BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH

NEW DELHI

Appeal No. 14/2011(T)

IN THE MATTER OF:

BHAGAT SINGH KINNAR,
R/O VILLAGE AND POST OFFICE VADAKGHAR RARANG,
TEHSIL BURANG,
DISTRICT KINNAUR-172116,
HIMACHAL PRADESH.

.....Appellant

Versus

1. **UNION OF INDIA THROUGH SECRETARY,**
   MINISTRY OF ENVIRONMENT AND FORESTS,
   PARYAVARAN BHAVAN, CGO COMPLEX LODHI ROAD,
   NEW DELHI-110003.

2. **STATE OF HIMACHAL PRADESH,**
   THROUGH ITS CHIEF SECRETARY,
   HIMACHAL PRADESH GOVERNMENT SECRETARIAT,
   SHIMLA-171002, HIMACHAL PRADESH.

3. **STATE OF HIMACHAL PRADESH,**
   THROUGH ITS CHIEF SECRETARY,
   DEPARTMENT OF ENVIRONMENT, SCIENCE AND TECHNOLOGY,
   NARAYANVILLA, NEAR WOOD VILLA PALACE,
   CHHOTA SHIMLA, SHIMLA, HIMACHAL PRADESH-171002.

4. **PRINCIPAL CHIEF CONSERVATOR OF FORESTS,**
   HIMACHAL PRADESH FOREST DEPARTMENT,
   TALLAND, SHIMLA-171002.

5. **HIMACHAL PRADESH POWER CORPORATION LIMITED,**
   THROUGH ITS MANAGING DIRECTOR,
   HIMFED BHAWAN BELOW OLD MLA QUARTERS,
   BY PASS ROAD, TUTIKANDI, SHIMLA-171005 HIMACHAL PRADESH.

6. **HIMACHAL PRADESH POLLUTION CONTROL BOARD,**
THROUGH ITS CHAIRMAN HIMPARIVESH,
PHASE-III, NEW SHIMLA-171009,
HIMACHAL PRADESH.

7. **HINDUSTAN CONSTRUCTION COMPANY LTD.,**
HEAD OFFICE AT HINCON HOUSE LAL BHADUR SHASTRI MARG,
VIKROLI WEST MUMBAI 40083.

...Respondents

Counsel for Applicant:

Mr.Anand Sharma, Adv

Counsel for Respondents:

Mr.Vivek Chib and Mr. Kushil Gupta, Advocates for Respondent No. 1.

Mr. Suryanarayana Singh, Addl. AG for the State of H. P for Respondent No. 2.

Mr.Aditya Dhawan, Advocate for Respondent Nos. 3 & 4.

Mr. Naresh K. Sharma & Gaurav Sharma for Respondent No. 5.

Mr. Vivek Singh Thakur for Respondent No. 6.

Mr. Rohit Gupta, Advocates for Respondent No. 7.

JUDGMENT

PRESENT:

Hon'ble Mr. Justice Swatanter Kumar (Chairperson)

Hon'ble Dr. D.K. Agrawal (Expert Member)

Hon'ble Mr. Bikram Singh Sajwan (Expert Member)

Reserved on: 6th May 2015

Pronounced on: 28th January 2016

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1) Whether the judgment is allowed to be published on the internet ----- yes / no

2) Whether the Judgment is to be published in the All India NGT Report ----- yes /no

Dr. DEVENDRA KUMAR AGRAWAL, EXPERT MEMBER

1. The appellant claiming himself to be President and Authorized signatory of Rarang Shekethri Paryavaran Sraksha and Lokadhikar Samiti as well

as Vice-President of Paryavaran Sraksha Samiti, Lippa, being a resident of Village Rarang Teshil Gurang, District Kinnaur, Himachal Pradesh, and practicing agriculturist/horticulturist has filed this appeal seeking quashing of the Environment Clearance (for short EC) dated 16th April 2010 granted to the integrated Kashang Hydro-Electric project (243 MW) with cognizant reliefs directing a proper Environmental Impact Assessment (for short EIA) of the project to be conducted and for consideration of grant of clearance on assessment of the impacts visualized on the basis of complete information regarding the project and after the mitigative measures are taken on the basis of such assessment.

Facts in brief

2. The project in question which is broadly referred to as Integrated Kashang (243 MW) Hydro-electric power project has four stages as follows and envisages construction of trench weir and use of water from Kashang and Kerang Khads, both tributaries of River Sutlej for generation of 243 MW hydropower:

Stage-I construction is under progress on the strength of EC granted by Ministry of Environment and Forests (for short MoEF) on 15-11-2002 and involves a run-of-the river scheme with diversion of major part of Kashang stream near Village Dollo Dogri to an underground 65 MW x 2 power house located on the right bank of the Sutlej river near Village Powari.

Stage-II involves diversion of the flow of Kerang Khad (locally known as Taiti Khad) via an underground tunnel, K-K link tunnel, starting 60 mts. below the road between Lippa and Asrang villages into the upper end of underground tunnel constructed in stage 1 with construction of underwater balancing reservoir.

Stage-III involves addition of 65 MW third turbine to stage- 1 power house for augmenting its total generation capacity to 195 MW using Kerang water.

Stage-IV, the final phase involves construction of a surge tank and additional 48 MW underground powerhouse upstream of the diversion

site of Kerang stream of Stage II located near village Tokhtu; thus making the total capacity of 243 MW for the integrated project.

Total Land Requirement is 85.73 ha, comprising of 61.89 ha forest land and 23.83 ha. Private land.

Affected Persons: A total of 223 persons are likely to be affected due to private land acquisition.

Total Project Cost: Rs.1828.58 Crores.

3. The Expert Appraisal Committee (for short EAC) of MoEF in its meeting held on 14th November 2007 considered the facts concerning the four stages of integrated Kashang Hydro-electric project while taking due note of the earlier EC granted to Stage I of the project on 15-11-2002. It was noted by EAC that about 35 ha additional forest area was required for the integrated project and no major Resettlement and Rehabilitation (for short R&R) issue were involved. Forest clearance for 18.71 ha of forest land was issued on 23.6.2004 in respect of Stage I of the project to which EC had already been granted. Fresh forest clearance is required to be obtained for additional forest land. The project proponent (Respondent No. 5) sought permission for this project and also sought permission for using the previously collected data i.e., the data collected in respect of stage I of the project to be used for the purpose of EIA studies. The Committee agreed to the request.

4. MoEF subsequently accorded EC for preconstruction activities in the proposed sites as per the provisions of Environmental Impact Assessment Notification, 2006 (for short Notification of 2006) vide letter No. J-12011/81/2007-IA.I dated 12th December 2007 along-with the following Terms of Reference (for short TOR) for preparation of EIA report:

"1.1 Baseline Studies:
The objectives of EIA will be to define the existing environmental conditions in each of the different areas of study. Area falling within 10 km radius of the project should be studied in detail, while a larger radius for catchment area treatment based on catchment of the Kerang stream.CAT Plan of the erstwhile Kashang HEP (now stage-1) would be incorporated as such in the new EMP for the integrated project. Previous EIA and Ecological Assessment Reports, literature and relevant existing data available with authorities at the revenue department

office, census office, HP Irrigation Department, HP Forest Department, HP Fisheries Department, Meteorological Department etc. will be used as secondary source information and conflated to prepare fresh elaborate EIA report. Further field monitoring spans for EIA will be over two more seasons (Post-monsoon and winter) to complete the study on an annual cycle accommodating seasonal variations on various parameters. The different areas of study are outlined below:

1.2Land Environment

The study on land environment will cover following:

1.2.1. Land use

i. *Assessment of the land-use pattern in catchment of Kerang Khad (above the trench weir site) using remote sensing data. The Kashang Khad is already covered as per environmental clearance already accorded for the Kashang (66 MW) HEP.*
ii. *Identification of critically and severely eroded sub-watersheds and other areas in the catchment.*
iii. *Identification of critical zones viz. degraded forests, steep slopes, etc. through secondary information and remote sensing data.*
iv. *Assessment of silt yield and prediction of the impacts of the proposed CAT Plan.*
v. *Delineation of plans for restoration of silt contributing sites with use of biological and engineering measures.*
vi. *Delineation of compensatory afforestation and Catchment Area Treatment measures.*

The present land use pattern in the catchment area will be classified with respect to forests (reserved, protected - demarcated or un-demarcated), agricultural land, pasture land, barren stretches, water bodies - wet lands, waste land, mines, human settlements etc. Factors responsible for current silt loads will be identified along with anthropogenic pressures like major developmental projects/activities (existing & planned) in catchment area while making recommendations for treatment.

Land needed for project appurtenances and allied facilities like trench weirs, powerhouses, colonies, approach roads, green areas etc. will be spelt out. Existing land use pattern (with respect to government owned land/private land/forestland, homestead, Grazing land and permanent pastures, fallow lands, water bodies etc) of the lands proposed to be acquired for project and associated facilities would be taken into account while formulating strategies for treatment of the catchment.

1.2.2: Geology

Geological aspects of the area are generally studied at the time of preparation of DPR with respect to litho logy, stratigraphy, structural geology especially with reference to trench weir area, HRT alignment, power house cavern for stability, weathering characteristics and seismic behavior. This data would be used for further analysis and strengthened, if need be, to arrive at the baseline information.

The geological status of the project area will be studied from existing literature and field observations. The project area will be classified for seismic zones. Detailed data will be collected on various earthquake along with its intensity that have occurred in this area in past.

1.2.3 Soils:

Soil samples from various locations in catchment area and periphery of project components will be collected and analyzed during post-monsoon and winter seasons to be further enriched with existing data for the year

2005 to establish soil properties with respect to soil productivity/fertility. The sampling locations will be judiciously chosen to represent the area characteristics based on geology, land use and floristic pattern. Description of each location with respect to distance/direction from the project, geology, present land use etc. will be recorded.

1.3 Water Environment

The study on water environment will cover following:

- *Study of the regional hydrology with respect to their quantity and quality.*
- *Estimation of possible siltation in the underground balancing reservoir and recommendations on appropriate watershed management practices (e.g. Catchment Area Treatment) for enhancing its operational life.*
- *Predication of changes in water quality due to the project.*
- *Assessment of environmental impacts due to the water diversion at trench weir sites, upstream and downstream of these sites.*
- *During the deliberations of the EAC, it was observed that length of the Kerang Khud from the first trench weir at Toktu till its delivery point to the River Satluj cannot be known from the map in Annexure 3 (A map in EIA Study Report, be included to show the distance of affected stretches of these streams from diversion point to the point of their confluence with river Satluj)*
- *EAC further observed that the stretches below the diversion structures of both Kerand and Kashang Khuds will be deprived of the natural flow due to the diversion of their waters for the integrated project. This aspect and the consequent scenario of water availability in the affected reach to meet environmental requirement and the water requirement in the habitation around the affected stretch is of concern. The minimum assured discharges downstream to the various stages are 0.3 to 0.65 cumecs. It is not clear how the ecological needs may be satisfied with such a low flow rate through the affected reaches. The norm of 15% of lean season flow as the minimum assured release may be alright with high flowing rivers/streams. But for a very low flowing stream, the assured lean season flow may have to be close to the minimum average lean season flow, even at the cost of certain amount of power generation. The details of other streams (with their discharges) joining the affected reaches downstream to the various diversion structures be tabulated and also shown in a map (**All these aspects be dealt very clearly in the proposed EIA study and document**)*

1.3.1 Water Use

All major water sources (surface and ground) in the diversion and surrounding areas particularly along the HRT alignment will be identified, their discharge assessed and documented and presented on a map. The current and future downstream water use for irrigation, industrial and domestic activities etc. will be established.

1.3.2 Water Quality (Surface and Ground)

The quality of surface and ground water in the project area will be established with respect to Physio-chemical characteristics. Major sources of pollution in the directly draining tributaries, catchment area (industries, human settlements, agricultural runoff etc.) will also be identified.

Parameters like pH, Temperature, Dissolved Oxygen will be monitored at site and acidification and/or refrigeration will preserve samples for laboratory analysis of other parameters.

1.3.3 Hydrology (Surface and Ground)

The nature of the surface and ground water streams will be established and based on runoff, evaporation, evapo-transpiration and infiltration parameters, a water budget will be prepared for the study area.

The historical data of monthly water discharge and lean season flow of the river at the trench weir sites and one km downstream will be presented. The lean season flow of major tributaries at the periphery of submergence will be assimilated in the EIA report.

1.3.4 Sediments

Physical and biological characteristics of sediments will be assessed. The data will be presented and discussed locations-wise. Empirical estimates and historical observations of present rate of sedimentation and rate of sedimentation expected after catchment area treatment for the two streams will be presented.

1.4 Climate and Weather

1.4.1 Meteorology

Climatological conditions of the site will be described with respect to wind speed & direction, temperature, atmospheric pressure, humidity, solar radiation and rain fall based on data already collected in the existing EIA and Ecological Assessment Reports duly backed up with secondary data collected from nearest IMD station(s) as well as meteorological observations taken during field studies. Monthly and Annual averages of Pressure, Relative humidity, Solar radiation, Temperature and Rainfall will be presented. Seasonal and Annual wind rose that has been prepared will be re-verified and presented. In addition, weather phenomena like hail, thunder, storms, fog/smog and cloud cover will be noted in terms of their intensity and duration.

1.4.2 Air Quality

Ambient air quality near major construction sites (e.g. trench weirs, powerhouses, colonies, quarry sites etc.) will be established with respect to SO_2, NOx, Suspended Particulate Matter (SPM) and Respirable Particulate Matter (RPM) through a seasonal monitoring campaign. At each location, 24 hourly monitoring will be undertaken depending on the importance of the location/availability of infra-structural facilities (power, safety, accessibility etc.). The sampling will be carried out at 4 locations twice a week for two weeks in each season for two additional seasons.

1.4.3 Noise levels

Noise monitoring at minimum 5 locations near major construction sites will be undertaken during the two proposed seasons of further studies. The monitoring will be conducted continuously for 24 hours at each location and equivalent continuous noise level (Leq) will be measured using an integrating sound level meter. Leq value will be recorded each hour. The data will be presented separately for day and night. These values will be compared with Ambient Air Quality Standards for Noise and high values justified with probable noise source or any other season. Details of sampling locations e.g. distance/direction, classification etc. for integrating noise level will be duly incorporated in the EIA report.

1.5 Biological Environment

The study of biological environment will cover following:

1.5.1 Terrestrial Ecology

- *Collection of information on flora and fauna including rare and endangered species in the catchment and project area.*

- *Identification of forests types and density in catchment and project area (already incorporated in the existing reports), biodiversity and importance value index of the dominant vegetation in the impact region of proposed project.*
- *Collection of data on wildlife population (including Avi-fauna), feeding area, waterholes, migratory routes etc. in catchment and project area.*
- *Prediction of impacts on forests due to water diversion and assessment of changes in flora and fauna in the project area.*
- *Biodiversity would be studied in 10 kms radius of project area by carrying out detailed survey of flora and fauna during EIA.*
- *Flora and Fauna found in the area would be listed under various threat categories and a list of endemic species found in the study area will be included in the detailed EIA.*
- *Impact of project on flora and fauna would be established in the EIA.*
- *Map of the project area will be provided vis-à-vis the Lipa-Asrang Wild Life Sanctuary in the detailed EIA EMP.*
- *Impact on the Wild Life Sanctuary would be assessed in the EIA.*
- *EMP would include a management plan for wild life also.*

  The vegetation pattern of the area proposed to be acquired for project and associated facilities and the area within 10 km the periphery of project site be described with respect to Agricultural crops, commercial crops, Plantation, Natural Vegetation/Forest Type. Grassland, Endangered species, Endemic species etc. Ecologically sensitive species, species of medicinal and commercial importance and species of special interest to local population or tourists will also be listed. Presence of wetlands, ecologically sensitive areas such as national parks/ sanctuaries, if any, will be identified. Wildlife habitat and migratory route if present in the area will also be identified.

1.5.2 Aquatic Ecology

The aquatic ecology will cover following:

- *Assessment of biotic resources with special reference to primary productivity, zooplankton, benthos and fishes in impact area.*
- *Identification of fish habitats, monitoring of resident and migratory fishes and requirement of fish pass.*

  The ecology of major surface bodies be established through review of existing literature and three seasonal field studies at a minimum of three locations. Population densities and diversities of phytoplankton, zooplankton and fish be estimated. An inventory of the fish species in the project area be made. Spawning grounds, if any, be identified. Aquatic fauna of commercial/recreational value and migratory fish species along with spawning ground etc. be established for project area and an area within 10 km of the project site. The aquatic ecosystem be discussed in respect of phytoplankton, zooplankton macro-invertebrates, fishes and their breeding habitats for time and location. Rare and endangered species be identified and listed.

1.6 Socio-economic, health & cultural environment

The study will cover the following aspects:

- *Collection of baseline data on demography with special reference to occupational pattern's infrastructure resource base and economy.*
- *Collection of baseline data on morbidity pattern with specific reference to prominent endemic diseases.*
- *Assessment of information relating to tourism, monuments/sites of cultural, historical, religious, archaeological or recreational importance including wild life areas likely to be impacted by the proposed projects.*
- *Collection of data on riparian rights of downstream user vis-à-vis proposed water diversion and regulated releases.*

- *Prediction of disruption in social life due to relocation of human settlements, roads and assessment of rehabilitation requirements, if any.*
- *Prediction of anticipated health problems due to vector borne diseases induced by water impoundment.*
- *Prediction of health problems related to changes in population density and distribution of immigrant construction workers.*
- *Prediction of economic benefits to community and environment arising out of the proposed projects.*

1.6.1 Demography and Socio-economics

Demographic and socio-economic characteristics of the human settlements in the project area be established with respect to population, number of houses, gender ratio, educational pattern, religious beliefs, family structure, occupational pattern, sources of livelihood, economic opportunities and status of health and disease pattern.

The results of field survey or any other available reliable record should be used to identify the approximate number of homesteads and project affected families due to land acquisition for the project. The perception of the local population, NGO's and the project–affected families about the project should also be determined through survey.

Special reference should be made for classification of the village based on tribal, mixed or other population group: population with respect to scheduled caste/ scheduled tribe; occupation (agriculturalist/ agricultural labour/industrial labour/forest labour/artisan's etc.) and land ownership (marginal /small/medium/big farmers). The labour force available in the area with respect to skilled and non-skilled workers as well as the role of women will be established.

1.6.2 Public Health

Baseline health status and disease pattern will be established through socio-economic survey as well as government/hospital records. Any specific environmental parameter responsible for deteriorating health of the population shall be indicated. Proneness of the area to the epidemics or endemics will be established.

1.7 Impact assessment

The impacts on each discipline of environment due to construction and operation of the project be identified and assessed quantitatively, as far as possible. The impacts will include both positive and negative impacts and the disciplines, which require mitigation measures should be specified. Both the short term and long-term impacts on sensitive areas, if any, such as habitat of endangered species of wildlife or plants, sites/ monuments of historical and cultural importance be established.

Mitigation measures should be listed along with cost estimates for the each of the measure as well as the total cost of implementation of the EMP. Funds for implementing certain components of the EMP may have to be routed through the Local Area Development Funds as there is bound to be considerable overlap of activities.

1.8 Environmental Management Plan

Environmental Management Plan should be formulated to minimize potential adverse environmental impacts. The key components of the Environmental Management Plan may have following activities/sub-plans:

- *Inventorisation of water sources in the project area for baseline and comparison for changes if any due to project activity particularly driving the tunnels*

- *Inventorisation of buildings in the project area for the same reasons as above*
- *Development of green belt and afforestation around project components and in vicinity of the project*
- *Sewage disposal/management measures*
- *Management of MSW*
- *Wildlife Management Plan*
- *Management of social impacts*
- *Selection of appropriate practices to minimize adverse impacts.*
- *Catchment Area Treatment by identifying critically and severely degraded areas in the catchment.*
- *Ecological Conservation and Management Plan*
- *Muck Management Plan*
- *Compensatory Afforestation*
- *Quarry and Mining area Reclamation/Rehabilitation Plan*
- *Green Belt Development*
- *Fisheries Conservation and Management*
- *Resettlement and Rehabilitation as per National rehabilitation Policy, 2006.*
- *Human Health Management*
- *DBA and Disaster management Plan*
- *Post study Monitoring Plan*

1. *Option assessment study to show that are option available for fulfilling the needs of the people that the project hopes to fulfill. This section should also show if and how the proposed project is the least cost option and also include reducing the transmission and distribution losses to the minimum*
2. *As per the provisions of the EIA Notification of 2006, you are requested to submit draft EIA/EMP report as per the above terms of reference to the State Pollution Control Board/Committee for conducting the Public Hearing.*
3. *All the issues discussed in the Public Hearing/Public Consultations should bead dressed to and incorporated in the final EIA/EMP report and submitted to the Ministry for considering the proposal for Environmental Clearance."*

5. EIA report was prepared and public hearings were conducted on May 28, 2009 and May 29, 2009 in Village Lippa and Village Pangi respectively. The project was considered for appraisal by the EAC for River Valley and Hydro Electric Projects of MoEF in its meetings held on 14.09.2009 and 15.12.2009 and ultimately 243 MW Integrated Kashang Hydroelectric Power project was granted EC on 16.04.2010 by the MoEF subject to strict compliance of the terms and conditions, which are as follows:

"Part A: Specific Conditions

i. *Catchment Area Treatment Plan as has been proposed should be completed in 4 years. The plan is given below:*

Treatment Measures	0 Year	I Year	II Year	III Year	IV Year	Total
A)Biological Measures						
Afforestation (ha.)	50	75	90	90	70	375
Timber Plantation (ha.)	10	15	20	20	10	75
Fodder Plantation (ha.)	10	14	22	22	7	75
NTFP Cultivation (ha.)	-	5	10	5	-	20
Pasture Development (ha.)	20	50	75	75	55	275
Nursery Development (nos.)	6	-	-	-	-	6
B)Engineering Measures						
DRSM Check Dams (nos.)	-	200	200	300	196	896
Wire-Crate Check Dams (nos.)	-	100	150	150	48	448
Wire-Crate Boulder Spurs (nos.)	-	70	70	70	30	240
Bench Terracing (ha.)	-	15	15	15	5	50
Contour Staggered Trenches (nos.)	-	15	20	20	7	62
Catch Water Drain (mt.)	-	300	300	300	100	1000

ii. *The land holding of project affected persons whose land is being acquired to be submitted to this Ministry. The benefits for the land losing households will be as per the Rehabilitation & Resettlement Policy, 2006, Government of Himachal Pradesh. Adequate publicity of the compensation package should be circulated in the affected villages.*

iii. *The commitment made during the public hearing should be fulfilled.*

iv. *A scientific study from a reputed institute for deciding the minimum flow to be released during the lean season should be undertaken. Till the study is completed 15 % of the average flow of four consecutive leanest months should be maintained for environmental flow. After the study is completed release of minimum flow should be study based or 15% whichever is higher.*

v. *As committed during Environment Public hearing, the project proponent should clear the shoal formed by silt brought by Garang (also known as Pizzar) a left bank tributary of Kerangkhad near village Lippa well downstream of the project by either releasing enough downstream discharge during summer months or through other means.*

vi. *All the equipment which are likely to generate high noise levels are to be fully mollified (noise reduction measures).*

vii. *Consolidation and compilation of the muck should be carried-out in the muck dumping sites and the dumping sites should be above high flood level. The proposed plan for the generated muck of 1.17 Mm^3, of which 0.3 Mm^3 is proposed to be reutilized for construction material & other filling purposes and remaining 0.879 Mm^3 of muck which goes-up 1.231 Mm^3 (after increased volume) should be disposed of at 13 designated disposal areas should be strictly implemented.*

viii. *Compensatory afforestation programme proposed in 86 ha should be implemented in to-to. The proposed greenbelt development in 6 ha using 13 different plant species along the approach roads, residential areas, office complex, trench weir sites, powerhouse sites etc at a cost of Rs. 55 lakhs should be taken-up strictly.*

ix. *The fisheries management plan for stocking of fish in the streams, tributaries of Sutlej river and the main river itself @20,000 fry of about 30 mm size fingerlings/annum should be strictly adhered. A total budget of Rs. 105 lakhs is allocated for this purpose should not be diverted.*

x. *The proposed Wildlife Management, Development and Conservation of Biodiversity Plan of the Sanctuary at a cost of Rs. 100 lakhs spread over 10 years should be taken-up strictly in the area outlined in the plan (as mentioned in EMP-Chapter-5) without any diversion of funds.*

xi. *The Wildlife sanctuary exists at a distance of 1.5 km from stage-IV. The clearance from Steering Committee of NBWL under Wildlife (Protection) Act, 1972 should be obtained*

Part-B: General Conditions

i. *Adequate free fuel arrangement should be made for the labour force engaged in the construction work at project cost so that indiscriminate felling of trees is prevented.*
ii. *Fuel depot may be opened at the site to provide the fuel (kerosene/wood/LPG). Medical facilities as well as recreational facilities should also be provided to the labourers.*
iii. *All the labourers to be engaged for construction works should be thoroughly examined by health personnel and adequately treated before issuing them work permit.*
iv. *Restoration of construction area including dumping site of excavated materials should be ensured by leveling, filling up of burrow pits, landscaping etc. The area should be properly treated with suitable plantation.*
v. *Financial provision should be made in the total budget of the project for implementation of the above suggested safeguard measures.*
vi. *Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, Chandigarh for review.*
vii. *Officials from Regional Office MOEF, Chandigarh who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection.*
viii. *The responsibility of implementation of environmental safeguards rests fully with the Himachal Pradesh Power Corporation Ltd & Government of Himachal Pradesh.*
ix. *The total amount of Rs. 51.50 Crores kept in the budgetary provisions for implementation of environmental management plan should be strictly adhered and not to be diverted for any other purpose.*
x. *In case of change in the scope of the project, project would require a fresh appraisal.*
xi. *The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary and to take action including revoking of the clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.*
xii. *This clearance letter is valid for a period of 10 years from the date of issue of this letter for commencement of construction work.*
xiii. *A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ Municipal Corporation, Urban local body and the local NGO, if any, from whom any suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.*
xiv. *The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at http:// www.envfor.nic.in*
xv. *The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e-mail) to*

the respective Regional office of MoEF, the respective Office of CPCB and the SPCB.

xvi. *Any appeal against the environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section-11 of the National Environment Appellate Authority Act, 1997."*

6. Being aggrieved from the said order, the appellant preferred an appeal under Section 11 of the National Environment Appellate Authority, 1997 on 17th May 2010 as Appeal No. 15/2010. Subsequently, this appeal stood transferred to the National Green Tribunal upon its creation on October 18, 2010 and the same was registered as Appeal No. 14/2011(T).

7. According to the appellant, EC has been granted based on an inaccurate estimate and the respondents have shown great disregard to and failed to comply with the provisions of Notification of 2006 at the public consultation and appraisal stages. The appellant submitted that local people and environment will be adversely affected by the Integrated Kashang Hydroelectric Power project if it is constructed without proper environment/social impact assessment and implementation of mitigative measures.

8. The appellant submitted that Public hearing notice was sent to *Gram Panchayat* of Pangi and Lippa only, whereas nearby villages, such as Tokhtu, Asrang, Jangi Apka Khadra and Rarang were not informed about the public hearing and, therefore, the public hearing stage is totally faulty. He also averred that concerned authorities did not make the Draft EIA report or Executive summary available for public prior to the public hearing and had not arranged to widely publicize the public hearing.

9. The appellant claims that he was present along with other residents of village in the public hearing and stated that the public hearing minutes were not recorded correctly by the concerned authorities. It is further the case of the appellant that the records of the hearing proceedings were never displayed at the offices of the *Panchayat* in Lippa.

10. The appellant also alleged that the EIA/Environmental Management Plans (for short EMP) report is defective and does not take a holistic view of the impact of the project on the following aspects:

    a. The residents of village Lippa will lose their best agricultural and horticultural land situated in Lappo Upmauhal which is identified as the intake point for the K-K link tunnel.

    b. Diverted forest land marked for the execution of stage II of the project comprise of Pine and Chilgoza trees. These trees in cold region have a very slow growth rate and a Chilgoza tree may take hundred years to bear fruits.

    c. The EMP does not mention the compensation to the affected community from the loss of the diversion of the forest.

    d. EIA report failed to capture the impact of the project on availability of water in the springs and dependability of the local residents on the water from these springs for water supply for drinking and riparian use.

    e. EIA/EMP does not analyze the potential for cumulative impacts of the projects in combination with other existing or planned projects in the area.

    f. EIA/EMP lacks information on estimates and quantities of various types of waste generated and their disposal during construction phase.

    g. EIA/EMP does not contain adequate information about the impact on Air, Water, Noise pollution, Ground water table and implementation of mitigation measures.

    h. Post monsoon season baseline studies were not conducted as per the ToR.

    i. EIA does not assess the current and future demand for the water use downstream from the project and also the availability of the water during the lean season since post monsoon studies have not been conducted.

j. The calculation of the 15 % water being available for the environmental needs is not based on actual availability of water in the lean season.

k. EIA does not contain maps showing the distance of the affected stretches of the TaitiKhad and the Kashang from their diversion point on confluence with Satluj river.

l. Muck dumping creates flash floods, because it creates silt build up in the river beds and when the water flow increases, the area behind the silt, floods. There is a strong risk of this to happen. Existence of Landslide zones in the project area, and unscientific disposal and dumping of muck from the project will endanger the flow in the rivulets (Khad) and may cause flash floods and debris deposited by the flash flood in the Pazzer Khad. One of the proposed muck dumping sites is prone to landslides. The sites chosen for muck dumping has rich forest cover with large number of trees of Chilgoza and other Pine species.

m. EIA /EMP did not mention the environmental sensitivity resulting due to the execution of the project with regard to seismic zone IV and effects of the project on the aesthetic views of Himalayan Mountains and river valleys.

n. The boundaries of Lippa Asrang wildlife sanctuary is only 500m from the diversion of the Tati Khad. The project hence is situated in the buffer zone of the sanctuary. The EIA/EMP both have failed to conduct a quantitative assessment of the impacts of the project on Lippa Asrang Wildlife Sanctuary and National Board for Wildlife (for short NBWL) has not examined the proposal thoroughly even though a large number of endangered species of birds and animals are likely to be affected.

o. EIA /EMP also do not address the issue pertaining to the damage to the historical site (Temple of Lord Guru Padma Sambhava), recognition of schedule tribes and other traditional forest dweller's

Rights, and Socio economic condition of villagers, loss of livelihood, and specific R&R plan.

p. The project proponent only conducted baseline studies for a 10 km radius from the centre of K-K link tunnel. But the ToR requires that data be gathered for the entire area within 10 km radius from the main project component. By contrast, the applicant selected one central point out of the enormous project area and calculated the 10 km radius from that point. Thus instead of measuring the 10 km radius from the edge of the project components, it measured 10 km from the centre point.

q. The project proponent did not send a copy of the EC to the affected *Panchayat* or *Zilla Parishad*/ Municipal Corporation in violation of the terms contained in para 12 of EC.

Based on the above said averments, the appellant has challenged the validity of EC granted for the project.

11. All the Respondents, except Respondent No. 7 i.e. the project executing agency of Respondent No. 5 (Project Proponent) have filed their detailed replies. According to them, all the allegations made and the grounds raised in the appeal are baseless and are liable to be rejected.

12. According to Respondent Nos. 3 (Department of Environment, Science and Technology, Govt. of Himachal), 5 (Himachal Pradesh Power Corporation Ltd., for short HPPCL), and 6 Himachal Pradesh Pollution Control Board, for short HPPCB), the appeal is not maintainable as being filed by the appellant in representative capacity and the same has not been supported by resolution of concerned *Gram Panchayat* and also the appellant had the opportunity to raise or file his objections during the process of consideration of the project for EC since he along with other villagers had participated in the public hearing.

13. Respondent 5 and 6 stated that Notice of public hearings was given as per the procedure prescribed under the Notification of 2006 and such Notices for public hearing were published in three Hindi and two English newspapers for the information of the general public on 25th April, 2009 giving full one month notice to all concerned for participation in the public hearing scheduled for 28th May 2009 at village Lippa and village Pangi on 29th May 2009. They also averred that the public notices published information that Executive Summary and EIA and EMP is made available for inspection till 27th May 2009 during office hours in the offices of Director, District Magistrate, Chairman *Zilaparishad*, District Industries Centre, Regional Office of MoEF, and office of the Environmental Engineer at the Head Quarters of the HPPCB, and in addition thereto, these documents were also available on the website of State Pollution Control Board. They further averred that EIA and EMP reports of the project were made available for inspection in the offices mentioned in the Notification of 2006 for at least more than one month in advance. According to them vide Letter by Himachal Pradesh Pollution Control Board addressed to the Deputy Commissioner, Chairman, *Zilaparishad*, Chairman Block Development Committee, the *Pradhans* of *Gram Panchayat*, Lippa and Pangi regarding public hearing and copies of the executive summary of the project dated 24th April 2009 was annexed to the letter. The State Pollution Control Board submitted that public hearing with good public participation was held on 28th May 2009 at village Lippa, Tehsil Moorang, District Kinnaur, Himachal Pradesh and on 29th May 2009 at village Pangi, Tehsil Kalpa, District Kinnaur, Himachal Pradesh for the said project under the chairmanship of the Additional District Magistrate, Kinnaur as per the procedure prescribed under the Notification of 2006. Moreover, all the relevant public concerns and grievances related to environment were duly documented and the proceedings of the public

hearing and statement of issues as raised were sent to all concerned including MoEF vide letter dated 25th June 2009.

14. The Respondent no. 6, HPPCB further stated that Consent to Establish for the Kashang Stage I had been granted earlier by the State Board vide consent letter dated 14th October 2005 whereas they issued Consent to Establish to the integrated project Kashang Stage II and III by letter dated 18th June 2011.

15. The Respondent No.1, MoEF submitted an affidavit stating that EIA report has been prepared as per ToR given by the EAC and the EIA and EMP reports were examined by the EAC in its meeting held on 14th September 2009; and the EAC pointed out lacunae observed therein for rectification. The EAC pointed out the shortcomings in the EIA/EMP report such as relevant maps, rain fall data, cropping pattern and crop water need, impact of the project on Lippa Asrang Wildlife Sanctuary, study of floral diversity of the area, impact of Hydropower generation on aquatic ecology particularly fishes, Catchment Area Treatment Plan, compensatory afforestation and greenbelt development. The EAC, therefore, directed the project proponent to incorporate the additional information/clarification in the form of addendum to the EIA/EMP reports, which was submitted by the project proponent vide their letter no. HPPCL//KHEP/ME-R&R/2009/Camp Shimla/1-15 dated 29th November 2009. MoEF also stated that the methodology followed for each and every parameter had been critically examined by the EAC before recommending the project for grant of EC.

16. MoEF revealed that biodiversity components in the project area was examined in details by the EAC and therefore EC issued on 16th April 2010, stipulated the following conditions on Biodiversity under Part-A:Specific condition No.(X)

"the proposed wildlife management, development and conservation of biodiversity plan of the sanctuary at a cost of Rs.100 Lakhs spread over 10 years should be taken up strictly in the area outlined in the

plan (as mentioned in Environmental Management plan chapter-5) without any diversion of funds".

MoEF stated that the project does not fall within the Lippa Asrang Wildlife Sanctuary and only Stage IV of the project is at a distance of 1.5 km away from the sanctuary. In terms of Hon'ble Supreme Court order that any project falling within 10 km from National Park/Sanctuary, should be referred to NBWL and, therefore, the EC granted had following condition:

"The wildlife sanctuary exists at a distance of 1.5 km from stage –IV. The clearance from steering committee of NBWL under Wildlife (Protection) Act, 1972 should be obtained."

17. The respondent MoEF submitted that the EAC at its meeting held on 14th September had examined and expressed its concern regarding adequacy of measures to retain and stabilize the muck. The EAC desired that drawings of proposed retaining walls be incorporated in the muck management plan and also emphasized that study on seismology of the area should be carried out independently along with other geological aspects. It further revealed that based on the submissions by the proponent, the project components have been designed and decided after detailed investigation of the area with the involvement of agencies like Geological Survey of India, Survey of India and design unit of Himachal Pradesh State Electricity Board and HPPCL – Respondent No. 5, and all the concerns of EAC were satisfied. Similarly, it was observed that the HPPCB has approved the muck dumping sites.
18. The MoEF further stated that EAC in its meeting having noted in the compliance report that an independent study with respect to optimum release of water to maintain the aquatic ecology of downstream by the Respondent No. 5 has been assigned to Indian Institute of Technology, Roorkee. The Ministry, therefore, while

granting the EC to the project stipulated the following specific condition:

"A scientific study from a reputed institute for deciding the minimum flow to be released during the lean season should be undertaken. Till the study is completed, 15% of the average flow of four consecutive leanest months should be maintained for environmental flow. After the study is completed release of minimum flow should be study based 15 % whichever is higher".

19. In compliance to the Tribunal's direction with respect to the Cumulative Impact Assessment study of existing, under construction, and proposed hydropower projects in Satluj river basin, the Respondent No. 1, submitted an additional affidavit stating that as far as the issue of Cumulative Impact Assessment study of hydropower and river valley projects is concerned, the answering respondent vide Office Memorandum (for short OM) no. J-11013/1/2013-1A-1, dated 28th May 2013, had reviewed the issues which are normally considered by the EAC and FAC while examining the EC and FC cases, respectively, in respect to hydropower and river valley projects with a view to streamlining the process and avoiding duplication of efforts by two committees; and the decision has been taken to stipulate the condition of Cumulative Impact Assessment study at the stage of ToR itself now onwards; and that once a Cumulative Impact Study has been done, the EAC/FAC will have to take into account the result of such Cumulative Impact Assessment studies before making any recommendations for either grant or refusal of EC or FC. As per this OM, all studies are to be completed within a period of two years from the date of issuance, which is dated 28th May 2013, for streamlining of process of grant of EC and FC. The MoEF further revealed that Carrying capacity and Cumulative Impact Assessment studies have been initiated with respect to various river basins, and as far as the instant case is concerned, the project pertains to a tributary of river Satluj and as such the Cumulative Impact Assessment study for the same has already been

initiated and for this purpose, Indian Council for Forestry Research and Education (for short ICFRE) is presently carrying on the study and the final report for the same is awaited.

20. The Respondent No. 4, Principal Chief Conservator of Forest, Himachal Pradesh submitted that stage II and III of the project, are at a distance of 6 kms away from the boundary of Lippa Asrang Wildlife Sanctuary area and there is no likely impact on the wildlife by the execution of the project. Further, as per the specific condition of EC, 'wildlife sanctuary exist within 1.5 km from stage IV project', and this matter was accordingly placed before the standing committee of NBWL where in the 31st meeting held on 12th -13th August 2014 in the Ministry of Environment and Forests, the NBWL has approved the proposal.

21. Regarding the issue of dependence of villagers on forest and R&R issues, the Project Proponent (Respondent No. 5) averred that since the major project components are underground and there is no huge loss of forest and, therefore, the forest rights of the local community will largely remain unaffected and proper mitigation measures have been proposed under the R&R plan. The Respondent no. 5, the Project Proponent further stated that the detailed social impact assessment study has been provided in chapter 2 of EIA and the EMP report which clearly indicates the likely impacts of the project on the people, their lives, communities and on the society, and appropriate actions were taken into account while formulating the R&R Plan. The cost for implementation of R&R Plan indicating resettlement grant, providing employment, merit support scholarship, assistance in self-employment, community development, medical fund, infrastructure development, etc. with a total cost of Rs.300 lakhs have been provisioned accordingly. It is stated in the compliance report that as far as forest rights of villagers are concerned, the State Government has indicated the following:

"The Rights and concessions on forest land involved in the proposal are already settled as per Forest Settlement of Satluj Valley Bushahar State of 1921 AD, which people are enjoying unhindered since then. As such the provisions of advisory of MoEF dated 3.08.2009 are not attracted in the instant case."

Based on the compliance report submitted by the Project Proponent, recommendation of the State Government, and approval of competent authority in the Ministry, the proposal was accorded Stage - I approval by the MoEF under the Forest Conservation Act of 1980.

22. With regards to sinking zone of the area, the Project Proponent stated that such areas are kept out of the ambit of the component/structure of the project. Further, it was argued that as there will be controlled blasting in construction of all the structures using delay detonations therefore, as such, there is little chance of sinking and drying of fields, springs and sources of irrigation due to blasting.

23. The Respondent Nos. 3 and 5 stated that the village Rarang was not notified as a project affected village and it was only after the representation made by the appellant that the State Government issued another notification including Rarang as a project affected village. It was argued that all the issues raised by the appellant have been thoroughly met by the project proponent in the EIA/EMP reports, and the MoEF considered the same along with the public hearing proceedings as submitted by the HPPCB and granted the EC to the project.

24. The Respondent No. 4 (Himachal Pradesh Forest Department) and the Respondent No. 5 (HPPCL) stated that diversion of 17.6857 hectares of forest land during the period of construction of the project is envisaged and out of which only 1.4176 hectare is intended to be utilized for non-forest use (permanent diversion). Forest land of 16.2681 hectares is intended to be returned to the Forest Department on commissioning of the project after proper /suitable

rehabilitation and restoration. Furthermore it is submitted that all the major components are underground and there is no huge loss of forest. A total of 630 trees are coming in the alignment of the project as per the enumeration list, out of which only 60% will eventually be felled and the rest of the trees, which are not required to be felled, will be saved and retained. It is also their case that on 2nd October 2010, a site visit was conducted by the NEAA member to the project area during the pendency of the present appeal before NEAA, and the observations as contained in order dated 4th October 2010 on allegations qua Chillgoza and Pine trees were recorded as follows:

"during the visit it was noticed that the regeneration of Chilgoza is scanty and almost nil at places. The primary cause of present situation seems unscientific harvesting of cones and therefore remedial measures need to be taken. At present it is difficult 'to conceive' how the project will adversely affect Chilgoza production."

25. The Respondent no. 5, HPPCL further stated that the Project is funded through loan by the Asian Development Bank which follows and monitors strict environment norms. According to the Respondent no. 5, EIA/EMP report was prepared by the experts of Himalayan Forest Research Institute, Shimla as per approved ToR and likely impact on the environment i.e. air, water, land, agriculture, etc. have been studied and measures to mitigate the impact have been incorporated in the EMP report. All the components of projects are situated outside the sanctuary area and the area from Wildlife Sanctuary is not involved in construction of the project, and the closest component, trench-weir of stage–IV, is 1.5 km away from Wildlife Sanctuary and the Wildlife Sanctuary Notification does not specify any buffer zone nor is there any separate notification for the same as informed to them by the PCCF (Wildlife), Shimla (HP) vide letter No. WL(Misc)-60/HEPs/Volume-IV/397 dated 29th April 2010.

26. The Respondent no. 5 further stated that there are 13 muck dumping sites. Sites for muck dumping have been chosen keeping in

view availability of land having lesser forest density and after inspection by HPPCB and consultation with the Forest Department; and EMP provides for a detailed Muck Management plan with suitable stabilization measures. With regard to Dakchompa place cave and the temple, the Respondent no. 5 stated that the components of the project are sufficiently away (about 700 meters horizontally and 500m vertically) from the places of worship. This issue was also raised in public hearing and Project Proponent in its reply have ruled out the possibility of any damage occurring to these places due to the execution of the project. It is further their case that since the blasting will be controlled and regulated, therefore, no impact on structures or geomorphological features located that far is foreseen. It has also proposed to install modern instruments for recording the vibration levels at important structures and will take all necessary precautions to prevent occurrence of such a mishap.

27. The Respondent no. 5, the Project proponent further stated that all the major structures of the project are underground except trench weir and there is no huge loss of forest and thus, the forest rights of the local community will remain almost the same. Besides, adequate and suitable mitigation measures have been taken into consideration while preparing R&R plan. It is proposed that loss of income derived from non-exercise of rights in respect of the diverted forest lands, would be suitably compensated by the lump-sum grant.

28. On the issue of the water springs coming in the vicinity of the project, it was submitted that in the project area of stage II and III, an inventory of water springs had been made in the joint survey in which the villagers of affected villages participated along with the officers of the revenue department and the survey team of the Project Proponent. In the survey, it was found that all the springs are located far away from the tunnel and it is envisaged that they would not be adversely affected in any manner the quantity and quality of water

being discharged from these springs. In all, as far as, stage II and stage III of the project are concerned, the survey has identified 174 springs in village Lippa and 78 springs in village Rarang. Since all the springs are located above the tunnel alignment and the tunnel is at least 500 meters to more than 1 kilometer below the surface of hill, therefore any impact is not foreseen.

29. As regards the shoal formation near the village Lippa created by the boulders and stones coming down the mountain, the Project Proponent submitted that it is a natural phenomenon and the flow in the Kerang Khad is normally sufficient to remove the same, and this issue had already been addressed during the public hearing as well. The Project Proponent further submitted that it is committed to remove the shoal formed at the confluence point due to the debris brought by the Pazzer Khad by either releasing adequate downstream discharge or by other means including mechanical means; and is further committed to construct suitable structures to protect the banks of Pazzer Khad/Tati) and village of Lippa.

30. The Respondent No. 5 further stated that the hydrological studies have been approved by the Central Water Commission and Central Electricity Authority and the proposed project activities are very deep underground with controlled blasting carried out with very small magnitude explosives so as not to cause any landslides in the project area. Respondent no. 5 further stated that water bodies (Tem Chho and Tem So) are more than one Kilometer away, horizontally and vertically, and these are at a very safe distance from the project location; and for maintaining the ecological flow, minimum of 15% downstream discharge, as prescribed by the Government of Himachal Pradesh, will be strictly followed.

31. The Project Proponent in response to the orders of the Tribunal submitted details as to how the project activities are neither destructive of any forest nor are even covering forest area ultimately

except using very small piece of land. The Project Proponent also stated that they are not going to vary the flow of the natural stream by throwing muck into the rivers and would have a proper rehabilitation scheme in place for the displaced persons and also they are in no way impinging and are not even interfering with wildlife sanctuary.

32. We have heard all the learned Counsel extensively and traversed through all the documents filed by all the parties the issues which come up for consideration are:

1. **Whether public consultation process has been done properly and in accordance with the EIA Notification 2006?;**
2. **Whether EAC has considered all the material issues relating to:**

   (i) Land Requirement and due procedure adopted for its acquisition?

   (ii) Impact on Lippa-Asrang Wildlife sanctuary and impact of deforestation on Biodiversity, livelihood of local villagers, and environment?

   (iii) Environmental flows?

   (iv) Impact on water springs in the vicinity of the project area?

   (v) Preparation of Proper Environmental Management Plan for mitigation of pollution and conservation of natural resources?

   (vi) Cumulative impact of the project in conjunction with the existing or planned developmental activities on river Satluj?

   (vii) Adequate measures for muck disposal and disaster management?

   (viii) Consideration of the concerns raised during public hearing while finalizing the EIA report?

3. **Whether the EC granted in favour of Project Proponent is in consonance with the Principle of Sustainable Development and Precautionary Principles and whether in the facts and**

circumstances of the present case, should the Tribunal issue any directions in the interest of environment?

33. Accordingly, we proceed to discuss each of the issue:

1. Whether the public consultation process has been done properly and in accordance with the EIA Notification 2006?

The Notification of 2006 in Regulation 7 deals with the stages in the prior EC process, one of the stage is public consultation, the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. Sub clauses (ii), (iii), (vi) and (vii) of stage (3) - Public Consultation in Regulation 7 of the notification of 2006 spells out two components of the Public Consultation process, its venue, and the manner of obtaining and dealing with the responses in following terms:

"The Public Consultation shall ordinarily have two components comprising of:

(a) *A public hearing at the site or in its close proximity- district wise, to be carried out in the manner prescribed in Appendix IV, for ascertaining concerns of local affected persons;*

(b) Obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity.

The public hearing at, or in close proximity to, the site(s) in all cases shall be conducted by the State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) concerned in the specified manner and forward the proceedings to the regulatory authority concerned within 45(forty five) of a request to the effect from the applicant.

.....

(vi) For obtaining responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity, the concerned regulatory authority and the State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) shall invite responses from such concerned persons by placing on their website the Summary EIA report prepared in the format given in Appendix IIIA by the applicant along with a copy of the application in the prescribed form , within seven days of the receipt of a written request for arranging the public hearing . Confidential information including non-disclosable or legally privileged information involving Intellectual Property Right, source specified in the application shall not be placed on the web site. The regulatory authority concerned may also use other

appropriate media for ensuring wide publicity about the project or activity. The regulatory Authority shall, however, make available on a written request from any concerned person the Draft EIA report for inspection at a notified place during normal office hours till the date of the public hearing. All the responses received as part of this public consultation process shall be forwarded to the applicant through the quickest available means.

(vii) After completion of the public consultation, the applicant shall address all the material environmental concerns expressed during this process, and make appropriate changes in the draft EIA and EMP. The final EIA report, so prepared, shall be submitted by the applicant to the concerned regulatory authority for appraisal. The applicant may alternatively submit a supplementary report to draft EIA and EMP addressing all the concerns expressed during the public consultation."

Appendix IV to the Notification of 2006 chalks out a procedure for conducting public hearings. It stipulates that the notice of public hearing shall be advertised in one National Daily and one Regional Vernacular Daily/ Official State language giving 30 days minimum time to the public to furnish their responses. It also further stipulates that the proceedings of public hearing should be conducted under the supervision of the District Magistrate/District collector/Deputy Commissioner or his representative not below the rank of an Additional District Magistrate assisted by a representative of State pollution Control Board or Pollution Control Committee of Union Territory as the case may be who shall arrange videography of the entire proceedings and forward the same to the Regulatory Authority. A time limit has also been prescribed under the said Appendix for conducting public consultation.

From the facts of the present case, it is not in dispute that the notification for public hearing scheduled to be held on 28th and 29th May 2009, was published in the following newspapers:

S. No	**Name of the News Paper**	**Publication Date**	**Language**
1.	The Times of India	25.04.2009	English
2.	The Tribune	25.04.2009	English
3.	DainkBhaskar	25.04.2009	Hindi
4.	DainikJagran	25.04.2009	Hindi
5.	AapkaFaisla	25.04.2009	Hindi

Evidently, more than a minimum period of 30 days as per Notification of 2006 was provided to the public for furnishing their responses. It is also not in dispute that such public hearings took place at village Lippa on 28th May 2009 and at village Pangi on 29th May 2009 as scheduled and about 35 and 74 persons respectively had participated in the public hearing. The record reveals that the public hearing was presided over by the Additional District Magistrate, District, Kinnaur. Though, applicant has raised an objection that the public hearing was not attended by the presiding officer for the entire duration, there is no such record to substantiate the said allegations. It is also clear from the record of the proceedings that during public hearing at Lippa village, most of the participants were from various government departments apart from persons from the Gram panchayat Lippa, Asrang and Jangi, and various queries were raised by the participants in the public hearing and the same along with the responses by the Project Proponent were recorded in the public hearing proceedings. During public hearing at Pangi village, most of the participants were resident of Pangi village and the similar proceedings took place as per the records. The details of the project were also provided clearly in the public notice issued and Executive Summary of EIA (both in Hindi and English) and EIA/EMP report (in English) were made available for inspections to those likely to be affected and others having plausible stake in the environmental impacts of the project during office hours in the offices of Director, District Magistrate, Chairman Zilaparishad, District Industries Centre, regional office MoEF, Environmental Engineer, Head Quarter of the HPPCB, and any type of suggestions/ views/ comments or objections etc. were invited till 27th May 2009. In addition, these documents were also made available on the website of HPPCB and

therefore there was wide publicity to enable local affected persons and other plausible stake holders to effectively participate in the public hearing process. The letters regarding submission of documents i.e. Executive summary, EIA/ EMP and also containing details of the public hearing to be held as submitted by HPPCB to different offices have been furnished along with the reply furnished by them in the present case. Though the applicant made specific allegations that wide publicity was not made in the surrounding villages, villagers from other villages were not invited and also that the Executive Summary and EIA/EMP reports were not available for public hearing, the applicant totally failed in providing any evidence in support of the above allegations in any manner. The applicant failed to submit the copies of the letters demanding the Executive summary and draft EIA/EMP report or refusal/objection letters from the respective officers, where the documents were made available by the HPPCB. The proceedings of the public hearing and issues raised therein were sent to all the authorities vide letter dated 25th June 2009 by the HPPCB. From all the above mentioned facts, we have no hesitation to hold that the public consultation process has been done in accordance with the Notification of 2006.

(i) Land Requirement and due procedure adopted for its acquisition?

and

(ii) Impact on Lippa Asrang Wildlife Sanctuary and impact of deforestation on Biodiversity, livelihood of local villagers and environment?

Location of the project in question and spread gives us fair idea of its impact on the environment. The total land requirement is reflected in the EC letter and the total land requirement is as follows:

Stage	Forest Land (ha)	Private Land (ha)	Total Land(ha)
I	18.7142	15.4863	34.2005
II & III	17.6857	3.3494	21.0351
IV	25.500	5.0	30.5
Total	**61.89**	**23.8537**	**85.7356**

Undisputedly, 18.714 ha of forest land under stage I has been granted Forest Clearance by the MoEF vide letter dated 23rd June 2004. Thus, the additional forest land to be diverted for stage II, III and IV of the project is 43.1857 ha. The Respondent Nos. 4 (PCCF, HP) and 5 (HPPCL) reveal that out of 17.6857 ha of forest land for stage II and III construction period, only 1.4176 ha of forest land is intended to be utilized for non-forest use or permanent diversion, and the rest shall be returned after restoration upon construction of project back to the State Forest Department. The Respondent no. 1 (MoEF) and Respondent no. 5 (HPPCL) stated that the project components have been designed and decided after detailed investigation of the area by involving agencies like Geological Survey of India, Survey of India and design unit of State Electricity Board and HPPCL; and the compliance to the Forest Rights Act, 2006, was examined by the Ministry while according forest clearance. Based on the recommendation of the State Government, approval of competent authority in the Ministry, and the compliance report submitted, the proposal for transfer of remainder forest land was subsequently accorded approval by the MoEF on 14th June 2011. In this regard, it would be worthwhile to note that as per the stand of various official respondents, the traditional rights of the villagers stand already settled and thus require no further specific consideration. Yet another aspect on which appellant tried to place reliance upon pertains to loss of Pine and Chilgoza trees that bear fruits after considerable age and the dependence of locals on their produce, etc. The argument of the respondents in view of the observation made by the NEAA member

during the field visit presents a contrasting view that actually rather than the project, these trees in the region need due protection from over-exploitation by the villagers. Mitigative measures in relation to the likely impacts due to diversion of forest land on the project affected people/ villagers and protection of biodiversity are possible upon a comprehensive monitoring of the project by an Expert Committee.

The appellant claims that 80% of the residents of village Lippa, own agricultural and horticultural lands including cattle shed and other structure in Lappo Upmohal area near the intake point of K-K link tunnel of stage–II. The Respondent No. 5, HPPCL i.e., the Project Proponent specified that they have already initiated providing benefits to the project affected families as applicable under R& Plan as approved under the EC conditions. It is reiterated by them that commitment for paying compensation at the rate of Rs.1.04 lakh per biswa for stage I was completed, though some appeals /revision petitions before appropriate authorities are pending and payment for any other losses or damages has also been committed in the comprehensive R&R Plan as approved in the EC. From the documents on records, it is seen that Project Proponent has a committed scheme for R&R of the persons affected after taking into consideration the R&R policy notified by Govt. of Himachal Pradesh vide notification No. Rev (PD)F(5)-1/1999 dated 27th April 2006, National Rehabilitation and Resettlement Policy, 2007 and National Hydro Policy, 2008. Here again, in the given facts, general and specific provisions have made in the proposed R&R Plan, however, we are of the considered view that the best of the options should be provided to project affected people, therefore, certain directions are issued in the concluding paragraphs.

Undisputedly, the project does not fall within the Lippa Asrang Wildlife Sanctuary rather they are considerably far off from the boundaries. However, stage IV of the project is at a distance of 1.5 km away from the sanctuary. These facts were disclosed by the Project Proponent in the initial stages itself and have been duly mentioned in EIA/EMP report. Keeping this in mind, a clearance to the proposal from NBWL was mandated in the EC; and, therefore, we are of the view that appropriate approval/clearance would be necessary for executing the said stage IV of the integrated project.

From the records made available by the Respondent No. 1, it is observed that Biodiversity part in the project area was examined by the EAC in great details and after deliberations on the same, following condition on Biodiversity issues was stipulated the under Part-A: Specific condition No.(X):

"the proposed wildlife management, development and conservation of biodiversity plan of the sanctuary at a cost of RS.100 Lakhs spread over 10 years should be taken up strictly in the area outlined in the plan (as mentioned in Environmental Management plan(chapter-5) without any diversion of funds".

In addition to above, the Ministry also stipulated the following specific condition in the EC for conservation of biodiversity especially floral:

"Compensatory afforestation programme proposed in 86 ha should be implemented in Toto. The proposed greenbelt development over 6 ha using13 different plant species along the approach roads, residential areas, office complex, trench weir sites, powerhouse sites etc. at a cost of Rs.55 lakh should be taken up strictly".

On this backdrop, no specific case has been made out by the appellant regarding need for better and/or comprehensive biodiversity management plan.

The record further reveals that a detailed social impact assessment study has been provided in Chapter 2, of the EMP which clearly indicates that the project will have mostly positive impacts on the people, their lives, communities, and on the society at large, and

as far as negative impacts are considered, the relevant issues requiring appropriate actions were taken into account while formulating the R&R Plan. From the above, it is clear that there was serious consideration by the respective agencies at various levels on the issues relating to diversion of forest land, Lippa Asrang Wildlife Sanctuary, Biodiversity, livelihood of local villagers, and environment; however, to further strengthen the project we contemplate additional safeguard measures.

(iii) Environmental flows?

As regards the environment flows, the record reveals that an independent study was assigned to Indian Institute of Technology, Roorkee by the Project Proponent for assessing the optimum release of water required to maintain the aquatic ecology of downstream reaches and the EAC considered the findings of IIT Roorkee for fixing the standard of environmental flow. This is evident from the specific condition in the EC:

"A scientific study from a reputed institute for deciding the minimum flow to be released during the lean season should be undertaken. Till the study is completed, 15% of the average flow of four consecutive leanest months should be maintained for environmental flow. After the study is completed release of minimum flow should be study based 15 % whichever is higher".

In the absence of any material to suggest that flow would be inadequate, we are satisfied with the condition stipulated in the EC regarding maintenance of an appropriate environmental flow. Pertinently, in response to various directions passed by the Hon'ble Supreme Court and this Tribunal from time to time for issuance and framing of a binding policy regarding e-flow from all hydroelectric projects is under active consideration and therefore, we do not feel it appropriate to issue any direction in this regard at this stage.

(iv) Impact on water springs in the vicinity of the project area?

When the issue of impact on water springs near the intake point of K-K tunnel stage II was raised, a joint survey by the authorities along with the villagers was conducted. It was reported that all the springs are located far away from the tunnel. The Joint Survey has identified 174 springs in village Lippa and 78 springs in village Rarang; and all the springs are located far away from the tunnel of Stage II and III, which is at least 500 meters to more than 1 kilometer below the surface of hill. It was noted though the project execution is not likely to impact the springs, however, the need for proper management plan was expressed for the conservation and protection of springs. We, therefore, contemplate certain directions while disposing of this appeal.

(v) Preparation of Proper Environmental Management Plan for mitigation of pollution and conservation of natural resources?

Broadly speaking the EIA/EMP report had been prepared as per the ToR given by the EAC after generating base line data through field studies or otherwise. The EAC examined the report and whatever lacunae were pointed out for rectification either based on the issues raised in the public hearing or by the experts of various disciplines participating in the EAC appraisal, have been reflected in the minutes of the meetings of EAC. The records indicate that EAC pointed out the shortcomings in the EIA/EMP report, such as, relevant maps, rain fall data, cropping pattern and crop water need, impact of the project on Lippa Asrang Wildlife Sanctuary, study of floral diversity of the area, impact of HEP on aquatic ecology, Catchment Area Treatment Plan, Compensatory Afforestation, and Greenbelt development and thus EAC directed the Project Proponent to incorporate the additional information/clarification in the form of ADDENDUM to the EIA/EMP reports. This was submitted by the Project Proponent

vide their letter no. HPPCL//KHEP/ME-R&R/2009/Camp Shimla/1-15 dated 29th November 2009. These EIA/EMP reports along with addendums were again examined by the EAC before recommending the project for grant of EC with the specific condition in the EC regarding the implementation of EMP:

"The total amount of Rs.51.50 cores kept in budgetary provisions for implementation of EMP should be strictly adhered and not to be diverted for any other purposes."

The argument of the appellant is that the EIA/EMP report has been prepared after taking 10km radius from the centre of the project as influence zone, whereas, the same should have been taken from the outer boundaries of the project component. On this count, we do find merit in the contention of the appellant. However, considering the homogeneity of the landscape in physical, biological and social setting, it would be of little significance as the ultimate analysis will not change drastically, though it would certainly result in bringing in changes in the area that may be required to be considered for extending benefits of R&R Plan. At this stage, we may also notice that there is an absence of clear guidelines from any of the authorities including MoEF for defining influence zone of the various type of projects till recent past. A good number of cases of the corresponding time frame are available as a precedent, where for hydroelectric projects; influence zone has been defined in a manner as in the instant case. Additionally, we may also notice that if the criterion for defining influence zone was clearly spelt out as envisaged by the appellant, probably even MoEF itself would have rejected the proposal for grant of EC. Primarily, therefore, in the given facts and circumstances of the case, we do not find any infirmity in the entire process especially when the appellant has failed to point out specific instances where violations have been committed either in

the entire process of data collection, analysis, preparation of EIA/EMP report, and its final appraisal while granting EC to the project. However, in view of the subsequent discussion, we would like to issue certain directions for EIA/EMP report finalization and implementation in the present case.

(vi) Cumulative impact of the project in conjunction with the existing or planned development activities on river Satluj?

On the issue of cumulative impact assessment study of hydropower and river valley projects, the stand of MoEF was that in view of the growing recognition for the need for cumulative impact assessment study of hydropower projects in a river basin, the condition of cumulative study for all the future projects at the ToR stage itself is being practiced as per the Office Memorandum of the MoEF dated 28th May 2013 and based on the findings of the parallel cumulative impact assessment study only, the EAC will make the recommendations for grant of EC.

With specific reference to the present case, Respondent No. 1 submitted that carrying capacity and cumulative impact assessment study have been initiated with respect to various river basins including river Satluj. It was however, also mentioned that as far as the instant project case is concerned, the integrated project is proposed on a tributary of river Satluj and the comprehensive cumulative impact assessment study has already been initiated and for this purpose Indian Council of Forestry Research and Education has completed the study and the final report is awaited. It is also brought to the notice that separate Cumulative Impact Assessment study with respect to Satluj has been commissioned by the Government of Himachal Pradesh. Considering the fact that the entire concept of cumulative studies is a recent phenomenon, and also the fact that the integrated project under challenge is the only project on this tributary, we at

this stage do not intend to stipulate any specific conditions, however, we would certainly, issue certain directions for urgent compliance.

(vii) Adequate measures for muck disposal and disaster management?

The records reveal that EAC had examined this issue and expressed its concern regarding adequacy of measures to retain and stabilize the muck generated by the execution of the project. The EAC also directed the Project Proponent for incorporating the drawings of the retaining wall in the Muck Management Plan and also emphasized that study on seismology of the area to be carried out independently along with other geological aspects. It is revealed that the project components have been designed and decided after detailed investigation of the area by involving reputed agencies. It is further seen that the Project Proponent is committed to remove the shoal formed at the confluence point due to the debris brought by the Pazzer Khad by either releasing adequate downstream discharge or by other means including mechanical means. The Project Proponents are committed to construct suitable structures to protect the banks of Pazzer Khad/Tatiand Lippa village. Ministry also stipulated the following specific condition in the EC:

"Consolidation and compilation of the muck should be carried out in the muck dumping sites and the dumping sites should be above high flood level. The proposed plan for the generated muck of 1.17Mm^3, of which 0.3Mm^3 is proposed to be utilized for construction material & other filling purpose and remaining 0.879 Mm^3 of muck which goes-up to 1.231 Mm^3 (after increased volume should be disposed of at 13 designated disposal area should be strictly implemented ".

From the above, it is clear that EAC considered the Muck disposal, flash flood, etc. and suggested safeguards.

(viii) Consideration of the concerns raised during public hearing while finalizing the EIA report?

The State Pollution Control Board had conducted the public hearing on 28th and 29th May 2009 following the procedure prescribed under the Notification of 2006. All the relevant public concerns and grievances related to environment as raised during the public consultation process, were duly documented and the proceedings of the public hearing and statement of issues were sent to the respective authorities vide letter dated 25th June 2009. These issues were given consideration in the appraisal by the EAC before recommending the project for grant of EC. This fact is even reflected from the specific condition imposed in EC letter:

''As committed during Environment public hearing , the project proponent should clear the shoal formed by silt brought by Garang (also known as Pizzar) a left bank tributary of Kerang Khad near village Lippa well downstream of the project by either releasing enough downstream discharge during summer months or through the other means".

From the aforesaid discussion it is clear that EAC had duly considered all the material issues including the responses gathered during public consultation.

3. Whether the EC granted in favour of Project Proponent is in consonance with the Principle of Sustainable Development and Precautionary Principles and whether in the facts and circumstances of the present case, should the Tribunal issue any directions in the interest of environment?

Hydro-electric power is acknowledged as one of the renewable source of energy unlike 'dirty sources' of energy namely thermal and nuclear. Generation of electricity to the tune of 245 MW is bound to provide impetus to the developmental activities in the State of Himachal Pradesh and extend hand in national development. To make this effort of development a sustainable one, a due thought needs to be given to the impacts of the project on the environment and the mitiagtive measures which need to be adopted keeping in view the Precautionary Principles. Considering the facts and circumstances in the present case and the aforesaid

discussion we are of the considered opinion that majority of material safeguards have been incorporated in the EC keeping in view the Precautionary Principles. Thus, in the good measure, the Principle of Sustainable development has been followed in the present case to ensure the Sustainable Development. We make it clear that EMP and all the special and general conditions stipulated in the EC shall be strictly followed by the Project Proponent and the same have to be properly monitored by both the regulatory authority and the HPPCB.

In view of the aforesaid discussion, we are of the opinion that there are no substantial grounds calling for our interference with the EC in question granted by the Respondent No. 1; however, to ensure compliance to the latest standards and ensure proper implementation of mitigative measures, we constitute the following Committee to review the terms and conditions of EC after revision of the EIA/EMP report based on mostly secondary data apart from review of the budgetary provisions in the EMP, and submit a compliance report to the Tribunal within a period of 2 months along with a comprehensive monitoring-cum-progress report on implementation of the terms and conditions of EC by various agencies not only the Project Proponent:

Committee

- Chairman EAC (River Valley and HEP), MoEF
- Chief Wildlife Warden, Himachal Pradesh
- Senior Scientist from HFRI, Shimla who was member of team that prepared the EIA report (if Team Leader is not available)
- One independent expert on Environment Sciences nominated by Himachal University, Shimla
- A Professor of Environmental Engineering from IIT, Delhi nominated by the Director
- Senior Scientific Officer of HP-PCB

- Director of concerned division of MoEF

a. The Committee shall thoroughly review the EIA/EMP report to work out additional safeguards, if any, in addition to the issue of defining zone of influence from the outer most features of the project, and other observations made in this judgment, such as compensation for loss of traditional rights especially on forest land, exploitation/protection of chilgoza/ pine trees, effect on water springs, muck disposal sites, flash floods, etc.
b. The Committee shall ensure compilation of mostly secondary data, through the original consultants and Project Proponent, for the revised influence zone on relevant parameters of physical, biological and social environment
c. The physical and financial targets for mitigative measures proposed in EMP shall be revised accordingly.
d. Due care should be taken in framing the R&R plan wherein efforts shall be made to offer a combination of the best available options from the various R&R policies framed by different agencies.
e. The findings of the Cumulative Impact Assessment study for the Satluj river shall be given due consideration and all the recommendations, including dropping of any stage of project, shall be categorically looked into before making final submission to the Tribunal.
f. The Committee shall examine the issue of proximity, especially of Stage IV of the integrated project to Lippa Asrang Wildlife Sanctuary, and make recommendation thereof.
g. Option for translocation of Chilgoza trees should be explored and action plan (time bound) should be prepared to stop over-exploitation of the Chilgoza trees.

34. **With the above directions, the appeal stands disposed of without any order as to costs.**

Justice Swatanter Kumar
Chairperson

Dr. D.K. Agrawal
Expert Member

Mr. Bikram Singh Sajwan
Expert Member

New Delhi

January 28th, 2016