta for generation of 520 MW hydropower with 4 units of 130 MW each. This is a run-of-river scheme with diurnal storage for providing a peaking power. The water of Teesta river will be diverted through two head race tunnels (HRT) of about 6.6 & 6.5 kms length respectively to an underground power house proposed to be located on the right bank of the river near village Phedang which

falls in Dzongu area in North Sikkim. NHPC obtained Stage I & Stage II site clearance from MoEF on 6th October, 2005 as per EIA Notification 1994. After obtaining the said clearances in 2005, no complaints were raised either by any of the Appellants or any other persons. Although site clearances were obtained in 2005 under EIA Notification 1994, the answering Respondent obtained clearances even under the EIA Notification, 2006.

14. On the issue of scoping it was stated that they had applied for TOR on 15.10.2008 in accordance with the EIA 2006. After the project was discussed by the EAC for Scoping on 21.11.2008, additional information was sought for by the EAC on replies to the issues raised in the representations of the NGOs, recommendations of Carrying Capacity Study with reference to Teesta-IV HE Project, assurance from the State Govt. regarding availability of land for the project in Dzongu, hydrograph, etc.

15. With regard to the issue on drying up of the river in the stretch between dam and tail race tunnel during winter due to diversion of water for power generation, impact on Dzongu area and recommendations of Carrying Capacity Study of Teesta basin etc. as raised by the Civil Society Organizations (CSO in short), the Project Proponent would state that as directed by

MoEF the replies on the observation of EAC and representations of CSOs were submitted on 02.01.2009 along with supporting documents. It is submitted that due to diversion of water for power generation from Teesta-IV, river length of only 7.75 Km is likely to have lesser flow and that they have proposed to release 5.2 cumecs as Environmental Flow which is equivalent to 10% of minimum of 10 daily discharges in 90% dependable year. This Environment Flow shall be further strengthened by around 6.55 cumec discharge from 9 nos. intermediate perennial streams. As regards impact on Dzongu, it was submitted that on the request of locals, NHPC decided to shift the location of the dam 3.5 Kms in the downstream to protect their mela ground from being submerged and further that the development of Teesta-IV HEP is very much in line of the recommendations of the Carrying Capacity Study Report of Teesta Basin.

16. The Secretary (Power), Govt. of Sikkim informed the EAC that a committee constituted by the Government to examine the representations of affected citizens of Teesta has recommended dropping of hydroelectric projects in Dzongu area except two projects i.e. Pannan Hydroelectric Project and Teesta-IV Hydroelectric Project. It was also informed that the State

Government has restricted the construction of the Labour Colony in Dzongu area to protect the cultural sensitivity of the Lepchas. Due to repeated representations of CSOs on the issue of vanishing of Teesta river in Tunnels and impact on protected area for Lepcha Community i.e., on Dzongu, and other related issues the EAC undertook a site visit on 20th April 2009 and had its 25th meeting in Sikkim on 21st April 2009. During the site visit on 20.04.2009, the committee met some Lepcha representatives residing in Dzongu area who showed their impatience on the delay of the project. They also informed the EAC that 95% of the population of the Dzongu area is in favour of the Teesta-IV and other projects and some persons who do not live in this area were objecting to the project and not sympathetic to the inhabitants of the Dzongu area. The EAC also verified the claim of the proponent regarding shifting of the dam site and lowering of FRL from EL 768 m to EL 755 m to save the mela ground on demand of the locals which was found to be in order.

17. In view of the representation by Affected Citizens of Teesta, Sikkim (ACT, in short) in their meeting with EAC Members, particularly with regard to free flow stretch, impact of the project on Dzongu area, implementation of EMP, etc., the

Project Proponent submitted their reply/clarification which was discussed again by EAC on 14.05.2009 which was found to be satisfactory. EAC prima facie felt that there was no damage to Dzongu area and to the people living in that area. The committee also felt that to allow free flow in the river, a detailed environmental flow study should be carried out for Teesta-IV Project as revealed from the minutes of 25th meeting of EAC held on 21.04.2009 which reads as such:

“2.1 Teesta Stage-IV Hydroelectric Project (520 MW) in Sikkim by NHPC Ltd. For TOR.”

This project was earlier considered by the EAC during its meetings held on 21.11.2008 and 17.2.2009. The proposed site was visited by the Committee 20.4.2009 and based on the site visit, the project was considered further by the Committee during its meeting held on 21.4.2009 at Sikkim. The consideration of the proposal was deferred in view of the representations given by representatives of Affected Citizens of Teesta (ACT). The project authority was requested again to go through the representations and accordingly, if needed the proposed TOR for Teesta-IV may be revised and resubmitted.

Based on the information received from the project authority the proposal was considered further. The representatives of NHPC made a detailed presentation on the issues raised in the representations of different organizations and all the issues were clarified by the NHPC. The EAC prima-facie felt that there is no damage to Dzongu area and also the people living in that area. The committee

during the site visit also noted that the water flow from the Teesta-V project was more than 1 cumec. However, while undertaking detailed studies, the project proponent should thoroughly examine all the aspects of Dzongu area. In addition, the committee also felt that to allow the free flow in the river, a detailed environmental flow study should be carried out through the premier institutions such as Central Inland Fisheries Research Institute (CIFRI), Barrackpore & National Institute of Hydrology (NIH), Roorkee, for biological and hydrological components. The study reports be either prepared combinedly or made separately on these aspects.

The revised documents & clarifications were considered by the committee which was found satisfactory. The committee allowed the project authority to utilize data already collected for this project for EIA/EMP preparation. The committee approved the TOR and recommended clearance for pre-construction activity along with following additional TORs.

Study/explore the possibility of having a micro-hydel at dam-toe, if 10 cumec of water to flow from the dam as environmental flow in the river and make a separate chapter in the EIA report.

Detailed Environmental cost-benefit analysis shall be carried out for the life of the project (capital and recurring). It should also include the cost-benefit analysis with respect to environmental damages and how the same would be compensated. A separate chapter on this should be prepared in EIA.

The data on exact project affected persons should be certified from the Revenue Department.

The Disaster Management Plan with respect to upstream and downstream projects should be prepared.

A detailed environmental flow study shall be carried out through the premier institutions such as Central Inland Fisheries Research Institute (CIFRI), Barrackpore & National Institute of Hydrology (NIH), Roorkee for biological and hydrological components. The study reports be either prepared combinedly or made separately on these aspects.”

18. It is the submission of the Project Proponent that during the scoping stage due diligence was exercised by EAC in approving the TOR and besides undertaking a site visit, all the relevant issues like recommendation of Carrying Capacity Study, possible impact of the project on Dzongu area, environmental flow and concerns of CSOs, etc., were also duly considered and discussed before recommending the project for TOR.

19. On the issue of Public Consultation, it may be relevant to record the submissions by the Project Proponent which in detail reads as under:

“PUBLIC CONSULTATION

xx. Draft EIA & EMP reports were submitted to Sikkim State Pollution Control Board (SPCB) vide NHPC letter dated 02.12.2010 for initiating the process of Public Hearing. After rigorous persuasion, SPCB, Sikkim notified the date of Public Hearing on 22.07.2017 in Namprikdang Mela Ground, Dzongu, North Sikkim. Accordingly, the project proponent made all necessary arrangements in

consultation with State Pollution Control Board for conducting the Public Hearing successfully. On the meeting of 22nd July 2011, the project came to know that some miscreants tried to sabotage the Public Hearing arrangements by burning the tents and flexi boards. They also forced the cook, who was responsible for making food for the public, to leave the place. In spite of above, the respondent along with its team and land-oustees of Teesta-V reached the spot well before time.

- xxi. At the appointed time, all the government functionaries responsible for holding the meeting namely the D.C., Sikkim (North), officials of the State Pollution Control Board and forest officials arrived at the stipulated place namely the Namprikdang mela ground. When the Public Hearing began at scheduled 11.00 AM, the SPCB, instead of following the routine course of proceedings, announced to know whether any affected landowner of Teesta-iv HE Project was present. Seeing no attendance from affected landowners, SPCB waited till 12.00 PM for affected landowners to come. However, the land owners/oustees and other directly affected people of the area did not turn up despite three announcements on the PA system. The project proponent requested upon the SPCB authorities that as per provisions of EIA Notification 2006, no quorum is required for Public Hearing and views of the other local people could be recorded, however, they stated that the Public Hearing will start only if there is any representation from affected families. Consequently the DC, who was ex-officio Chairman of the hearing panel, declared the public hearing postponed. He also declared that he had received a representation from all the panchayats demanding written commitment/assurance from NHPC on 11 points before

coming for the Public Hearing and since nobody from the affected landowners of Teesta-IV HE Project was present, the Public Hearing was postponed. A copy of the said representation was forwarded by ADC (North) to NHPC on 22.07.2011 for further necessary action which is annexed and marked as Annexure-R-3/2.

xxii. During Public Consultation process, at no point of time, the project proponent felt any resistance to the project from the panchayat members and landowners and they were assured by the panchayat members for attending the Public Hearing on 22nd July 2011 along with the landowners with whatever demand they have. However, Power Minister, Govt. of Sikkim, who also happens to be MLA from Dzongu area, often drew parallel with the other developers operating in the Teesta Basin. It was also learnt that on the eve of the public hearing i.e. on 21st July 2011 afternoon, the Power Minister himself had a long meeting with the Panchayat Members and landowners and he persuaded them to boycott the Public Hearing. Accordingly, a representation was prepared and signed by all Panchayat Members and handed over to the Chairman, Public Hearing Panel on 22nd July 2011 morning.

xxiii. The issues raised in the representation did not appear to be serious enough to form a strong reasons for boycotting the Public Hearing. Majority of the issues were related to the employments and Community and social development works in Teesta-V Project which have already been addressed and remaining issues were related to the land compensation, protection of Namprikdang Mela Ground and ITI in Rangrang for which sufficient provision was kept in DPR/EIA & EMP of Teesta-IV Project. These measures had already been explained to the people during public

consultations. However, a point-wise reply to the 11-point memorandum was given by NHPC to District Collector vide letter dated 09.08.2011. A copy of the same is annexed and marked as Annexure-R-3/3.

xxiv. Subsequently, a Core Working Group, comprising of experts from Forest Deptt., SPCB, Mines and Geology, Fishery Deptt., Sikkim University, was notified by Sikkim Forest Deptt. For the vetting of EIA/EMP OF THE PROPOSED Teesta-IV HEP vide its order dated 19.01.2011. A copy of the said order is annexed and marked as Annexure-R-3/4. The draft EIA/EMP was presented before this committee on 07.02.2012 which vetted the same and the committee also appreciated the comprehensiveness of the EIA & EMP studies of Teesta IV HEP. A copy of the minutes of said meeting is annexed and marked as Annexure-R-3/5.

xxv. Finally after rigorous persuasion, 29.03.2012 was notified as the next date of Public Hearing by SPCB and Public Hearing was conducted successfully by SPCB on 29.03.2012 at Namprikdang Playground, Dzongu, North Sikkim and report was submitted to MoEF by SPCB vide letter dated 05.04.2012.

xxvi. The Public Hearing meeting was attended by large number of local people including Project Affected People from Dzongu area. However, attendance of only project affected families was recorded by SPCB and attached with the minutes of the Public Hearing Report submitted to MoEF. In total, attendance of 143 Project Affected people was recorded including 16 numbers from the right bank of the river i.e. Dzongu area. The event video provided by Sikkim State Pollution Control Board to the MoEF along with the Public Hearing Report substantiates this fact. Successful and peaceful completion of Public Hearing held on the mela

ground in the heart of Dzongu is testimony to the support of Lepcha Community to the Project. A copy of the minutes of the Public Hearing meeting held on 29.03.2012 has been annexed by the appellant as Annexure A-3 pg 60-87.

- xvii. In his wrap up speech, Chairperson of the Public Hearing Panel and DC (North) made a general remark that 50% of the people comprising the right bank did not attend the public hearing, which was not true. As mentioned in the paragraph xxvi, attendance of 16 project affected families from right bank area (Dzongu) was recorded by SPCB. In fact, number of other people from the right bank project affected area also attended the Public Hearing. Figure 9 of the Public Hearing Report depicts a person from the right bank speaking at the Public Hearing meeting. The video of the Public Hearing clearly corroborate the same. The above facts has already been brought into the notice of Member Secretary, State Pollution Control Board vide NHPC letter dated 30.10.2012. Copy of the NHPC letter dated 30.10.2012 to SPCB is annexed and marked as Annexure-R-3/6. The views expressed by the persons from Dzongu area were also recorded in the video which was provided to the MoEF along with the Public Hearing Report. The answering respondent craves leave to produce the said video CD at the time of hearing.”

20. It may be observed that the video CD of the entire public hearing process taken as required under EIA Notification , 2006 had been filed for our consideration and is on record.

21. With regard to Appraisal of the Project, the Project Proponent would submit that after the final EIA & EMP were

submitted to the MoEF by the NHPC on 11.5.2012, the EAC discussed the proposal on 8.9.2012 wherein additional information/clarification on issues regarding Cascade Development, Carrying Capacity Study of Teesta Basin, Impact on Dzongu area, Environmental Flow, CAT Plan, Restoration of Dumping Sites, Biodiversity Management Plan, Fishery Management Plan etc. were also discussed as revealed from the minutes of the meeting held on 11.5.2012. The committee, after thorough scrutiny, examination and discussion on various issues as stated above, made the following observations:

1. "A map showing all projects u/s and d/s on the Teesta-IV HEP along the Teesta River and their technical details along-with clear-cut L-section of the river depicting all the projects
2. Keeping in view of the recommendations of the Carrying Capacity Study of Teesta Basin, the details of the planning of the Teesta-IV HEP and actions taken/provision made in the EIA/EMP should be presented including mitigative measures
3. Impact of Teesta-IV HEP on Dzongu area (a clear map) where no developmental activities are permitted and the area is not affected should be clarified with proper justification
4. 10-daily discharge for 90% dependable year and details of hydrology should be presented in tables
5. Project area is landslide prone and in view of the recent earthquake in North Sikkim, the committee desired to

know the details of site specific study and also mentioned that separate arrangement for seismic monitoring stations should be made in Teesta-IV HEP for seismographic data

6. Location and cross sections of the muck dumping sites and retaining structure and their details to be presented. RCC wall should be provided for retaining at dumping site instead of Plum concrete wall. Stepping should also be provided to stabilize the slopes
7. CAT Plan should be rechecked and justification for 42 Sq. Km. to be given.”

22. The Project Proponent would further submit that out of six HE Projects proposed on Teesta river in Sikkim, NHPC has been allotted two projects namely, Teesta Stage V (510 MW) and Teesta-IV Project (520 MW), whereas the other four were allotted to private developers. Considering the recommendations of Carrying Capacity Study of Teesta Basin, MoEF decided to scrap Teesta I & Teesta II Projects above Chungthang. Teesta-III & IV are already in advanced stage of construction and Teesta-V HEP has already been commissioned in 2008. In terms of EC conditions stipulated for Teesta-III Project only 3 cumec of water will flow in the main Teesta Channel. Which means the flow of 3 cumec upto Teesta-IV and 10 cumec from Teesta IV till Teesta-V Project as recommended by CIFRI. In the absence of Teesta IV Project, there will be only 3 cumec flow in the lean season in a stretch of 35.5 Km. Thus, according to Project Proponent more

than 3 times of water will flow during lean season because of Teesta-IV Project.

23. It is further stated by Project Proponent that in terms of the recommendations of Carrying Capacity Study and measures to avoid any impact on the Dzongu area, it was proposed to shift the dam location by 3.5 Km, Lower FRL by 13 m, construct two bridges to access the intake and powerhouse area, and no permanent settlement and Labour Camps in Dzongu area was proposed. These proposals were considered by EAC in its 62nd meeting held on 24.11.2012, the minutes of which is reproduced below:

“2.9 Teesta-IV HEP (520 MW) project in North Sikkim District, Sikkim by M/s. NHPC Ltd-for Reconsideration of Environmental Clearance

The project was earlier considered by EAC in its meeting held during 7-8th September, 2012.

The project proponent made a detailed presentation on the project and queries raised by the EAC earlier on the project. The committee further discussed the following two issues in detail:

- (i) Provisions made by Teesta-IV project for Dzongu Area
- (ii) Environmental flow to be released from Teesta-IV Dam

The proponent explained that the Dzongu area is a restricted one where settlement & business activities by outsiders are not permitted without permission of the Government of Sikkim. The State Govt. has already signed

an MOA for development of Teesta-IV HEP project with NHPC. The project proponent has also explained that NHPC has proposed the following measures for minimizing the disturbance to the Dzongu area:

- The original location of the dam proposed by CWC was at Sanklang which was laying on Namprikdang mela ground. On request of the people of Dzongu and Govt. of Sikkim, NHPC has shifted the location of the dam from the said mela ground to about 3.5 Km downstream near confluence of Runchu with Teesta.
- The FRL has been lowered by about 13n, from E1 768 m to E1 755 m to avoid submergence of mela ground.
- To respect the cultural sensitivity of Lepcha community, layout of the project has been modified in such a manner that it will cause least disturbance on the surface e.g. Underground surge shaft to avoid construction activities on ground, single portal shall serve both the desilting basins & HRT to minimize construction activities on the surface at right bank.
- Access to intake & powerhouse ara will be through two separate bridges to be constructed for this purpose and future running of the project. This will cause least interference with the local traffic on right bank PWD road in Dzongu area.
- All the infrastructural facilities like colony, site offices, stores, labour camps etc. will be constructed on the opposite bank of the river except contractor's temporary facility area.
- Nobody, except the persons on duty, will be allowed to stay on the right bank in Dzongu area during night as was done during construction of Teesta-V HEP and proper permission for entry into Dzongu area will be obtained as per rule.

- The list of fishes mentioned under Fishery Management Plan and reply to the clarification of the 60th EAC comments includes a number of species which need also be addressed for estimation of Environmental flow. Some of the reported fishes viz. *Anguilla bengalensis* and *Schizothoracichthys progastus* are rare species hence needs proper mitigation measures for conservation.
- Again the rare fish of Kashmir rivers-*Schizothoracichthys curvifrons* is mentioned from the river. As per research evidences, there is no record of availability of the fish from N-E rivers. Therefore, there is need to seriously confirm the availability of the fish in the river Teesta by fresh field studies and proper identification. The availability of the fish was questioned during 60th EAC too.
- The river holds coldwater fishes including *Schizothorax richardsonii*, the coldwater fishes –mahseer and snow-trout need Flow-through Indoor hatchery system with hatching trays, troughs and feeding troughs. There is no such provision in the EMP submitted. Therefore the Fishery Management Plan need to be revised with provision of flow-through Indoor hatchery system. This was also suggested in the 60th EAC meeting.
- Adequate provision for infrastructural development works in Dzongu area has been kept in the DPR/EMP of Teesta-IV, viz. Construction of footpath, water supply, sanitation, improvement of Namprikdang mela ground, construction of religious building like Gumpha/Monastic school as per the request of the locals.

The project proponent has mentioned that as per TOR a site study on environmental flow (EF) has been carried out by National Institute of Hydrology, Roorkee (Hydrological Component) and Central Inland Fisheries

Research Institute, Barrackpore (Biological Component). The NIH has found that minimum release of 5.2 cumec from the dam is adequate to meet the requirement of Class 'C' river. However, CIFRI, Barrackpore has recommended a minimum release of 10 cumec for sustenance of ecological integrity between dam and TRT during lean season. The CIFRI made a detailed presentation on the study. The committee appreciated the study done by CIFRI, however, the committee observed that the spill during remaining seasons is not adequate and as such CIFRI was asked to work out the environmental flow requirement for remaining seasons following widely accepted methodologies like BBM in an integrated & holistic manner (monsoon and remaining months) from the ecological point of view through the CIFRI.

The project proponent was asked by the Committee to submit the revised environmental flow calculations based on the revised study for further consideration by the EAC."

24. The project was discussed again by EAC on 2nd February, 2013, when it was agreed that the Environmental Flow should be 20 cumec in the monsoon and 10 cumecs for the remaining season..

25. The EAC finally recommended grant of EC with additional conditions in its meeting held on 01.02.2013. The minutes of the meeting in respect to grant of EC to the Project Proponent reads as such:

“2.6 Teesta-IV HEP (520 MW) Project in North Sikkim District, Sikkim by M/s NHPC Ltd- for Reconsideration of Environmental Clearance.

The proposal was earlier considered by the Expert Appraisal Committee (EAC) for River Valley & Hydroelectric projects in its meetings held on 7-8th September, 2012 and 23-24th November, 2012. On both these occasions, the EAC sought additional information/clarifications.

Teesta-IV HEP with an installed capacity of 520 MW is planned across river Teesta, with a basin area of 3910 Km² and envisages a 65 m high dam with power drawl 406.4 m³/sec through two HRTs 6.58 & 6.47 Kms respectively.

The general concern regarding possibility of landslides studied in the carrying capacity study of Teesta river, project ling in MCT zone, Dzonghu area being impacted on theright side were clarified along with the flora and fauna issues during the 24th November. The decision to lower FRL from E1 755 m to avoid submergence of Mela ground of Dzonghu community was considered absolutely essential.

A major concern however remained regarding the ecological flow release by spillage over the dam in the monsoon and in the lean season with 406 m³/sec withdrawal. The 10-daily flow series for the 90% Dependable year 1994-95 showed discharge in the range of 316.54 to 431.2 m³/sec during monsoon and an abstraction of 406 m³/sec if decided would lead to practically drying of the river over 7 Km of deprived reach spanning the HRT domain. This was of the major concern.

The environmental release of 10 m³/sec; that was proposed as adequate throughout the year of 24th November, 2012 though recommended by CIFRI for the

lean season was considered highly inadequate particularly for the monsoon season.

Actual depth, velocity related to discharge up-to 20 m³/sec (release from the dam) was required to be examined, to establish adequacy for fish migration. NHPC however agreed for a minimum release of 20 m³/sec in the monsoon as environmental flow.

During the discussions held in November, 2012, the issue of environmental flow to be maintained at the downstream was prominent. The EAC carried out a critical review of the flow in the river, the issue of deprivation of the natural flow regime, river stretch below Teesta-IV dam going dry as has been represented by voluminous emails.

The NHPC Ltd was asked to adequately and convincingly address and explain the issue.

The NHPC made a detailed presentation on the project and replied to queries raised by the EAC during earlier meetings. The committee asked the NHPC Ltd to elaborate further the following two issues in detail:

- (i) Environmental flow releases during non-monsoon & non-lean months, lean months and monsoon months
- (ii) Estimated flow contributed by tributaries joining the river between the dam and the TRT discharge point-separate line sketches: one for lean season average, one for monsoon season average and one for other 4 months

The NHPC emphasized that ToR awarded by MoEF in 2009 required a study to be conducted through NIH, Roorkee and CIFRI, Barrackpore for estimation of environmental flow. The NHPC has accordingly got the study carried out. It was informed that NIH study concluded that 5 cumec environmental flow is adequate to satisfy the condition of Class-C river (assuming present condition of

river in Class-C, because u/s projects are under construction). However, the NHPC agreed for higher release of 10 cumec recommended by CIFRI for sustenance of ecological integrity in the stretch between dam site and TRT. Accordingly, power potential study has been revised entailing some generation loss.

The NHPC, however, worked out and presented an alternative scenario of releasing 20 cumec as environmental flow during monsoon months as indicated by EAC, for sustenance of aquatic lives. Based on the available hydrological data, the project proponent mentioned that adequate water is available in the stretch between dam and TRT during monsoon for sustenance of Ecological integrity which is over and above the recommended release by two reputed Institutions. In this regard, the following were explained:

- Total catchment area between Teesta-IV and Teesta-V dam is 397 sq. Km and the intermediate catchment between Teesta-IV dam and TRT is 108.4 Sq. Km. This intermediate catchment has been used for assessing the discharge of intermediate tributaries.
- The hourly gauge and daily discharge data is available at Teesta-IV Gauge and Discharge site & hourly gauges at Teesta-IV have been converted to hourly discharges by using rating curves.
- Hourly discharge data is available at Teesta-V dam site.
- The daily discharge of Teesta-IV has been subtracted from daily discharges of Teesta-V during monsoon period of assess the intermediate catchment contribution.

- The discharges so computed are reduced by catchment area portion to calculate contribution of respective tributary of intermediate catchment.

It was thus shown that the maximum discharge on daily basis through intermediate tributaries from the downstream during monsoon goes up to 206 cumec. There are about 175 days when the discharge is more than 50 cumec and 28 days when discharge is more than 100 cumec in 4 years of monsoon season.

The project proponent further substantiated their claim based on the flood hydrograph methodology as under:

- Few flood events were taken up for further analysis from the daily discharge available during monsoon period
- The distance between two Dams is 13 km, the travel time between Teesta-IV and Teesta-V is about 1 hour and as such after applying a lag of 1 hour, the discharges at two sites were subtracted on hourly basis.
- The discharge so computed when reduced by catchment area proportion to respective tributaries of intermediate catchment.
- The discharge thus computed gives flood hydrograph on hourly basis.

It was demonstrated by NHPC that the discharges on hourly basis go as high as more than 300 cumec. During flood events, for many hours the discharges remain more than 100 cumec, which will keep on replenishing the main course of the river. These spurts of high peak occurring during monsoon period will not allow the sediment to settle at the confluence of these tributaries with Main

River. In addition to above, it is also proposed to release 10 cumec during lean season and 20 cumec during monsoon period from the inflow being received at Teesta-IV Dam site on the downstream, which will further rejuvenate the river on a continuous basis.

The project proponent also demonstrated with the help of mathematical modelling that by releasing 20 cumecs from Teesta-IV dam during monsoon months and 10 cumes during remaining months, the depth of water column achieved at different distance is adequate for the sustenance of ecology in the d/s. It was also explained that the water availability in the d/s stretch is further augmented by sluicing and flushing operation. For small reservoirs like Teesta-V and Teesta-IV, it is mandatory to carry out on drawdown flushing in each month of monsoon period.

The Committee expressed satisfaction with the explanations and calculations made on environmental flow and observed that 20 cumec release as environmental flow during monsoon months (June-September) and 10 cumec release as environmental flow during remaining months would be adequate to sustain the aquatic lives and carry silts.

The Committee further discussed the various representations received from Civil Society Organizations expressing concern against the project quoting the recommendations of Carrying Capacity Study recommendations, Public Hearing Report and site inspection report submitted by MoEF Regional CCF, Shillong for diversion of forest land for the project. The project proponent, in response, submitted the following:

1. The recommendations of Carrying Capacity Report have already been discussed in detail in previous meetings of EAC and a detailed action taken/proposed to be taken in r/o recommendations regarding Teesta-IV have been submitted to EAC. The NHPC will follow the recommendations relevant to the project.
2. The project proponent further mentioned that none of the recommendations of Carrying Capacity Study prohibits construction of Teesta-IV Project.
3. Public Hearing was held on the Nampridang Mela Ground which is heart of Dzongu area and it was conducted peacefully and successfully. The attendees were agreed for the project.
4. As regards the observation of the Regional CCF, it was indicated that the issue was discussed during the FAC meeting held on 22.1.2013 for diversion of the forest land.

The EAC, after expressing satisfaction over the response, asked for point-wise written reply to be submitted to MoEF by NHPC as was explained during the meeting.

The EAC, after the presentation of NHPC, their response on various issues and further deliberations, observed the following:

- The NHPC made a detailed analysis of the daily flow scenario in the 90% DY. This revealed that the flow in the river exceeded 400 m³/sec rising up-to 500 m³/sec at least six times for spells of 2 to 3 days between June 1 and July 16 and thereafter twice in August. Further spills varying from 50 to 150 m³/sec was evident over 30 days in the monsoon, which was not deciphered from the from the daily data. For the 80% DY spill occurred over 75 days in

spells of 10 to 25 days with the highest spill of 900 m³/sec. The situation in 70%, 60% and 50% year, the scenario revealed daily spill of not less than 100 m³/sec in the entire monsoon period. In essence the flow below Teesta-IV dam would have low flows, high flows, flood pulses, mimicking the pre-dam situation over 80-85% of the years.

- Further contribution of the downstream tributaries (397 Km²) was arrived at by reference to actual flow data of 2010 and 2011 of Teesta-IV site (now gauged) and Teesta-V under operation, which revealed that the contribution was of the order of 20 to 310 m³/sec in the months of June, July, August 2010 and July, August 2011. This happens because the area receives 3000 mm of rain mostly in the monsoon. The proponent substantiated availability of abundant flow downstream of Teesta-IV, in the monsoon minimum of 50 to 1000 m³/sec and each flood event resulted in spill of 100 to 300 m³/sec which occurs at least 5 to 6 times in the monsoon. In addition the flushing discharge likely once in very month will leave a large spike flow of 200 to 500 m³/sec as was inferred from actual flushing data of Teesta-IV. The augmentation by tributaries, flushing and significant spills at the dam would ensure sustainable riverine health and aquatic ecosystem.
- With regard to assessment of realistic depth and velocity in the river section from the dam to TRT, NHPC showed that based on actual gauging data (Sankalang G & D site) the manning coefficient 'n' was derived for range of discharge from 50 m³/sec to 600 m³/sec. The 'n' value worked out to be in the range of 0.1 to 0.13 for discharge upto 200 m³/sec whereas 'n' ranged from 0.14 to 0.19 for discharge range of 100 to 50 m³/sec. NHPC adopted a value of 0.15 (on the conservative side) for the environmental release of 10 and

20 m³/sec during the lean season and 1.5 to 3.23 m for 20 m³/sec release during monsoon season supplemented by the intermediate streams contribution. This was considered satisfactory by the EAC for sustaining aquatic biodiversity.

- As a check on the consistency of abstraction quantum from the river, NHPC indicated the following patter.

	CA in Km ²	Design Drawal in m ³ /sec
Teesta-III	2764	212
Teesta-IV	3910	406
Teesta-V	4307	292
Teesta-VI	4502	531

The abstraction of 400 m³/sec at Teesta-IV was therefore considered rational which also shows significant spill in the monsoon and adequate release (minimum 20 m³/sec) in the monsoon.

The committee also considered the conditions pertaining to minimum environmental flow issued to the NHPC during issue of ToR. After further deliberations, the EAC recommended issue of EC with the following additional conditions:

- (i) A separate provision under R&R Plan for bearing full expenses including tuition fees of at least two students of the project affected family (PAF) is selected on merit in a Government Engineering/Medical College. The maximum scholarship shall be limited to 2 students every year for five years. An additional provision of Rs. 25 lakhs have to be added in the R&R Plan.

- (ii) In the Community & Social Development Plan-the water supply connection should be made available in each house in project affected area based on their requirement.
- (iii) Enhance the budget of community toilets from Rs. 15 lakhs to Rs. 30 lakhs for nearby villages to ensure that 8 sets of good quality community toilets are constructed and maintained.
- (iv) Solid Waste Management Plan – the committee desired that in addition to the solid waste management of the project colony, the proponent should also contribute towards the solid waste management in the project affected area. An additional grant of Rs. 25 lakhs to be provided to the local civic authorities to be used for waste management.
- (v) Fuel & Energy Conservation Measures should have provision for installation of solar street lights in project affected area with an additional grant of Rs. 20 lakhs in the plan.
- (vi) Point-wise written reply to be submitted to MoEF by NHPC as was explained during the meeting in response to various representations and reports, copies of which were handed over during the meeting.”

27. Before EC was finally issued in terms of recommendation of EAC, the MoEF sought for further clarity on Carrying Capacity of Teesta river and Public Hearing and accordingly held further discussion on 06.08.2013 with a follow up meeting on 13.08.2013 amongst the Secretary, Power, Secretary, Environment and Forest along with Senior Officials of Ministry of Power, MoEF, NHPC and Director CISMHE when

various issues like Carrying Capacity Study of Teesta Basin, Environmental Flow, Public Hearing, etc., were again discussed and clarified. Finally EC was issued on 09.01.2014. The Project Proponent obtained wildlife clearance on 03.12.2014.

28. The Govt. of Sikkim in their reply filed on 20.07.2016 would submit that the Appellants did not participate in the Public Hearing to raise the issues but preferred to file the appeal which is contrary to the observations of the Hon'ble Principal Bench of NGT in **Bharat Jhunjunwala Vs. Union of India and Others in Appeal No. 151 of 2016**, where it was held that:

“A public spirited person which the Applicant claims to be is expected to be diligent in pursuing public cause and not be indolent and lackadaisical, particularly when his action is likely to hinder and jeopardize public work of the magnitude and proportion as the project in question.”

29. They would emphasise the need of development in the State of Sikkim, particularly hydropower, due to abundant and uninterrupted water available in the Teesta and Rongit rivers in order to augment the revenue of State, generate employment, upliftment of the living conditions of the people. But such development has to be without any adverse effect on, not only the environment and forest cover of the State, but also ensuring that the cultural values of the people of the State are not

adversely affected as values and culture of different sections, of the people are to be respected. The State shall ensure that Namprikdang Mela ground and cultural values and heritage of Lepcha Community are protected in terms of the agreement entered into between the Govt. of Sikkim and the Project Proponent.

30. One composite rejoinder was filed by Ld. Counsel appearing for the Appellants on 6th April, 2015 to the affidavits filed by Respondents No.1 and 3, i.e., the MoEF and the NHPC respectively. It is stated that the reply of Respondent No.3 is devoid of any merit. The facts and issues specific to the case have been haphazardly scattered and repeated to confuse the Hon'ble Tribunal to divert its attention from the core issues.

31. On the issue of *locus standi* and jurisdiction of the NGT, the Appellants would state that they are residents of Dzongu and belong to the indigenous Lepcha Community and the project would impact their community and ancestral lands. The Form-1 submitted by the Respondent failed to mention the indigenous Lepcha Community and even the MoEF did not ask for a study on the impact of the project on the Community in the EIA, which are grounds for them to invoke the jurisdiction of the

Tribunal. They would further state that the issues raised in the Appeal like non-application of mind by the concerned authority, faulty calculation of Carrying Capacity and Environmental Flow, choking of free flow, requirement of clearance from the National Board of Wildlife, faulty EIA and EMP, impact of dams in high seismically sensitive zone on people and biodiversity, etc. fit squarely within the jurisdiction of the Tribunal. To substantiate their justification, they have cited High Court Judgment of **Utkarsh Mandal Vs. Union of India (W.P. (Civil) No. 9340 of 2009 dated 26.11.2009)**, the National Green Tribunal Judgments of **Jeet Singh Kanwar Vs. Union of India (All (I) NGT Reporter (Delhi) 129)**, **Vimal Bhai Vs. MoEF & Ors. (Appeal 5 of 2011, Judgment dated 14.12.2011)** which deal with *locus standi* and jurisdiction issues.

32. The Appellants would also reiterate their stand as raised in the appeal on the issue “Correct Information not Provided in Form-1” particularly with reference to questions No. 1.30 (loss of native species or genetic diversity), 3.3 (affecting welfare of the people), 3.4 (affecting vulnerable groups of people), 9.1 (ancillary development), 9.4 (cumulative effects due to proximity to other projects), III.2. (importance or sensitivity of

the area due to ecological reasons), III.9 (areas occupied by sensitive man-made land uses). As per the Appellants, on the ground of misrepresentation and concealment of information, the EC is liable to be quashed and set aside.

33. The replies under “Preliminary Submissions” of the Respondent No.3 were also refuted by the Appellants in their rejoinder particularly with regard to the issue on Public Consultation, Appraisal, Carrying Capacity, Environmental Flows (E-Flows) etc. which are reproduced below:

“4.3.c That under the PRELIMINARY SUBMISSIONS made by Respondent 3 in paragraph 5 of the reply, they have touched upon the issue of Public Consultation in paragraphs 5(xx)-(xxvii) where the assertions made by them contradict their own claims in this regard as laid out in paragraph 4(E). With respect to paragraph 5(vii) of the Reply, it is humbly submitted that there was widespread agitation and hunger strike against all hydropower projects in Sikkim. The Respondent cannot claim that no complaints were raised after the project was given site clearance in 2005. In paragraph 5(xv) and 5(xvi) under the heading ‘SCOPING’ Respondent 3 mentions of the civic dissatisfaction which they themselves have denied in para 4E. The contents of paragraphs 5(xx) to (xxii) of the Reply by Respondent 3 support the assertion made by us in the Original Appeal that there was widespread opposition to the project, that the public did not permit the public hearing to take place and that the local elected

representative called for a boycott of the public hearing. In paragraph 5(xxi) the Respondent No.3 has admitted that large section of the public boycotted the first public hearing and it had to be postponed and yet they have claimed in Paragraph 5(xii) that there was no public unrest. Paragraph (xxvii) makes it clear that the Chairperson of the Public Hearing Panel himself admitted that only 50% of the project affected people had attended. In fact, the Respondent 3 in that same paragraph disputes the claim of the Chairman and states in Paragraph (xxvi) and 5 (xxvii) that only 16 project affected families from the right bank of the river which will be most affected because of the project had attended Paragraph 5(xxvi), the Respondent states that only 16 persons attended from the right bank which is the Dzongu area. The National Board of Wildlife site inspection report dated August 2013 which we have alluded to in Paragraph 17 of our Original Appeal states on page 7 that 256 families are likely to be affected. Attendance by only 16 persons of the Lepcha community of Dzongu cannot be termed as representative, especially when the rest of the community, including its elected representative, had opposed the project and the public hearing. It is also important to point out to the Learned Tribunal that in their Reply at Paragraph 5(xxvii) themselves dispute certain public statements made by the Chairman of the Public Hearing Committee. Further that Page 7 of the NBWL site inspection report states *'A total 14 villages)14,291 population/2793 families) are likely to be affected due to land acquisition and other project activities. The 256 affected landowner families (67 would become landless) need to be relocated physically with a due compensation package. Based on earlier experiences, such as with Teesta*

V, we apprehend every possibility that land-losers, after displacement, may take the path of least resistance and occupy surrounding reserve forest'. In light of the comment, the claim of the Respondent 3 that a Proper Public Hearing was duly conducted and the people are ready to part with their land becomes baseless.

4.3.e. It is further submitted that in Paragraph 5 (xxxvii) of the Reply under the heading 'APPRAISAL' the Respondent 3 speaks of 'minimum disturbance' to the Dzongu area which is impossible because of the large scale nature of the project. Paragraph 5(xxxvii-xi) of the Reply by Respondent 3 under 'APPRAISAL' also speaks of the Public Consultation processes, which are once again repeated by the answering Respondent in paragraph 7 and once again in Paragraph 15,21 and 22(n) of the Reply. It is further submitted that the Respondent 3 has brought in the issue of Relief & Rehabilitation in paragraph 22(i) of their Reply whereas the same has not been a point in issue in our Original Appeal, given that the issue of Relief & Rehabilitation is something that is under the jurisdiction of the Hon'ble High Court of Sikkim and not of this Learned Tribunal. These show how the Respondent 3 have repeated the same submissions over and over again with the intention of confusing the Tribunal and are also seeking to divert the attention of the Tribunal away from the core issues.

4.3.f. That we would like to bring this to light in terms of the conjoined issues of Public Hearing, cultural degradation of the Lepcha community and economic development it is false to state that the Lepcha community expressed impatience at the delay in starting of the Teesta IV project. This is in face of the minutes of the meeting of the MoEF's Expert Appraisal Committee which states that

they encountered opposition to the project from the Lepcha community. Further that as we have shown in para 9b of the Original Appeal, in section 12.7 of the EIA Report itself acknowledges the significance of Dzongu area in terms of the cultural heritage of the Lepcha community. The failure of the Respondent to address the issues that arose out of Teesta-V is a matter of record.

4.3.g. That the EIA Notification 2006 Appendix II Para 7.3 (Social Impact Assessment) says that in the Social Impact Assessment aspect of the EIA Reports, the following questions shall be sought to be answered: “Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?” That despite this the Respondent 2 in their Rejoinder has claimed that the cultural adversities faced by the Lepcha community of Dzongu area because of the Teesta-IV hydel-power project are not within the jurisdictional purview of the Hon’ble Tribunal. We submit that in light of the relevant portion from the EIA Notification 2006 as quoted above, the assertion of the Respondent 2 is incorrect and legally unsound.

4.3.h. That as the Hon’ble Supreme Court in the case of Orissa Mining Corporation V. MoEF & Others in para 39 has acknowledge that tribal communities “.....*have a vital role to play in environmental management and development because of their knowledge a traditional practices. State has got a duty to recognize and duly support their identity, culture and interest so that they can effectively participate in achieving sustainable development.*” It is most humbly submitted that this aspect of cultural identity is very much essential for the protection of environment and relates to the “substantial question relating to environment”. It

further submitted that this aspect of cultural identity, despite being alluded to in the EIA Report, was not taken into consideration while the EC was granted to Respondent 3, especially in light of the fact that the Teesta river is considered as sacred by the Lepcha community of Sikkim who believe that the soul of the departed travels up the Teesta and the Rangyong rivers to rest in their sacred place below Mount Kanchendzonga.

4.3.i. That Respondent 1 MoEF in their Reply accepts that the Expert Appraisal Committee and Ministry of Environment and Forests did not consider that the Lepcha boycotted the public hearing and hence it was a failure. The affidavit merely mentions that the law was followed. Thus it comes to light that there was a failure to consider the merits.

4.3.j. That Respondent 1 MoEF in their Reply also accepts that the EIA failed to consider the social and cultural aspects of indigenous Lepcha community and hence the adverse impacts that the Teesta-IV Project would have on them.

4.4 On the issue of **CARRYING CAPACITY** of the river vis a vis the proposed project, we make the following submissions:

4.4. a. That in Paragraph 5(ix) of their Reply the Respondent 3 under heading 'SCOPING' has merely placed reliance on the Carrying Capacity (CC) Study Report of the Teesta Basin and this was once again reiterated in Paragraphs 5(xxx) and 5(xlvi) under the heading 'APPRAISAL'. Once again they have mentioned the same in Paragraphs 16 and 22m of their Reply. That in this manner it is clear how the Respondent 3 is merely repeating the

same facts and issues over and over again without going into the merits of the same.

4.4.b. That no detailed CC Study Report has been produced by the Respondent 3 in support of their contentions in this regard as mentioned hereinabove.

4.4.c. That we have made our position on this issue amply clear in Paragraphs 9(d)-(e) read with Paragraph 11 (g) of the Original Appeal submitted by us and nothing in the contentions made by the Respondent 3 in their Reply on this issue refutes our assertion regarding this issue. We maintain that even 10 cumecs of water is not sufficient to meet the environmental needs of the area in question both in terms of the CC and the Environmental Flow (eflow) of the river in question and there is nothing in the Reply by Respondent 3 Company that refutes this claim.

4.4.d. That paragraphs 5(xliii) to (xlvi) of the reply clearly indicates that the Ministry of Environment and Forest (MoEF) was not convinced that the Expert Appraisal Committee (EAC) had taken everything into consideration. It is humbly submitted that it appears from the abovementioned sections of the Reply that the MoEF finally issued the environmental clearance due to pressure from the Ministry of Power, which would necessarily have a biased opinion in favour of the project. Further that the time taken by MoEF is an indication of the seriousness of the issues and problems that the project will create. It is not a sacrosanct right of the project proponent companies such as Respondent 3 to get environmental clearance for the project just because they have proposed it within their own convenient time.

4.4.e. That the Respondent 1 Ministry in their Reply also accepts that the EIA Report has not considered the findings of the carrying capacity study.

4.5. On the issue of ENVIRONMENTAL FLOWS (EFLOWS) of river Teesta we make the following submissions:

4.5.a. That in Paragraph 5(xvii) under the heading SCOPING the Respondent Company has placed reliance on the report prepared by National Institute of Hydrology (NIH) Roorkee on the hydrological component of eflow and the one prepared by the Central Inland Fisheries Research Institute, Barrackpore. They have reiterated their faith on these two Reports once again in paragraph 5(xxxvi) under the heading APPRAISAL and once again in Paragraphs 23-26 of their Reply, without refuting our assertions made in Paragraphs 12-16 of our Original Appeal where we have clearly established how the calculation of eflow by the two abovementioned institution was done in an incorrect manner.

4.5.b. That with respect of paragraph 5(xviii) of the Reply as submitted by the Respondent 3 Company, we humbly submit that environment flows are fixed after a study and cannot be determined at ToR stage and that in this manner the Respondent is misleading this Hon'ble Tribunal by stating the eflows were not fixed during the ToR stage.

4.5.c. That in paragraph 5(xxxi) of their Reply, the Respondent Company is completely distorting the facts where it says that there will only be 3 cumecs will be between the Teesta-III dam and the tail race from the power house of Teesta-III dam. If it was the case that there would be only 3 cumec in the river then the Respondent's

Teesta-IV project would not be technically and financially viable. Further that the falsity of the contention of Respondent 3 that more water will flow in the river because of the Teesta-IV project becomes apparent from this.

4.5.d. That the assertions by the Respondent 3 in paragraphs 5(xxxiii) to (xxxvi) of the Reply clearly shows how arrival at the environmental flows to be released from the dam was unscientific, arbitrary and without application of mind.

4.5.e. That with regards to paragraph 39(g) of the Reply, it is humbly submitted that there are over 200 methodologies for determining eflows. The methodology generally prescribed by MoEF is the Building Block Methodology, which is a holistic methodology of determining eflows. However, the MoEF made an unreasonable exception in this case and did not use the Building Block Methodology while determining the eflow of Teesta.

4.5.f. That the calculations of eflow are random and erratic, and there is little logic behind those. As submitted in paragraph 11.b.i. of our Original Appeal, "The Environmental Clearance of Teesta-III, Teesta-IV, Teesta-V and Teesta-VI provides for a lean season flow of 3 cumecs, 15 cumecs, 1 cumec and 8.25 cumecs respectively." We submit that the same is a logical impossibility because Teesta-V being downstream to Teesta-IV, it cannot have a lesser eflow than Teesta-IV. Though it is not clear whether the eflow of Teesta-v is 1 cumec or 5.3 cumecs and we have mentioned of the same in the Original Appeal. However, we most humbly submit that both 1 cumec and 5.3 cumecs being less than 15 cumecs, the inherent absurdity behind the figures pertaining to the eflows is evident.

4.5.g. That from the language of Paragraph 6(iv)(a) of the Reply by Respondent 1 MoEF, it is apparent that the Ministry and the concerned functionaries in this regard seems to have taken for granted the Teesta is a Class C river for calculation of eflows whereas there is nothing in the documents adduced to show the same. This shows that the Expert Appraisal Committee and Ministry of Environment and Forests have functioned without application of mind while determining the eflow of the river Teesta.

4.5.h. That the Respondent 1 Ministry has mentioned in Para 11 of their reply of being informed of an alternative scenario involving 20 cumecs of eflow during the monsoon seasons as purportedly chalked out by the Respondent 3 Company. However no documents regarding this assertion have been adduced in support of this contention and it is further submitted that eflow is bound to increase naturally during the rainy seasons and the natural growth ought not to be tampered with by human disturbances such as mega-hydel-power projects such as Teesta-IV.”

34. The Appellants have highlighted the rich biodiversity and ecologically sensitive forested topographies of the region where proposed project is located, which will have adverse impact. It is stated by the Appellants that although the Respondent No. 3 would admit the rich biodiversity of the region but there is nothing in the reply to negate the assertion of the Appellants on the detrimental impact of the project. The

Appellants would further state that there is misapplication of cost-benefit analysis which has been arrived at based on anthropocentric approach without considering the factors like ecosystems and environment.

35. The Appellants would contend that the EAC and other authorities did not apply their mind while granting the EC, based on their consideration of a faulty EIA report and EMP, when there is high possibility of flood from Glacial Lake Outburst and which can cause severe damages to the dam and the environment. According to the Respondent No.1 the MoEF, there has been no such study undertaken to assess the possibility and impact of Glacial Lake Outbursts flood when there are 153 glacial lakes in Sikkim. The EAC also ignored the fact that the state lies within Seismic Zone-IV and the project area lies in the high damage risk Zone-VIII corresponding to a magnitude of 6.7 in the Richter Scale. It is also stated in the rejoinder that in terms of the Judgment of **Vimal Bhai Vs. MoEF & Ors. (Appeal No. 5/2011/PB dated 14.12.2011)** and **T. Muruganaadam and Ors. Vs. MoEF & Ors. (Appeal No. 50/2012/PB dated 01.04.2014)**, and also according to MoEF Strategic Plan prepared for the year 2012-2013 to 2016-2017, it is necessary to undertake Cumulative

Impact Assessment Study in addition to EIA for consideration before granting EC. No such study has been undertaken nor a report submitted by the Project Proponent.

36. The Respondent No.3, the NHPC filed additional affidavit on 06.05.2015 as reply to the rejoinder filed by the Appellants as certain new facts were raised by them and in the interests of justice and for proper adjudication of the matter, it necessitated to file such reply. They would submit that the Appellants were not personally present during the public consultation process as well as discussions of EAC and all the issues raised by the Appellants are false and mere speculations and the allegations are liable to be rejected. They would further state that because of such frivolous litigation, there has been huge loss to the public exchequer and also hampered socio-economic development of the country as well as area. All the issues relating to Lepcha Community, Carrying Capacity Study, Public Hearing, Environmental Flows, Biodiversity etc. have been replied in detail and there is no concealment of facts. The appellants have been trying to mislead the Hon'ble Tribunal without comprehending the replies given by them.

37. Heard the parties, perused the affidavits filed by them and examined the documents placed on record.

38. Before we proceed to discuss on merit about the issues raised by the Appellant, we may deal with preliminary objection of the Respondent No.3, the Project Proponent, with regard to maintainability. The objection has been raised on the ground of Locus Standi of the Appellants as they are not affected by the project nor have they enclosed any documents showing that they are affected people of the project. As the Appellants deliberately and wilfully absented themselves during the public hearing, they should not be permitted to stall progress for achieving their ill motives, according to the Project Proponent. It is also stated by the Project Proponent that Appellants have neither raised nor formulated any such substantial question as contemplated U/s 14 (1) of the NGT Act. The Respondent has cited the Judgment of NGT in **Goa Foundation Vs. Union of India (2014)** as well as Judgment of the Hon'ble Apex Court in **Techo Tagi Tara Vs. Rajendra Singh Bhandari & Ors. (CA No. 1359 of 2017)** in support of their submissions on maintainability.

39. The present appeal was filed by the Appellants under Section 18 (1) read with Section 16 (iv) of the National Green

Tribunal Act, 2010, challenging the grant of EC by the Respondent No.1 in favour of Respondent No.3, NHPC for Teesta HEP State-IV Project. Section 16 of NGT Act, reads as such:

“16. Tribunal to have appellate Jurisdiction: ‘Any person aggrieved by.....

(g) Any direction issued, on or after the commencement of the National Green Tribunal Act, 2010, under Section 5 of the Environment (Protection) Act, 1986 (29 to 1986).”

40. Since the challenge is to the EC granted by Respondent No.1 under Section 16 of the NGT Act, 2010, and it is our considered view that the grant of EC to a Project is after a thorough exercise of dealing with many environmental issues by the Project Proponent and consideration by the EAC/MoEF and therefore the questions raised are substantial in nature.

41. On the question of *Locus Standi* of the Appellants as aggrieved persons, we may refer to the Judgment of the Tribunal in the case of Goa Foundation Vs. Union of India, 2013, All India (NGT) Reporter (New Delhi) 234 wherein on the question of *locus standi*, the Tribunal held as under:

“25. The very significant expression that has been used by the legislature in Section 18 is ‘any person aggrieved’. Such a person has a right to appeal to the Tribunal against any order, decision or direction issued by the authority

concerned. 'Aggrieved person' in common parlance would be a person who has legal right or a legal cause of action and is affected by such order, decision or direction. The word 'aggrieved person' thus cannot be confined within the bounds of a rigid formula. Its scope and meaning depends upon diverse facts and circumstances of each case, nature and extent of the applicant's interest and the nature and extent of prejudice or injury suffered by him. P. Ramanatha Aiyar's *The Law Lexicon* supra describes this expression as 'when a person is given a right to raise a contest in a certain manner and his contention is negative, he is a person aggrieved' {*Ebrahim Aboodbakar Vs. Custodian General of Evacue PROPERTY* {AIR 12512 952 SC 319}. It also explains this expression as 'a person who has got a legal grievance i.e. a person wrongfully deprived of anything to which he is legally entitled to and not merely a person who has suffered some sort of disappointment.'

42. It may also be pertinent to refer to the Judgment passed by the Apex Court in *Banglore Medical Trust Vs B.S. Muddappa and Other* (L 1991) 4 SCC 54) in 1991 relating to locus standi the relevant portion of which reads as under:

"35. Locus standi to approach by way of writ petition and refusal to grant relief in equity jurisdiction are two different aspects, may be with same result. One relates to maintainability of the petition and other to exercise of discretion. Law on the former has marched much ahead. Many milestones have been covered. The restricted meaning of aggrieved person and narrow outlook of specific injury has yielded in favour of broad and wide

construction in wake of public interest litigation. Even in private challenge to executive or administrative action having extensive fall out the dividing line between personal injury or loss and injury of a public nature is fast vanishing. Law has veered round from genuine grievance against order affecting prejudicially to sufficient interest in the matter. The use in exercise of power by the executive and comparative decline in proper and effective administrative guidance is forcing citizens to espouse challenges with public interest flavour. It is too late in the day, therefore, to claim that petition filed by inhabitants of a locality whose park was converted into a nursing home had no cause to invoke equity jurisdiction of the High Court. In fact public spirited citizens having faith in rule of law are rendering great social and legal service by espousing cause of public nature. They cannot be ignored or overlooked on technical or conservative yardstick of the rule of locus standi or absence of personal loss or injury. Present day development of this branch of jurisprudence is towards freer movement both in nature of litigation and approach of the courts. Residents of locality seeking protection and maintenance of environmental of their locality cannot be said to be busybodies or interlopers. Even otherwise physical or personal or economic injury may give rise to civil or criminal action but violation of rule of rule of law either by ignoring or affronting individual or action of the executive in disregard of the provisions of law raises substantial issue of accountability of those entrusted with responsibility of the administration. It furnishes enough cause of action either for individual or community in general to approach by way of writ petition and the authorities cannot be permitted to seek shelter under cover

of technicalities of locus standi nor they can be heard to plead for restraint in exercise of discretion as grave issues of public concern outweigh such considerations. ”

43. In an **Appeal No.22 of 2011 (T) Jan Chetna and Anr. Vs. MoEF and Ors.**, the Principle Bench of NGT discussed in detail on ‘locus standi’ and aggrieved persons very similar to the present case, which may be very relevant to reproduce as under:

“21. On a plain reading of Section 11, it is seen that any person aggrieved by an order granting environmental clearance has a right to prefer an appeal to the Authority. The definition of ‘person’ as contained in sub-section (2) of Section 11 (a), provides that any person who is likely to be affected by the grant of environmental clearance has an undoubted locus standi to file an appeal. Section 11 (2) (c) is worded differently and is wider in scope than sub-clause (a). Sub-clause (c) speaks of “association of persons” (whether incorporated or not) who are likely to be affected by the impugned action and who work in the field of environment. In other words, sub-clause (a) talks of those who are affected or are likely to be affected and the emphasis is on the impact on an individual, though the sub-clause, does not rule out more than one person likely to be affected and/or actually aggrieved. In contrast, sub-clause (c) refers to an association of persons, incorporate one. Such association of persons, (incorporated association), cannot be said to be affected in the manner traditionally understood. Moreover, in environmental cases the damage is not necessarily confined to the local area where the industry is set up. The effect of environmental pollution or environmental degradation might have far-reaching effects

going beyond the local area and create national or global effects. For example, the destruction of forests is said to be one of the causes leading to global warming. Therefore, the aggrieved person need not be resident of the local area. Such an interpretation would also result in defeating the very objective of this enactment in terms of access to justice. **(see Judgment of High Court of Delhi passed in LPA No. 277/2009 dated 14th September, 2009 in the case of Vedanta Alumina Ltd. Vs Prafulla Samantra & Ors.)**

22. The expression “aggrieved persons” cannot be considered in a restricted manner. Its scope and meaning depends on variable factors i.e. the aims and objectives and the intend of the Statute out of which the controversy arises. In the case of **Gulam Qadir Vs Special Tribunal and Other 2002 (1) SCC 33**, the Supreme Court observed that an orthodox rule of interpretation regarding the locus-standi of a person to reach the Court has undergone a sea change and the constitutional courts have been adopting a liberal approach in dealing with the cases or the claims of litigants. It is well settled that in construing remedial statute the courts ought to give to it widest operation which its language will permit. The words of such a statute must be so construed as to give the most complete remedy which the phraseology will permit, so as to secure the relief contemplated by the Statute is not denied to the class intend to be relieved. The statute being remedial in nature is given liberal construction to promote the beneficent object behind it.

23. In so far as, the present case is concerned, it appears from the records, that the first Appellant a social Environment activist had in several occasions in past, made representations before Competent Authority. The

organization of the first Appellant is working in the area in question and as it appears from the deliberations made in the court, was following the issue of the project in question, during various stages of the project, it had complained about the impact of the project on ecology and environment and prayed to direct Respondent No.3 not to go ahead with the project. The second Appellant is a resident of the locality and is the owner of agriculture land situate in the vicinity. In the above circumstances, it is not right to say that the Appellants are not aggrieved persons within the meaning of Section 11 of NEAA Act. Denial of the right to file an appeal to the Appellants would virtually defeat the legislative intentions of granting access to justice.

24. A dispute involving similar controversy arose earlier in the case of '**Prafulla Samantra Vs MoEF & Ors.**' Prafulla claiming to be a social and environmental activist challenged an order granting EC by the MoEF for setting up of a Alumina Smelter Plant, before the NEAA, by filing an appeal. The said appeal was resisted on the ground that he is not a "person aggrieved" and is not covered under Section 11 of the NEAA Act. The Authority dismissed the Appeal holding that he is not a "person aggrieved". Being aggrieved by the said order, Prafulla Samantra approached the Hon'ble High Court of Delhi in WP (C) No. 3126/2008. After hearing parties Hon'ble single judge of the High Court of Delhi by a well discussed judgment dated 6.5.2009 allowed the writ petition. The Hon'ble Judge observed as follows:-

"India, even today, lives largely in its villages. A project of scheme, which is likely to affect or impact a remote community, that may comprise even a cluster of

villages, may or may not have an “association of persons” who work in the field of environment. The villagers, like most others, are unlikely to know about the project clearance, or possess the wherewithal to question it, through an appeal. If the third respondent’s contention, and the authority’s impugned order were to be accepted, and upheld, such community’s right to appeal, meaningful, would be rendered a chimera, an illusion. In their case, the Act would be a crude joke, paying lip service, while promising access to justice, but in reality depriving such a right.....”

The Hon’ble Single Judge came to the conclusion that Prafulla Samantra satisfies the expression “Person aggrieved” and set aside the order passed by the NEAA. The said judgment was assailed by Vedanta Alumina Ltd., Respondent in the said case, before the High Court of Delhi in LPA No. 227 of 2009. The Divisional Bench of High Court of Delhi, by judgment dated 14th September, 2009, confirmed the finding of the Hon’ble single Judge, and held that Prafulla can be construed to a be a “Person aggrieved” in consonance with Section 11 of NEAA Act and dismissed the LPA. The findings arrived at by the Division Bench of Delhi High Court area squarely applicable to the case in hand, and we have no hesitation to hold that the Appellants satisfy the definition of “Person aggrieved” and they have locus-standi to file this Appeal.

44. In view of the above, we are of considered opinion that the Appellants have the *locus standi* to file the present appeal as substantial questions on environment arise in the case

and mere absence of the Appellants in the public hearing does not take away their right to file the Appeal .

45. Coming to the merit of the case, we may take up on the following important and relevant issues :-

46. **Issue No.1:** In adequate EIA Report in respect of

“(i) Limited reference and information about KNP and no reference to FLWS. मेव जयते

(ii) Socio and Cultural aspect of indigenous Lepcha Community not considered and Dzongu cultural landscape and culture of the Lepchas ignored.

(iii) While preparing EIA report CISMHE did not consider their own Carrying Capacity Study report on Teesta basin.

(iv) No study on the impact of GLOF, EIA is silent on impact of climate change adaptation capacity, cost-benefit analysis costs undervalued and benefit over-estimated.”

47. It is found from the available record that before the Central Government issued Notifications on 27th August, 2014, declaring 200 m from the boundary of KNP and 25 m of FLWS as Eco-Sensitive Zone, the Project Proponent had applied for Wildlife Clearance because of the proximity of the two protected areas. The Project Proponent has admitted that the information on KNP in EIA was more detailed as it is part of the free draining catchment of the Project.

48. The MoEF while granting EC to the Project on 9th January, 2014, did mention about KNP & FLWS in paragraph 2 and also made it condition that before commencement of the construction activity associated with the project clearance from NBWL shall be obtained.

(ii) It is also seen from the minutes of EAC that the EIA report mentions about the project site falling within “Dzongu”, a protected area for the Lepcha Community and the project proponent having clarified on the request of the people of Dzongu and the Govt. of Sikkim that the location of the Dam which was originally proposed at Sanklang and falling upon Namprikdang Mela ground had been shifted to about 3-5 Km downstream near the confluence of Runchu with Teesta and the FRL has been lowered by about 13 m, from EL 768 m to EL 755 m to avoid submergence of Mela ground. Respecting cultural sensitivity of Lepcha Community, no construction either temporary or permanent, was proposed in Dzongu area except for infrastructures like construction of CC footpath leading to Lum Village, providing GI pipe falling along the footpath, construction of police check post, etc., besides Catchment Area Treatment Scheme in Dzongu area with local participations.

49. During 26th meeting of EAC, NHPC made a detailed presentation and clarification on the issues raised in the representations of different organisations and EAC prima-facie felt that there is no damage to Dzongu area as well as the people living in that area.

(iii) The EIA report has been prepared by CISMHE for Teesta-IV HE Project. The same organisation had conducted the Carrying Capacity Study of Teesta river basin and submitted a detailed report which was accepted by MoEF during December, 2007. The Study Report does mention that the region lies in the high damage risk zone (viii) corresponding to a magnitude of 6.7 on the Richter Scale and the revised seismic zoning map of India classifies the state of Sikkim as laying in the seismic Zone-IV. It is also mentioned in the report that there is no trend of events of macro-and/or micro-seismicity in North Sikkim though it is characterised by several natural hazards like landslides. Based on the recommendations of Carrying Capacity Study, MoEF decided not to consider the Projects above Chungthang as there is a high species endemism and richness between 1200-2800 m altitude and accordingly besides Teesta-III and VI which were under advanced state of construction, only Teesta-IV was allowed.

50. With specific reference to Teesta-IV Project there it is observed in the Carrying Capacity Study Report, that there is possibility of reservoir induced seismicity in the region owing to the geological setting for which no pondage of any duration should be allowed in this area as it would lead to geological instability and increase incidence of landslides. Both the MoEF and Project Proponent would emphatically submit that the Carrying Capacity Study report nowhere prohibited construction of such project below Chungthang. However, although the Teesta Stage-IV Project is said to be a run-of-the river scheme, it incongruously also envisages construction of a 65 m high concrete dam across Teesta river with diurnal storage for providing a peaking power. The EAC in its meeting held on 08.09.2012, after a thorough scrutiny, examination and discussion on various issues on the project, made the following observations:

“

- “2. Keeping in view of the recommendations of the Carrying Capacity Study of Teesta Basin, the details of the planning of the Teesta-IV HEP and actions taken/provisions made in the EIA/EMP should be presented including mitigation measures.

.....

5. Project area is landslide prone and in view of the recent earthquake in North Sikkim the Committee desired to know the details of site specific study and also mentioned that separate arrangement for seismic monitoring stations should be made in Teesta-IV HEP for seismographic data.”

51. EAC in its meeting held on 1-2nd Feb, 2013 mentioned in paragraph 3 of the minutes that the general concern regarding possibility of landslides studied in the Carrying Capacity Study of Teesta river, project lying in MCT Zone, Dzongu area being impacted on the right side were clarified along with flora and fauna during the 24th November. The decision to lower FRL from EL 768 to EL 755 to avoid submergence of mela ground of Dzongu Community was considered absolutely essential.

52. However, a perusal of the minutes of EAC held on 24th Nov, 2012 reveals that the issues raised by EAC on 08.09.2012 have not been addressed by the Project Proponent.

53. On the issue of Glacial Lake Outburst Flood (GLOF, in short), it is revealed from the Carrying Capacity Study report that there are altogether 313 glacial lakes throughout the Teesta basin covering an area of 21.5 Sq. Km which have the potential to cause GLOF resulting in downstream flooding and serious loss of

property and human life. It is also reported that although there are no reports on the GLOF events in Sikkim Himalaya, several events of debris flow along with glacial lake valleys are seen in the satellite images of the region. The impact and occurrence of GLOF may be serious in view of Global Climate Change.

54. To the allegation of the Appellants on improper environmental cost-benefit analysis it is the submission of the Project Proponent that there is no standard methodology prescribed by MoEF for estimating environmental cost-benefit analysis. The Project Proponent followed the one given in the guidance manual of Forest Conservation Act 1980, and Federal Energy Regulatory Commission, USA for evaluating cost-benefit analysis accounting for all tangible and non-tangible cost and benefit of the Project. Ideally, in the cost-benefit analysis of a sustainable project, the cost of irreversible consequences of the project such as forest loss, degradation of land, habitat disturbances, etc. ought to be added to the cost which is not practiced in India in the absence of any prescription by the Statutory Authorities.

55. **Issue No.2:** E-flows: In terms of Paragraph 4 (vi) of the specific conditions prescribed in EC letter dated 09th January,

2014, a minimum environmental flow of 15 cumec shall be maintained during lean and non-lean/non-monsoon months and 20 cumec during monsoon months (June-September) of the year for sustenance of aquatic life downstream. It is stated by the Appellants that two other hydroelectric projects "Pannan HEP and Luhri HEP" where e-flow of 3 regimes has been prescribed during lean, non-lean/non-monsoon and monsoon months. The EAC has not justified prescribing only two regime e-flow for Teesta-IV HEP. At the cost of repetition it may be relevant to mention that initially the Project Proponent had proposed release of 5.2 cumec as e-flow which is equivalent to 10% of minimum of 10 daily discharges in 90% dependable year. Another 6.55 cumec discharge from 9 nos of intermediate perennial streams will enhance the flow to about 11.75 cumec. In terms of the EAC meeting held on 24.11.2012, site specific study on environmental flow was carried out by NIH, Roorkee and CIFRI, Barrackpore. The NIH study revealed that minimum release of 5.2 cumec from dams would be adequate to meet the requirement of Class-C River. However, a minimum release of 10 cumec was recommended by CIFRI, Barrackpore for sustenance of ecological integrity between dam and TRT during lean season.

While appreciating the study conducted by CIFRI, the EAC requested CIFRI to undertake further study to work out e-flow requirement for remaining seasons by following the widely accepted methodologies. Finally, the Project Proponent proposed 20 cumec release as e-flow during monsoon months. However, the MoEF & CC has further enhanced the flow from 10 to 15 cumec during lean and non-lean/non-monsoon months as additional margin of safety.

56. When three regime environmental flow was prescribed for 300 MW Panan HEP of Sikkim by the MOEF on 2nd Sep 2013 and for the 612 MW Luhri HEP on 19.08.2013, while granting EC, no norms have been given by the State Respondents & the Project Proponent to justify prescribing only two regime e-flows for Teesta IV project.

58. The Principal Bench of NGT in a recent Judgment, **Pusp-Saini Vs Ministry of Environment, Forest and Climate Change in OA No. 498 of 2015 (date of Judgment 09.08.2017)** has stipulated maintenance of a minimum @ 15% to 20% of the average lean season flow in all rivers in the country. It has been stated by the NHPC in their written note of arguments that the e-flow of the 15 cumec as recommended during lean and non-lean

season and non-monsoon months is approximately 19% of the average lean season flow and 20 cumec of environmental flow during monsoon months recommended is approximately 25% of the average lean season flow.

59. The aquatic life has evolved in the evolutionary scale adopting to seasonal and annual changes in environmental parameters. Like the terrestrial organisms which have been adapted to the seasonal variation in weather conditions like temperatures, soil moisture, humidity, food availability etc., the aquatic organisms are also adapted to seasonal variation of such parameters including flow level of water. In riverine system, the flow of water is also influenced by change in season and the organism get adapted to it over a length of time. As the area in question experiences a minimum of three seasons, summer, monsoon and winter, three regime e-flow ought to have been stipulated by EAC as done in the case of the for Panan HEP which is located in the vicinity of Teesta IV project with no difference in the climatic conditions.

60. **Issue No.3:** Faulty and incomplete Public Hearing; as only 50% of the people did not attend the public hearing.

In EIA Notification, 2006, Clause-7 (III) Stage (3) deals with public consultation which reads as follows:

“Public Consultation refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or capacity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate.”

‘Public Consultations’ ordinarily has two components; (i) Public hearing at the site or in its closed proximity and (ii) to obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity. Thus public hearing is an integral part in the process of granting EC.”

61. According to the Appellants, there was no proper participation of Lepcha Community in the public hearing who boycotted because of the call of the Minister of Power of the State. Paragraph 12.8 of EIA report reveals that Lepcha Community had strong reservation about the Project, even then EAC & MoEF approved the project ignoring the interest of the Lepcha Community.

62. For better appreciation of the facts regarding public hearing we may refer to the Appendix IV of EIA 2006 which deals with the procedure for conduct of public hearing which is reproduced below:

“PROCEDURE FOR CONDUCT OF PUBLIC HEARING

1.0 The Public Hearing shall be arranged in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site(s) or in its close proximity District-wise, by the concerned State Pollution Control Board (SPCB) or the Union Territory Control Committee (UTPCC).

2.0 The Process:

2.1 The Applicant shall make a request through a simple letter to the Member Secretary of the SPCB or Union Territory Pollution Control Committee, in whose jurisdiction the project is located, to arrange the public hearing within the prescribed statutory period. In case the project site is extending beyond a State or Union Territory, the public hearing is mandated in each State or Union Territory in which the project is sited and the Applicant shall make separate requests to each concerned SPCB or UTPCC for holding the public hearing as per this procedure.

2.2 The Applicant shall enclosed with the letter of request, at least 10 hard copies and an equivalent number of soft (electronic) copies of the draft EIA Report with the generic structure given in Appendix III including the Summary Environment Impact Assessment report in English and in the local language, prepared strictly in accordance with the Terms of Reference communicated after Scoping

(Stage-2). Simultaneously the applicant shall arrange to forward copies, one hard and one soft, of the above draft EIA Report along with the Summary EIA report to the Ministry of Environment and Forests and to the following authorities or offices, within whose jurisdiction the project will be located:

- (a) District Magistrate/s
- (b) Zila Parishad or Municipal Corporation
- (c) District Industries Office
- (d) Concerned Regional Office of the Ministry of Environment and Forests

2.3 On receiving the draft Environmental Impact Assessment report, the above-mentioned authorities except the MoEF, shall arrange to widely publicize it within their respective jurisdictions requesting the interested persons to send their comments to the concerned regulatory authorities. They shall also make available the draft EIA Report for inspection electronically or otherwise to the public during normal office hours till the Public Hearing is over. The Ministry of Environment and Forests shall promptly display the Summary of the draft Environmental Impact Assessment report on its website, and also make the full draft EIA available for reference at a notified place during normal office hours in the Ministry at Delhi.

2.4 The SPCB or UTPCC concerned shall also make similar arrangements for giving publicity about the project within the State/Union Territory and make available the Summary of the draft Environment Impact Assessment report (Appendix III A) for inspection in select offices or public libraries or panchayats etc. They shall also additionally

make available a copy of the draft Environment Impact Assessment report to the above five authorities/offices viz, Ministry of Environment and Forests, District Magistrate etc.

3.0 Notice of Public Hearing:

3.1 The Member-Secretary of the concerned SPCB or UTPCC shall finalize the date, time and exact venue for the conduct of public hearing within 7 (seven) days of the date of receipt of the draft Environmental Impact Assessment report from the project proponent, and advertise the same in one major National Daily and one Regional vernacular Daily. A minimum notice period of 30 (thirty) days shall be provided to the public for furnishing their responses;

3.2 The advertisement shall also inform the public about the places or offices where the public could access the draft Environmental Impact Assessment report and the Summary Environmental Impact Assessment report before the public hearing.

3.3 No postponement of the date, time, venue of the public hearing shall be undertaken, unless some untoward emergency situation occurs and only on the recommendation of the concerned District Magistrate the postponement shall be notified to the public through the same National and Regional vernacular dailies and also prominently displayed at all the identified offices by the concerned SPCB or Union Territory Pollution Control Committee;

3.4 In the above exceptional circumstances fresh date, time and venue for the public consultation shall be decided by the Member-Secretary of the concerned SPCB or UTPCC

only in consultation with the District Magistrate and notified afresh as per procedure under 3.1 above.

4.0 **The Panel**

The District Magistrate or his or her representative not below the rank of an Additional District assisted by a representative of SPCB or UTPCC, shall supervise and preside over the entire public hearing process.

5. **Videography**

5.1 The SPCB or UTPCC shall arrange to video film the entire proceedings. A copy of the videotape or a CD shall be enclosed with the public hearing proceedings while forwarding it to the Regulatory Authority concerned.

6. **Proceedings**

6.1 The attendance of all those who are present at the venue shall be noted and annexed with the final proceedings.

6.2 There shall be no quorum required for attendance for starting the proceedings.

6.3 A representative of the applicant shall initiate the proceedings with a presentation on the project and the Summary EIA report.

6.4 Every person present at the venue shall be granted the opportunity to seek information or clarifications on the project from the Applicant. The Summary of the public hearing proceedings accurately reflecting all the views and concerns expressed shall be recorded by the representative of the SPCB or UTPCC and read over to the audience at the end of the proceedings explaining the contents in the vernacular language and the agreed minutes shall be signed

by the District Magistrate or his or her representative on the same day and forwarded to the SPCB/UTPCC concerned.

6.5 A statement of the issues raised by the public and the comments of the Applicant shall also be prepared in the local language and in English and annexed to the proceedings.

6.6 The proceedings of the public hearing shall be conspicuously displayed at the office of the Panchayats within whose jurisdiction the project is located, office of the concerned Zila Parishad, District Magistrate and the SPCB or UTPCC. The SPCB or UTPCC shall also display the proceedings on its website for general information. Comments, if any, on the proceedings which may be sent directly to the concerned regulatory authorities and the Applicant concerned.

7.0 Time period for completion of public hearing

7.1 The public hearing shall be completed within a period of 45 (forty five) days from date of receipt of the request letter from the Applicant. Therefore the SPCB or UTPCC concerned shall send the public hearing proceedings to the concerned regulatory authority within 8(eight) days of the completion of the public hearing. The applicant may also directly forward a copy of the approved public hearing proceedings to the regulatory authority concerned along with the final Environmental Impact Assessment report or supplementary report to the draft EIA report prepared after the public hearing and public consultations.

7.2 If the SPCB or UTPCC fails to hold the public hearing within the stipulated 45 (forty five) days, the Central

Government in Ministry of Environment and Forests for Category 'A' project or activity and the State Government or Union Territory Administration for Category 'B' project or activity at the request of the SEIAA, shall engage any other agency or authority to complete the process, as per procedure laid down in this notification."

63. Thus, in terms of EIA 2006, the role of State Pollution Control Board is limited to conducting the Public Hearing as per the procedure prescribed in EIA 2006, and forwarding the report to the MoEF. The documents placed on record reveals that all procedures were followed to conduct the public hearing. The public hearing was scheduled first for 22nd July, 2011 for which requisite notice was published in three news papers twice. Due to certain protests by the people, it was postponed for which there was press release and news paper publication. Finally Public Hearing was held on 29.03.2012 after following the due procedure of law.

64. We have also watched the video recording of the proceedings of conduct of the Public Hearing and perused the report of public hearing submitted to MoEF by SPCB as well as the translated copy of the proceedings of the meeting which is on record. The Appellants alleged non-representation of 50% of the people of the locality, particularly from the Lepcha Community in

the public hearing proceedings. There is no provision of quorum prescribed under the EIA Notification, 2006. The people were informed through wide publicity to attend the Public Hearing and offer their views/grievances on the projects for proper redressal by the Project Proponent and consideration by EAC/MoEF before granting EC. However, as per the record, none of the Applicants preferred to be present in the public hearing to avail of the opportunity.

65. Public Hearing held on 29.03.2012 was attended by 132 people besides 11 officials as revealed from the documents filed by the appellants which also included 16 people of Lepcha Community from the right bank of the river. As per the report of PCB submitted to MoEF, it is found that during question and answer session, 22 persons had aired their views and made queries to which the Project Proponent had responded.

66. Therefore, we do not find any infraction in the conduct of the public hearing which has been conducted as per procedure laid down. We also do not agree to the submission of the Ld. Counsel for the Appellants that the Authority, after knowing that only 50% of the people participated in public hearing, ought to have directed the PCB to conduct the public

hearing for the second time as there is no guarantee that the percentage will increase. Besides, there is no provision in law to conduct the public hearing second time for the same project.

67. **Issue No.4:** Non-application of mind by the EAC & MoEF while granting EC;

The NHPC obtained Stage-I and Stage-II site clearance from MoEF on 6th October, 2005 as per EIA Notification 1994. The Project Proponent, the NHPC Limited applied for Term of Reference (TOR, in short) on 15.10.2008 in accordance with EIA, 2006. The project was discussed by EAC for Scoping on 21.11.2008 and sought for additional information/clarification on the followings:

- (1) A hydrograph of proposed dam
- (2) Whether the recommendation of Carrying Capacity Study affect Teesta-IV

68. The project was once again discussed in the meeting of EAC held on 17.02.2009 and decided to hold the next meeting at Sikkim during April 2009 after a site visit to hydro-electric project on Teesta river. It may be relevant to reproduce the minutes of the meeting of EAC held on 17.02.2009 which reads as under:-

“2.7 Teesta Stage-IV Hydroelectric Project (520 MW) in Sikkim by NHPC Ltd. for Scoping (No.J-12011/67/2008-IA.I).”

The project was considered by the committee at its earlier meeting held on 21st November, 2008. The PA was requested to attend to three further requirements of the EAC, one of them being the replies to the various representations. On the contention issues of encroaching upon the Lepcha Reserve and dam height, the perception and views of the PA and the representing organizations are different all the time. On another of very important issue of tunnelling of Teesta over long stretches due to three cascade projects, the committee noted that the project authority cites CEA's planning and recommendation on power development potential of the river. The committee was of the opinion that the projects, which are under operation or under advanced stages of construction, cannot be asked to change their design now to allow longer stretches of natural flow or reduced tunnelling of Teesta. But the future projects, as is the case with Teesta IV, have the option to redesign some of the components that may allow lesser length of river tunnelling or lesser disturbance to natural river flow, even at the cost of some amount of power generation. In this way, the cause of environment will be served better.

The issues raised in the representations of different organizations were clarified by the NHPC. It was noted that Dr. M.K. Pandit of CISMHE, Delhi University who was Principal Investigator in the Carrying Capacity Study of Teesta Basin in Sikkim has clarified vide his letter dated

13th February, 2009 that the 80 m height for the dams below Chungthan is with reference to river bed level.

Regarding allowing the last remaining free flowing stretch of Teesta river in Sikkim to continue to flow free. NHPC stated that out of six projects, NHPC has been allotted two projects namely Teesta Stage-V project (510 MW) & Teesta Stage-IV project (520 MW). Due to decision taken by MoEF two projects namely Teesta-I & II shall not be considered for Environmental Clearance. 5.2 cumecs of water shall be released from Teesta-IV dam perennially, as environmental flow. In addition to this, around 9 perennial streams between Dam and Powerhouse will contribute around 6.55 cumecs to Teesta river even during lean season.

As per the CWC layout, the planned FRL of Teesta-IV H.E. Project was EL 768 m with its dam near Namprikdang Mela Ground, which was further shifted d/s to EL 755m. Subsequently, TRT of Teesta-III was shifted d/s from EL 768 m to EL 755 m which was not objected to either by Dzongu people or by the SANDRP. It was decided to obtain necessary clarification from Teesta-III authorities about shifting of TRT of Teesta-III for EL 768 to EL 755 and also obtain whether they had taken permission from the concerned authority and if such permission was granted, under what circumstances such permission was given.

Regarding impact of Dzongu area NHPC has clarified that the original location of the dam, proposed by CWC, was at Sanklang which fell upon the Namprikdang mela ground. On request of the people of Dzongu and Government of Sikkim, NHPC decided to shift the location of the dam from the said mela ground to about 3.5 km

downstream near confluence of Runchu with Teesta. Further, the FRL has been lowered by about 13 m, from EL 768 m to EL 755 m to avoid submergence of mela ground. Further, respecting cultural sensitivity of Lepcha community, layout of the project has been modified/evolved in such a manner that it will cause least disturbance. In Teesta-project, where two nos. Diversion Tunnels and right abutment of Dam lie in Dzongu area, respecting the sentiments of the people, neither NHPC nor its contractors constructed any temporary permanent offices, colony or stores in the Dzongu area. On request of Dzongu people, a big Gumpa has been constructed in Lum village. Also, infrastructural works, like construction of CC footpath leading to Lum village, providing GI pipe ralling along with footpath from Dam site, construction of police check post have been done in Dzongu area, to provide them better connectivity with other parts of Sikkim. Lot of works under Teesta-V HEP Catchment Area Treatment scheme, were done in Dzongu area with locals' participation to improve the environment.

It was brought to the notice of the committee that as per EIA Notification, 2006 decision on finalisation of TOR needs to be taken within 60 days. The committee was of the opinion, in view of a number of representation received from Affected Citizens of Teesta, SANDRP and Kalpvriksh and after critically examining all the environmental related issues, the committee decided to visit the site before taking a decision on the proposal.

It was also decided that MoEF may be requested to allow the committee to hold its meeting for the month of April 2009, in Sikkim along with the site visits to hydro-

electric projects on Teesta river, so that members of the committee may examine the issues raised by different Civil Societies regarding vanishing of Teest river in tunnels and impact on protected area for Lepcha community i.e. on Dzongu.”

69. EAC undertook a site visit on 20th April, 2009 and also had its 25th meeting in Sikkim on 21st April, 2009. The copy of the minutes of the meeting as dealt in para 17, reveals that the members met some Lepcha representatives residing in Dzongu area.

70. Before starting of the 25th meeting the representatives of “Affected Citizens of Teesta” met the committee and gave a presentation on environmental degradation around Teesta river due to construction of Hydroelectric Projects. The representatives also informed that the site of Teesta-IV project was shifted not for the sentiments of the local people attached to Mela ground but for saving the power house of Pannan HEP which was coming under submergence and also to facilitate M/s FRL of Teesta Urja to raise FRL to 255. Because of such representation, the meeting was deferred with a request to the Project Authority to examine the representation and comments on the same. In addition to the above, the committee suggested that the EIA should discuss

the feasibility of establishment of a minor HEP as an add-on facility at the Dam site to be run on the water released as environmental flow, preparation of EIA regarding biological environment both based on the methods using checklist as well as matrices, indexes, overlays etc., environmental loss/gain through cost-benefit analysis due to change in land use/land cover and to examine the villages and their agricultural land adjacent to the river from the angle of their dependence on the river flow.

71. After a detailed presentation by NHPC before the EAC Committee in its 26th meeting and clarification on the issues raised by different organizations, the EAC prima-facie felt that there is no damage to Dzongu area and the people living in that area. In the same meeting, the Committee decided to carry out a detailed environmental flow study through CIFRI and NIH, Roorkee. The Committee while approving TOR recommended clearance of preconstruction activity along with following additional TORs:

- “(i) Study/explore the possibility of micro-hydel at dam-toe, if 10 cumec of water to flow from the dam as environmental flow in the river.

- (ii) To carry out a detailed Environmental Cost-benefit Analysis.
- (iii) Data on exact project affected persons
- (v) Disaster Management Plan with respect to upstream and downstream projects
- (vi) Study on detailed environmental flow.”

72. On 08.09.2012, the project was again discussed by the EAC after a detailed presentation by NHPC and the Committee after a thorough scrutiny, examination & discussion on various issues made the following observations as dealt under paragraph 38 (iii).

73. The project was further discussed on 24.11.2012 in 62th meeting of EAC mainly on the following two issues.

- (i) Provisions made by Teesta-IV Project for Dzongu Area
- (ii) Environmental flow to be released from Teesta-IV Dam

74. The NHPC explained the measures proposed to minimise the disturbance to the Dzongu area which is a restricted one where settlement and business activities by outsiders are not permitted without permission from the Govt. of Sikkim. The State Govt. has already signed an MOA for development of Teesta-IV HEP Project with NHPC. The measures proposed are:-

- (i) “The original location of the dam proposed by CWC was at Sanklang which was laying on Namprikdang mela ground.

On request of the people of Dzongu and Govt. of Sikkim, NHPC has shifted the location of the dam from the said mela ground to about 3.5 Km downstream near confluence of Runchu with Teesta.

- (ii) The FRL has been lowered by about 13m, from E1 768 m to E1 755 m to avoid submergence of mela ground.
- (iii) To respect the cultural sensitivity of Lepcha community, layout of the project has been modified in such a manner that it will cause least disturbance on the surface e.g. Underground surge shaft to avoid construction activities on ground, single portal shall serve both the desilting basins & HRT to minimize construction activities on the surface at right bank.
- (iv) Access to intake & powerhouse area will be through two separate bridges to be constructed for this purpose and future running of the project. This will cause least interference with the local traffic on right bank PWD road in Dzongu area.
- (v) All the infrastructural facilities like colony, site offices, stores, labour camps etc. will be constructed on the opposite bank of the river except contractor's temporary facility area.
- (vi) Nobody, except the persons on duty, will be allowed to stay on the right bank in Dzongu area during night as was done during construction of Teesta-V HEP and proper permission for entry into Dzongu area will be obtained as per rule.
- (vii) The list of fishes mentioned under Fishery Management Plan and reply to the clarification of the 60th EAC comments includes a number of species which need also be addressed for estimation of Environmental flow. Some of the reported fishes viz. *Anguilla bengalensis* and

Schizothoraichthys progastus are rare species hence needs proper mitigation measures for conservation.

(viii) Again the rare fish of Kashmir rivers-Schizothoraichthys curvifrons is mentioned from the river. As per research evidences, there is no record of availability of the fish from N-E rivers. Therefore, there is need to seriously confirm the availability of the fish in the river Teesta by fresh field studies and proper identification. The availability of the fish was questioned during 60th EAC too.

(ix) The river holds coldwater fishes including Schizothorax richardsonii, the coldwater fishes –mahseer and snow-trout need Flow-through Indoor hatchery system with hatching trays, troughs and feeding troughs. There is no such provision in the EMP submitted. Therefore the Fishery Management Plan need to be revised with provision of flow-through Indoor hatchery system. This was also suggested in the 60th EAC meeting.

(x) Adequate provision for infrastructural development works in Dzongu area has been kept in the DPR/EMP of Teesta-IV, viz. Construction of footpath, water supply, sanitation, improvement of Namprikdang mela ground, construction of religious building like Gumpha/Monastic school as per the request of the locals

75. On the issue of environmental flow, the minutes read as under:

“The project proponent has mentioned that as per TOR a site study on environmental flow (EF) has been carried out by National Institute of Hydrology, Roorkee (Hydrological Component) and Central Inland Fisheries Research Institute, Barrackpore (Biological Component). The NIH has found that minimum release of 5.2 cumec from

the dam is adequate to meet the requirement of Class 'C' river. However, CIFRI, Barrackpore has recommended a minimum release of 10 cumec for sustenance of ecological integrity between dam and TRT during lean season. The CIFRI made a detailed presentation on the study. The committee appreciated the study done by CIFRI, however, the committee observed that the spill during remaining seasons is not adequate and as such CIFRI was asked to work out the environmental flow requirement for remaining seasons following widely accepted methodologies like BBM in an integrated & holistic manner (monsoon and remaining months) from the ecological point of view through the CIFRI.

The project proponent was asked by the Committee to submit the revised environmental flow calculations based on the revised study for further consideration by the EAC."

76. In the 64th meeting of EAC held on 1st Feb, 2013, the EAC asked the NHPC to elaborate further on the following two issues in detail:

“(i) Environmental flow releases during non-monsoon and non-lean months, lean months and monsoon months.

(ii) Estimated flow contributed by tributaries joining the river between the dam and the TRT discharge point separate line sketches: One for lean season average, one for lean season average, one for lean season average, one for monsoon season average and one for other four months.”

77. NHPC agreed for a release of 10 cumec as recommended by CIFRI for sustenance of ecological integrity in the stretch between dam site and TRT and 20 cumec as environmental flow during monsoon months. The explanation provided by NHPC to arrive at 20 cumec of e-flow as well as flow contributed by intermediate tributaries has been recorded in the minutes in detail. It was shown that maximum discharge on daily basis through intermediate tributaries from the downstream during monsoon goes up to 206 cumecs. They are about 175 days when the discharge is more than 50 cumec and 28 days when discharge is more than 100 cumec in 4 years of monsoon season.

78. Thus a perusal of the minutes of EAC as stated and discussed above reveals that in each meeting of the EAC the issues raised by various stake holders were discussed and EAC also made a field visit and sought for further information and clarification on important issues considering the concern of the local people and protection of environment. Therefore, the allegation of the Appellants of non-application of mind by EAC is not acceptable to us.

79. No Cumulative Impact Assessment Study conducted:

In terms of strategic plan for the year 2012-13 to 2016-17 of the MoEF in order to protect the environment and maintain a balance between conservation and development activities, MoEF issued an official memorandum dated 28.05.2013 which stipulates as follows:

“(iii) It should be incumbent on the developer of the second/other project(s) to incorporate all possible and potential impact of other projects in the basin to get a cumulative impact assessment done. This condition shall be stipulated at the TOR stage itself during the EC process. Once such a cumulative impact study has been done, the same could be shared by EAC with FAC. The cumulative impact study in respect of biodiversity component may be separately got done by one of the specialized institutes as stated at (ii) above. While making recommendation on EC/FC of such projects, the EAC/FAC will take into account the results of such cumulative studies.” The requirements of cumulative impact assessment for hydropower projects was examined in details in **Vimal Bhai and Others Vs MoEF & Ors, (NGT Appeal No. 05 of 2011) Hon’ble Supreme Court in Alaknanda Hydropower Corporation Ltd. Vs. Anuj Joshi (2014) 1 SCC 769**, has also noted the need for a detailed scientific study of the impacts, including cumulative impacts of all the existing projects, projects under construction and proposed project on the environment and ecology.”

80. In the instant project, the TOR was recommended by EAC on 14.05.2009. By the time office memorandum stipulating

cumulative impact study was issued by MoEF on 28.05.2013, the project was in the final stage of appraisal. Technically, the implementation of the MoEF office memorandum shall be prospective.

81. In the present case, a Carrying Capacity Study on the Teesta basin undertaken by Centre for Inter-Disciplinary Studies of Mountain and Hill Environment, Delhi, was accepted by MoEF in December, 2007, the observation and recommendation of which were also considered by EAC. In the absence of a Cumulative Impact Study, the Carrying Capacity Study report becomes useful.

82. While passing any order or decision or award, it is prescribed that the Tribunal shall apply the Principles of Sustainable Development, Polluters Pay & Precautionary Principle under Section 20 of the NGT Act, 2010. In the Present case, in our considered opinion it would be appropriate to invoke the Principle of Sustainable Development and Precautionary Principle. It is well settled that Sustainable Development is a balancing concept between ecology and, development and ,both “the Precautionary Principle” and “the Polluter Pays Principle” are the essential features of Sustainable development and that it

aims to strike a balance between development and environmental protection to facilitate economic growth and protection and preservation of the environment. Applying these principles, the Principal Bench of NGT in Appeal No. 21 of 2011 in the case **of B.B. Nalwade vs Ministry of Environment** vide Judgement dated 29th November, 2011 upheld the Environmental Clearance granted to the Coal based thermal power plant on the grounds that all necessary scientific studies and statistical information regarding the viability of project and its impact on the environment were taken into account. The NGT observed that production of electricity is very essential for industrial growth apart from domestic need and in the light of existing power scenario in the country, project under consideration when operated within the ecological framework may contribute significantly to Sustainable Industrial Development.

In Sarang Yadwadkar vs The Commission, Pune Municipal Corporation (Judgement dated 11.07.2013) the Tribunal allowed the construction of road within a flood plain but subject to stringent conditions.

83. Hydroelectricity Power is considered as a clean fuel source with many advantages unlike the power plants that burn fossil fuel. It is renewable power source with benefits like flood control, irrigation and water supply. In most of the multi-purpose hydroelectricity power project, major environmental issues raised are on large scale submergence of forest and human displacement. In the Teesta IV Hydro Electric project, it is reported that there is no human displacement and the total forest land required is 20.7454 ha . The EIA report and affidavits filed by the respondents reveal that the project proponent has addressed all the issues raised by the appellants and EAC has considered all aspects before granting environmental clearance to the exception referred to in our observations.

84. As already dealt by us, the measures proposed to be undertaken by the Project proponent with regard to reservoir induced seismicity leading to landslides has not been placed on record. It is particularly relevant when the state just experienced an earthquake of magnitude 6.9 in Richter Scale. The Project Proponent in consultation with CIFRI will file the minimum environmental flow for non-lean and non-monsoon months keeping 15 cumec as the minimum e-flow for lean months.

85. Considering all the facts stated above and on the basis of our observations on important issues raised by the Appellants Supra, we are not inclined to quash the EC. However, before commencement of the project, the project proponent shall comply with following conditions:-

The Project Proponent shall :

- (a) Propose 3 regime e-flow in consultation with the experts of CIFRI to the MoEF&CC to the satisfaction of the EAC.
- (b) Prepare a mitigation plan to prevent reservoir induced seismicity due to Teesta IV Project for consideration and approval by MoEF & CC.

86. Thus, the Appeal is allowed in part.

No order as to costs.

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Justice S.P. Wangdi, JM

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**Kolkata
15/11/2017**

Prof. (Dr) P.C. Mishra, EM