Minutes of the 3rd meeting of the Expert Appraisal Committee for River Valley and Hydroelectric Projects held during 2-3rdMarch, 2017 at Brahmaputra/Teesta Meeting Hall, Vayu Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 3.

The 3rd meeting of the EAC for River Valley & Hydroelectric Projects was held with the Chairmanship of Dr. Sharad Kumar Jain during 2-3 March, 2017 in the Ministry of Environment, Forest & Climate Change at Brahmaputra/Teesta Meeting Hall, Vayu Wing, 1stFloor, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi. The following Members were present:

1.	Dr. Sharad Kumar Jain	-	Chairman
2.	Shri Sharvan Kumar	-	Representative of CEA
3.	Shri N.N. Rai	-	Representative of CWC
4.	Dr. J.A. Johnson	-	Representative of WII
5.	Dr. A.K. Sahoo	-	Representative of CIFRI
6.	Shri Chetan Pandit	-	Member
7.	Dr. Dinakar Madhavrao More	-	Member
8.	Dr. S.R.Yadav	-	Member
9.	Dr. S. Kerketta	-	Member Secretary

Prof. Pradeep P. Mujumdar, Dr. Vijay Kumar, Prof. Govind Chakrapani, Dr. R. Vasudeva and Dr. Jai Prakash Shukla could not be present.

Item No. 3.0 Confirmation of minutes of 2nd EAC Meeting.

The Minutes of the 2nd EAC (River Valley & Hydroelectric Projects) Meeting, held on 30-31stJanuary, 2017 were confirmed.

Item No. 3.1 Chango Yangthang HEP (180 MW) Project in Kinnaur District of Himachal Pradesh by M/s. Chango Yangthang Hydro Power Ltd – For extension of validity of ToR.

The Project Proponent (PP) and the Consultant, M/s R.S. Environlink Technologies Pvt. Ltd, Gurgaon, made a detailed presentation of the project and *inter-alia*, provided the following information:

The project is a run-of-the-river project and it will be located in Kinnaur District of Himachal Pradesh. The project envisages construction of a 23 m high dam across Spiti river (tributary of Sutlej river) and an underground power house on the right bank with an installed capacity of 180 MW (3x60 MW), and will generate 727.75 GWh units of electricity annually (Corresponding to 90% DY and 95% Machine Availability). Total land requirement is 149 ha. Out of which, 141 ha is unprotected forestland. Total submergence area is 53 ha. The total cost of the project is about Rs.1,000 crores and will be completed in 5 years.

The Scoping/ToR clearance to this project was accorded on 8.2.2013 for a period of 2 years, which was expired on 7.2.2015. Thereafter, the Ministry granted 2 years extension, i.e. from 8.2.2015 to 7.2.2017 to validate TOR.

The PP has submitted application of the validity of TOR for the 5thyear. It has been informed that the draft EIA/EMP reports submitted to Himachal Pradesh Pollution Control Board on 23.11.2015. PP further informed that till date meeting of the Public Hearing could not be held due to local resistance in the project area and therefore, submission of EIA/EMP report was made before the expiry of the validity of ToR i.e. within the normal period of 4 years.

After detailed deliberations and considering all the facts presented by the PP, the EAC **recommended**for extension of the validity of ToR for one more year, i.e. from 8.2.2017 to 7.2.2018. It is also mentioned that this is the last and final extension for the project and in case Public Hearing could not be held in time and PP failed to submit the EIA/EMP report, etc. and the total five years are fully exhausted then the PP has to apply afresh for scoping clearance.

Item No. 3.2 Reoli- Dugli HEP 430 MW (420 MW + 10 MW) Project in Lahaul & Spiti District of Himachal Pradesh by M/s. L&T Himachal Hydropower Limited - for Environment Clearance.

The Project Proponent (PP) and the Consultant, M/s WAPCOS, Gurgaon made a detailed presentation of the project and *inter-alia*, provided the following information:

The project is a run-of-the-river project and it will be located in Lahaul and Spiti Districts of Himachal Pradesh. The project envisages construction of a 75 m high dam across Chenab river (between the confluence of Darhi nala and Reoli nala)and an installed capacity of 430MW.An underground powerhouse is proposed on the right bank of the river with four water turbines of 105 MW capacity each.A secondary surface powerhouse at the toe of the dam having Installed Capacity of 10 MW is also proposed to releasewater to meet theenvironmental flows needs during the lean season.The total land requirement is about 182 ha and the legal status of this land is forestland. Total submergence area is about 66 ha. The catchment area of the project is 6,588 km^2. The total cost of the project is about Rs. 2909.42 Crores and it will be completed in 9.5 years.

The Scoping /ToR clearance was granted on 12.2.2013 for a period of 2 years which expired on 12.3.2015 and 1 year extension of validity of ToR was further granted, i.e. up to 11.3.2016. Thereafter, the Ministry granted 1 more year extension of validity of TOR, i.e. up to 11.3.2017. The Public Hearing was conducted in Lahaul-Spiti District on 5.10.2016. PP informed thatall the issues raised during the Public Consultation have been incorporated in the EIA/EMP report. The socio-economic impact assessment was carried out separately and report was also submitted. Thereafter, the final EIA/EMP reports were submitted to the Ministry for environment clearance.

The various environmental aspects covering catchment area, submergence area and project influence area, i.e. area within 10 km radius from main project components have been considered. The baseline data has been collected covering Physico-chemical aspects, biological aspects and socio-economic aspects. Three seasons' data have been collected for air, noise, water, soil and ecological aspects. Impacts during construction and operation phases have been assessed and mitigation measures suggested minimizing the anticipated impacts.

The other salient features of the project reported in the EIA/EMP reports are as under:

i. The Public Hearing was conducted in Lahaul & Spiti in Himachal Pradesh on 5.102016. The major concerns expressed during the Public Consultation were on Muck dumping sites, provision of free electricity to the project oustees, road access, drinking and major water crisis, etc. The PP has complied all the issues raised by the General Public pertaininglocal people.

ii. The project is likely to generate 46.38 lakh m^3 of muck due to excavation. After use in aggregate production and others about 32.18 lakh m^3 muck need to be disposed at designated sites. The muck disposal sites would be reclaimed/ restored with vegetation once capacity is utilized. A grant of Rs.22.60 crores has been allocated for this purpose.

iii. The Compensatory Afforestation programme is proposed in 344.82 ha of forestland which is the twice of 172.41 haofthe forestland diverted for the project and will be implemented in consultation with the State Forest Department, Himachal Pradesh. Biodiversity Conservation and Management Plan are also proposed in consultation with the State Forest Department. A total grant of Rs. 778.18 lakh has been allocated for this purpose.

iv. Greenbelt will be developed along the reservoir rim, dam and Powerhouse site, around the project colony, office complex, approach roads and various project components areas and is proposed with 18 different local plant species. A grant of Rs. 40 lakhs has been allocated for this purpose.

v. Fishery development and management plan is proposed for the conservation of fishes in river and reservoir. Under this programme, development of*Snow trout*, *Rainbow trout* and *Brown trout* is proposed. A stocking rate of 1,000 fingerlings (>30 mm) per ha for reservoir has been proposed in the initial year of development. The stocking will be done inthe reservoir and upstream/ downstream river. The plan will be implemented in consultation with the State Fisheries Department. An amount of Rs. 4.48 crore has been allocated in the EMP budget for fisheries development.

vi. E-Flows to be released in different seasons are:

Season	Avg. inflow (m^3/s)	% of inflow	Avg. actual EF to the downstream (m^3/s)
Lean season (Dec.-Mar.)	56.10	20%	11.22
Non-Monsoon Non-Lean (Oct., Nov. – Apr., May)	105.57	20%	21.11
Monsoon (June-Sep.)	446.79	28%	125.10

vii. The EMP has been prepared based on predicted impact, actual requirement and incorporating suggestions of local people, stakeholders with the details as under:

Table: Cost estimated for EMP in the project(Rs. in million)

Sl. No.	**Environmental Management Plan**	**Cost**
1.	Catchment Area Treatment @ 2.5 % project cost	727.23
2.	CA and Biodiversity conservation	77.81
3.	Fisheries Management	53.85
4.	Greenbelt development plan	4.00
5.	Muck management plan	226.00
6.	Control of Pollution during construction phase	17.00
7.	Restoration and landscaping of construction area	19.11
8.	Environmental Safeguards in road construction	21.94
9.	Public health delivery system	99.29
10.	Energy Conservation measures	10.00
11.	Environmental Management in labour camp	180.13
12.	Local Area Development Plan @ 1.5% project cost	436.50
13.	Disaster Management Plan	27.00
14.	Environmental Monitoring	53.00
	Sub Total (A)	1925.86
B	Contingencies @4% of (**A**)	78.11
	Total (A+B)	**2030.97**

After detailed deliberations and considering all the facts of the project as presented by the PP, the EAC **recommended** for grant of Environmental Clearance for the project with the following additional conditions:

i. Information on important birdlife in the study area such as the Himalayan moanl (*Lophophorus impejanus*) & Western Tragapon (*Tragopan melanocephalus*) to be submitted from the secondary sources within three months from the date of grant of Environmental Clearance.
ii. On-line monitoring system will be installed to measure and record the E-Flow releases.
iii. Stocking of fish in reservoir should be based on the area and size of fish. It should be implemented in consultation with the central /state department having expertise in reservoir fisheries.
iv. Indigenous fish spices both up/down streams and dam site based on the three seasonal studies to be inventorized within three months of the grant of Environmental Clearance and submitted to the Ministry.
v. Local indigenous varieties of plants to be grown and maintained till their full growth including gap filling.
vi. Skill mapping be undertaken for the youths of the affected project area and based on the skill mapping, the trainings to the youths be incorporated for their appropriate engagements in the Project.
vii. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines and all commitments made during the Public Hearing shall be fulfilled.
viii. The plastic waste shall be disposed by exploring various alternatives and not by land filling.
ix. Six monthly compliance reports shall be submitted by the project proponent to Regional Office, MoEF& CC, Chandigarh, without fail until completion of the works.
x. All the recommendations made based on the CIA & CCS of the Chenab River Basin for this project shall be followed in toto during the development of this project.

Item No. 3.3 Chanderi Micro Irrigation Scheme in Ashok Nagar District of Madhya Pradesh by Water Resources Department, Madhya Pradesh- for Scoping/ToR clearance.

The Project Proponent (PP) made a detailed presentation of the project and *inter-alia*, provided the following information:

This project is a lift irrigation scheme and the source of water shall be from an existing reservoir of Rajghat Dam with an aim to provide irrigation facilities to water scarcity areas in upper reaches of Betwa Basin. The gross command area (GCA) is 31,000 ha and Culturable Command Area (CCA) is 20,000 ha.The project envisages enhancement of irrigation intensity in the Culturable Command Area isin Ashok Nagar District of Madhya Pradesh. The total land requirement for this project is 16.20 ha,out of which 4.20 ha is forestland and 12 ha is private land. The total cost of the project is about Rs. 358.99 Crores.

The PP informed that the project is envisaged to utilize additional available water in Madhya Pradesh share & saved by lining of Rajghat canals. Thus 67.4 MCM water shall be used for irrigating 20,000 ha land in 81 villages of Ashok Nagar district, Madhya Pradesh. Alternate sites have been considered for fixation of location of Pump House &it was found that the location at a distance 3 km away from the boundary of U.P.state is the most viable and feasible one and therefore, the project falls under the Category “A” Project.

The total submergence area for this project is 6.70 ha, out of which, the private land is 2.5 ha and the forestland is 4.2 ha. The PP mentioned that pre-monsoon & monsoon data for this project have already been collected from Madhya Pradesh Pollution Control Board in the month of June & August, 2016, respectively and requested permission to use this data to

include in preparation of EIA/EMP report.

After detailed deliberations and considering all the facts of the project as presented by the PP, the EAC **recommended** for scoping clearance for the project with following additional ToR:

i. It is a lift irrigation scheme from the LBC of Rajghat dam on river Betwa. A map showing the proposed command area vis-à-vis the existing command may be prepared and submitted at the time of appraisal for EC.
ii. Irrigation is proposed on micro irrigation method. A detailed irrigation management plan should be worked out.
iii. All the base line data should be within the period of the online submission of the proposal.
iv. NOC from the state of U.P. to be submitted during appraisal of the Environmental Clearance.
v. Inventorization on flora and fauna should be carried out based on the primary/secondary data.
vi. Solid waste management should beplanned in details. Land filling of plastic waste shall be avoided andvarious alternatives may be explored and proposed in the EMP report.
vii. Information regarding NABET Accredited Consultants for carrying out EIA studies is to be provided to the Ministry.

Item No. 3.4 Water Re-circulation and Environmental Sustainability Project for Jog Falls in Shivamogga District of Karnataka M/s Jog Management Authority, Government of Karnataka - for Scoping/ToR clearance

The PP did not attend the EAC meeting.Therefore, the project has been deferred.

Item No. 3.5 Nardave Medium Irrigation Project in Sindhudurg District of Maharashtra, Medium Irrigation Division, by Water Resources Department, Maharashtra - for Scoping/ToR clearance.

The Project Proponent (PP) made a detailed presentation of the project and *inter-alia*, provided the following information:

It was noted thatit is a medium irrigation project covering command area of 8,084 ha benefitting 48 villages. The project envisages construction of 66.43 m high earthen dam on Gad River near Nardev Village in Sindhudurg District of Maharashtra. The irrigation is proposed in the project by lift irrigation for which 14 numbers of K.T. weirs are proposed along the riverside enable lifting of water for irrigation. The project also envisages a dam-foot powerhouse with 3 MW Installed Capacity for generation of hydropower. The total land requirement is ~627.744 ha and the submergence area is ~356.352 ha. The forestland is ~34.135 ha and the Stage-I FC clearance has already been obtained (No. 6-MHC 018/2011-BHO/1691, dated 30.9.2014). Five (5) villages consisting of 967 houses are likely to be submerged due to the proposed project. The project is about 2 km away from the Radhanagari Wildlife Sanctuary. The estimated cost of the project is about Rs. 44,670.76 lakhs.

During appraisal the PP informed that the project was originally approved on 12.7.1989 (Marathi letter No. MHD/1085/(390/85)/WRI dated 12.7.1989) with an estimated cost of Rs. 3,243.78 lakhs. The revised administrative approval was made on 19.7.2007 (Marathi Govt. order No. Nardave-2007/140/(47/2007)-MPR-MPR Mantralay, Bombay dated 19.7.2007). As the project is a prior to 2006 proposal, it doesn't attract EIA Notification, 1994. Therefore, construction works hadalready been initiated and thereafter, the project was stopped due to paucity of funds. It was intimated that the CWC vide its letter dated 6.11.2001, clarified that "only major irrigation projects having CCA of 10,000 ha and more only require clearance from environmental angle from Ministry of Environment and Forests, Government of India and hence no such clearance is required for medium irrigation projects having CCA less than

10,000 ha, even though the estimated cost is more than Rs.50 crores as per EIA Notification, 1994."

The PP informed that the project was submitted to Ministry for environmental clearance (EC) in 2011. The Ministry asked for forest clearance status on 19.12.2011 and the project was again resubmitted to the Ministry on 27.9.2012. The MoEF & CC did not consider the proposal as the project was falling in Western Ghat areas. The PP also intimated the following:

i. During 2001-2006, dam works of the project were partially completed.
ii. ICPO & Spillway works have been partially completed. Out of 14 KT weirs, 10have been completed.
iii. Land acquired is 507.028 ha and balance land of 120.716 ha is to be acquired.
iv. About 82% rehabilitation work has been completed.
v. Project is recommended by SBWL and is under consideration at Central level for wildlife clearance.
vi. Moratorium on Western Ghats has been lifted and therefore PP has applied for environmental clearance on 8.2.2017.

The committee noted that the project was initiated before EIA Notification, 1994 and construction activities were taken up accordingly. It was also further noted that some works have been completed which appeared to be an ongoing project and the project was stopped due to paucity of funds. It was informed that till date Rs. 382/- crores have been already spent.

The PP applied online on 08.02.2017 for granting ToR/Scoping Clearance as per the EIA Notification, 2006 and amendment thereon.

After deliberations, considering all the facts of the project as presented by the PP and also complaints received from the Civil Action Groups, the committee suggested that the present status should be obtained from the State Environment Department, Government of Maharashtra and after getting the details including likely date of completion of the project, the project may be reconsideredforgranting scoping clearance.Accordingly, the proposal was ***deferred***.

Item No. 3.6 Burhai Reservoir Project in Deoghar District of Jharkhand by M/s Water Resources Department (Deoghar), Jharkhand for consideration of fresh Scoping/ToR.

The Project Proponent (PP) and along with the Consultant, WAPCOS, Gurgaon made a detailed presentation of the project and *inter-alia*, provided the following information:

The Water Resources Department, Government of Jharkhand submitted Burhai Reservoir Project in Deoghar District of Jharkhand for Scoping/ToR clearance.The Burhai Reservoir Project envisages construction of earthen dam of a 27.5 m high across Pathro River near Burhai village in Deoghar District, Jharkhand. This project includes providing irrigation facility in Dheoghar District benefitting 9,000 families and providing 4.08 MCM drinking water facility to Madhupur block. The gross command area (GCA) is 40,583 ha and Culturable Command Area (CCA) is 22,900 ha. The total land requirement is 3292.06 ha. Total submergence area is ~2271.83 ha. Out of which, about 541.23 ha of forest area will be submerged. The catchment area of the project is 340 km^2. A total of 888 families (Tribal families: 296 + Non-tribal families: 592) are likely to be affected due to this project. The private land to be acquired is 1790.85 ha. The project involves acquisition of 1790.85 ha of land. The project proponent informed that the R& R benefits for the land losers will be as per the land acquired for the project and shall be suitably compensated in accordance with the law of the land with the prevailing guidelines.The total estimated cost of the project is Rs. 1,52,087 lakhs.

After detailed deliberations and considering all the facts of the project as presented by the PP, the EAC **recommended** for scoping clearance for the project with following additional ToR:

i. The scheme is to irrigate 33,500 ha area by flow irrigation. The average rainfall is around 1,230 mm. The project falls in an assured rainfall area and therefore, the Kharif crops may not need any irrigation excepting the years of low rainfall. However, the ricecrop needs protective irrigation almost every year. In view of this, Kharif area may be restricted and the irrigation area of Rabi crops be increased.
ii. Concept of conjunctivewater use may bepracticed.
iii. The element of micro irrigation may also be introduced right from the beginning, which will enable to enhance the irrigation efficiency. This will also increase the command area of the project.
iv. All the base line data should be within the period of the online submission of the proposal.
v. Detailed information on species composition in particular to fish species from any previous study/literature should be included.
vi. Inventorization on flora and fauna should be carried out based on the primary/secondary data.
vii. Solid waste management should be planned in details. Land filling of plastic waste shall be avoided and instead proposal for various uses may be proposed in the EMP report.

Item No. 3.7 Sada Mangder HEP (71 MW) for Extension of Validity ofEnvironment Clearance –reg.

The Project Proponent (PP) and along with the Consultant, WAPCOS, Gurgaon made a detailed presentation of the project and *inter-alia*, provided the following information:

It was noted that the project envisages a peaking power plant comprising 2 intakes of 45.9 m and 47.3 m high on Rangit and Ralli Chu rivers respectively and a HRT each joining together to a common HRT to an underground powerhouse. Total forestland requirement is 31.0756 ha and private land is 18.5840 ha. The Environmental Clearance (EC) was accorded on 15.5.2007 for a period of 5 years as per the provisions of EIA Notification, 1994 & 2006. Thereafter, 5 years extension of validity (i.e. upto 15.5.2017)was accorded on 30.11.2012.

The project proponent explained that the substantial progress and they have completed pre-construction activities.However, the project got delayed due to non-availability of access roads to the project site as per the obligations of Govt. of Sikkim under Clause 3.7 of implementation agreement. Now, the pending issues are getting resolved with Government of Sikkim.However, a valid EC is necessary beyond 15.5.2017. Therefore, 3 years extension is needed to complete the remaining activities in the project.

It was informed to EAC that as per Notification dated 14.9.2016, a provision of 3 years of extension of validity in case of River Valley & Hydroelectric Power Projects exists. The Committee observed that the request made by project proponent for validity of extension of EC appears to be reasonable, since the remaining works are to be completed and it willalso enable PP to continue making progress on the project. The EAC **recommended** extension of the validity of EC for 3 years i.e. 15.5.2017 to 14.5.2020 to complete the works as per schedule.

Item No. 3.8 Rongnichu Hydroelectric Project (96 MW) for Extension of Validity of Environment Clearance

The project proponent (PP)alongwith the Consultant, WAPCOS, Gurgaon made a detailed presentation on the project for an extension of validity of Environmental Clearance (EC)and *inter-alia*, provided the following information. It was noted that the project envisages construction of 14 m high barrage on Rongnichu river (tributary of Teesta river), near Namli village in East Sikkim District of Sikkim of Installed Capacity of 96 MW. This is a run-of-the-river scheme. The EC was accorded on 4.4.2007for a period of 10 years as per the provisions of EIA Notification, 1994 & 2006. The compliance status of the conditions stipulated in EC dated 4.4.2007 for Specific & General Conditions was presented in detailed along with present status of the project with the reasons for delay in its completion within the validity of EC.

The project proponent explained that the land acquisition; obtaining other mandatory clearances including Forest Clearance (FC), etc. and various pre-project activities like financial closure, award of contracts and building road & other infrastructures in mountainous terrain, etc. also took considerable time. Thus, there has been an initial delay of more than 3 years to start the actual construction work after obtaining the EC in April 2007. Further during excavation of tunnel, extremely poor geology was encountered, this and other geological difficulties of lower Himalayan region resulted in slower pace of work.

It was also informed that minor deviations like increase in number of construction ADITS from 3 to 5; number of muck dumping sites from 7 to 10; realignment of HRT over a length of 273 m have been made during the construction works. This being necessary for reasons of safety, design optimization- accessibility/ availability of adequate land, easier and shorter approach roads & ease in construction, etc. Overall land requirement has reducedforestland from 26.2313 ha to 25.1388 ha & private land from 19.4 da to 11.8395 ha.

The EAC noted that CAT Plan & Biodiversity Conservation Management Plan are under preparation by the Forest Department for which Rs 578.26 lakhs & Rs 72.02 lakhs, respectively have been deposited to Forest Department and Rs 27.79 lakhs has been reserved for Fisheries Development. The actual cost incurred for EMP is Rs. 990.23 lakhs &for CSR is Rupees 216.58 Lakhs till August 2016.

The PP further assured the committee that problems have now been over-come andpresently, the work is progressing smoothly in all fronts without any hindrance - about 85% underground excavation work and about 50% of concreting work is complete. Electro Mechanical (in Power House) and Hydro-Mechanical (in Barrage) & Steel lining will commence in April-June, 2017 and it was further mentioned that they are confident of meeting the Scheduled Commissioning date of December 2018 as approved by the Government of Sikkim.

After detailed deliberations and considering all the facts of the project as presented by the PP along the Consultant, the EAC observed that the minor deviations encountered while taking-up the projectmay not be treated as violation. It was informed to EAC that as per OM dated14.09.2016 a provision of 3 years of extension of validity in case River Valley & Hydroelectric Power Projects exists. The Committee observed that the request made by project proponent for validity of extension of EC appears to be reasonable, since the 85% of the underground excavation work and 50% concrete work is complete and the remaining works will be initiated during April-May, 2017, the EAC **recommended**for extension of validity of EC initially for a period of 6 months in order to facilitate the PP to submit compliance and monitoring report from RO, MoEF & CC, Shillong. Based on the report, the remaining extension of 2½ years could be granted accordingly.

Item No. 3.9 Dr. B.R. Ambedkar Pranahita Project in Adilabad District of Telangana by Irrigation & CAD Department, Government of Telangana – For TOR

The Project Proponent (PP) and alongwith the Consultant, EPTRI, Hyderabad made a detailed presentation of the project and *inter-alia*, provided the following information:

Earlier, the Dr. B.R. Ambedkar Pranahita-Chevella Sujala Sravanthi Multipurpose Project in Adilabad District of Andhra Pradesh by Government of Andhra Pradesh was granted scoping/TOR clearance on 11.3.2010. The project had envisaged construction of a barrage on Godavari river to provide irrigation facility to 6,60,700 ha in 7 Districts of Andhra Pradesh. The Scoping/TOR Clearance was accorded on 11.3.2010 for this project when the Andhra Pradesh State was not bifurcated. Now, the state is bifurcated into Telangana State and Andhra Pradesh State and the project falls in the newly formed Telangana State.

It was informed that this is an Inter-State project between Maharashtra and Telangana. An agreement for the constitution of Inter State Board for Dr. B. R. Ambedkar Pranahita-Chevella Sujala Sravanthi Project was made between the then Chief Ministers of erstwhile Andhra Pradesh and Maharashtra states on 5.5.2012. However, this Board could not finalize the FRL of the barrage because, while the erstwhile state of Andhra Pradesh proposed an FRL of +152 m Maharashtra state disagreed and proposed only +148 m to reduce excessive submergence in their State. Hence, the project plan did not proceed further and the deadlock persisted for a period of 3 years.

Subsequently, the issue was reopened on 17.2.2015 by the Chief Minister of the newly formed Telangana State in a meeting with the Chief Minister of Maharashtra in Mumbai, wherein the Chief Minister of Maharashtra agreed for a barrage on Pranahitha for diversion of 160 TMC of water for Telangana without causing excessive submergence in Maharashtra. Thereafter, an Inter-State agreement for construction of barrage near Tummidihetti Village on Pranahitha river was signed between the Chief Ministers of Telangana and Maharashtra on 8.3.2016. The Government of Telangana made modifications in the project by lower the FRL of the barrage from 152 m to 148 m to reduce the submergence area in both the states (Maharashtra – 209 ha & Telangana – 27 ha). It was also informed that the Government of Telangana decided to take up the projectand restricted it to Adilabad District with low cost and time with a change of name as *Dr. B.R. Ambedkar Pranahitha Project (Link-I).*

The present proposal is to construct a barrage across river Pranahitha, just near the confluence of the rivers Wardha and Wainganga near Tummidihetti Village in Adilabad District of Telangana. The project envisages construction of barrage across Pranahithariverto draw 20 TMC of water to provide irrigation facility in 80,937.128 ha of area benefitting 11 villages. PP proposes to construct 72.15 km long canal, which will begin from the right flank of Wardha river ensuing gravity flow in continuation to the canal alignment already proposed.Total land requirement for the project is about 5662.36 acres. The total cost of the project is about Rs. 4,204 Crores.

The project was earlier considered by theEAC in its meeting held on 11-12thAugust, 2016. After detailed deliberations, the EAC sought additional information on the following:

i. A 24 km long canal has beenconstructed for which TOR has been issued butthe MoEFCC has not issued any EC and now in the present proposed proposal, the same has been included. Status of project for which TOR has been issued be informed to the MoEFCC. The details of the project viz. location, start of construction of the canal, cost of the project, funds arranged for the same, etc. should be submitted to the MoEFCC. The PP must explain why this construction of 24 km canal should not be treated as a case of violation. The PP is to submit explanations to the Ministry before the matter is considered by the EAC for issue of TOR.

ii. The PP should submit NOCs/Agreements between Maharashtra & Andhra Pradesh (1978 GWDT award), between Telangana & Maharashtra Board as per provisions of Andhra Pradesh Reorganization Act, 2014/ Management and Development of Water Resources, Para 84 of Part IX).

The PPsubmitted that the information has already been given and the same is presented before the EAC. The PP, *inter alia* submitted the following:

i. An agreement for the constitution of Inter State Board for Dr. B.R. Ambedkar Pranahitha Chevella Sujala Sravanthi Project was entered into by theChief Ministers of erstwhile Andhra Pradesh and Maharashtra states on 5.5.2012. However, Maharashtra state disagreed for the proposalof keeping FRL of +152 m by erstwhile Andhra Pradesh. After formation of Telangana State,the engineering of the projectwas changedby reducing the FRL to 148 m to reduce submergence in Maharashtra.This was agreed bythe Chief Ministers of Telangana, and Maharashtra.
ii. CWC has given In-principle clearance on 16.10.2010.
iii. In the original proposal, 480 ha of reserved forest including 185 ha of Chaprala Wildlife Sanctuary submergence was involved. After the state formation, the project has been re-engineered and barrage has been proposed at 1.5 km upstream on Pranahithariver which does not cause any submergence of wildlife sanctuary and the sanctuary is 2.15 m from the barrage alignment. The CCF, Chandrapur has issued NOC for the project. Forest proposal has already been submitted to the PCCF, Govt. of Telangana.
iv. The erstwhile Government of Andhra Pradesh started the construction of 24 km canal in 2010 when TOR was approved and construction wasdone by earlier government with an intention to reduce the misery of people suffering from severe drought & scarcity of drinking water.
v. A copy of the Godavari Water Disputes Tribunal between Andhra Pradesh & Maharashtra (1979 & 1980), Copy of the Inter-state Board for Pranahita-Chevella Project, copy of the Inter-State Board between Maharashtra and Telangana & Agreement for Constitution of Inter-State Board between Telangana and Maharashtra have been submitted.
vi. Minutes of the Inter-State Board between Chief Ministers of Telangana and Maharashtra where the present proposal at FRL 148 m agreed have been submitted.

After detailed deliberations and considering all aspects of the project, the EAC **recommended** the project for grant of scoping/TOR clearance. The committee mentioned that the data already collected could be utilized for preparation EIA/EMP report, if data collected is not older than 3 years. The public hearing has to be conducted again as per the provisions of EIA Notification, 2006. The following additional ToR also have been suggested:

i. Concept of conjunctive irrigation may be practiced. This will increase the water availability, thereby increasing the irrigation potential.
ii. All the base line data should be within the period of the online submission of the proposal.
iii. Detailed information on species composition in particular to fish species from any previous study/literature should be included.
iv. Inventorization on flora and fauna should be carried out based on the primary/secondary data.
v. Solid waste management should be planned in details. Land filling of plastic waste shall be avoided and instead proposal for various uses may be proposed in the EMP report.
vi. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines.
vii.

Item No. 3.10 Kundah Pumped Storage HEP (4x125 MW) in Nilgiri District of Tamil Nadu by M/s TNEB - Extension of validity of Environmental Clearance.

The Chief Engineer, M/s Tamil Nadu Electricity Board, Government of Tamil Nadu made a detailed presentation of the project and *inter-alia,* provided the following information:

The project envisages construction of water conducting system anda powerhouse. All the other components are in existence for the last 40 years. The proposed pumped storage scheme will be located at about 1 km from the existing Kundah powerhouse 6 (Parson's valley Power House) in Nilgiri district. The existing Porthimund Reservoir (Capacity 2,100 Mcft) will be the Upper Reservoir, and the existing Avalanche-Emerald Reservoir (Capacity 5,500 Mcft) will be the Lower Reservoir. 18 ha forest land and 44.5 ha private land belongs to Tea Estate will be acquired for this project. The project is within buffer zone of Nilgiri Biosphere Reserve. No displacement of human population is involved in the project. Total cost of the project is about Rs. 1819.08 Cr.

The Environmental Clearance was granted on 8.5.2007 for 5 years as per EIA Notification, 2006 for commencement of construction work. Thereafter, the Ministry extended the validity of the EC on 9.9.2013 for 2 years (i.e. upto 30.6.2014) as special case subject to submission of physical and financial progress of the project and commencement of works.

It was informed that the validity of EC for River Valley & HEP is for 10 years. As per the provisions of EIA Notification, 2006, if the validity is counted as 10 years, in the present case the EC validity is upto May, 2017. It was also informed that as per amendment in EIA Notification vide dated 14.9.2016, a further provision of extension of validity of EC for 3 years is available/existing for River valley & HEP projects. However, the PP is requesting EC validity for 5 more years.

The request made by the project proponent for extension of validity of EC was considered by EAC. The PP mentioned that substantial progress has been made and they have completed pre-construction activities, evaluation of tender for EPCC packages I&II (for Civil and Hydro-Mechanical Works) of this project phase-I, is under process. Since, the entire project works will take about 5 years from now, the validity extension under EC is required for another 5 years.

After detailed deliberations and considering all the facts of the project as presented by the PP, the EAC **recommended** for extension of validity of EC initially for a period of 6 months in order to facilitate the PP to submit compliance and monitoring report from RO, MoEF & CC, Chennai including the geological details such as rock type, etc.If the report is satisfactory,extension of 2½ years could be granted.

Item No. 3.11 Palamuru-Rangareddy Lift Irrigation Scheme in Mahabubnagar District of Telangana - for Scoping/ToR clearance.

EAC was informed that the PP has withdrawn the proposal and the same was intimated to the Ministry on 23.2.2017. Hence the proposal was not considered.

Item No. 3.12 Dikchu HEP 96 MW in the District of North & East of Sikkim by M/s Sneha Kinetic Power Projects Limited - for amendment in Environmental Clearance.

EAC was informed that the PP didn't submit the additional information to the Ministry. But it waswrongly placed in the agenda. Therefore, the project couldn't be considered in the EAC meeting and was***deferred***.

Item No. 3.13 Lower Vansadhara Irrigation Project in District Rayagada, Odisha by Department of Water Resources, Government of Odisha – for reconsideration of ToR.

This project was earlier considered by the EAC in its meeting held on 30.12.2016 and presented the following:

"*The project proponent presented the details on the project. It was noted that the Culturable command area (CCA) of the project is 9,204 ha and is a Category "B" project as per the application submitted by the Government of Odisha. The project boundary is 3 km away from Chhattisgarh State and it is an interstate project. General Condition is applicable in the present case. Hence, the project has been considered at Central level as Category "A" project.*

It was noted that the Lower Vansadhara Irrigation Project consists of 2 irrigation projects envisages viz., i) Lower Vansadhara Irrigation Project Stage-I, constructing a barrage on Vansadhara River of length 366 m at Paninagar of Rayagada District & ii) A dam on Sana Nadi, tributary of Vansadhara river near village Khaira in Rayagada District of Odisha. The gross command (GCA) area is 31,641 ha and Culturable command area is 22,150 ha. The total land requirement for this project is 3316.174 ha out of which, 651.138 ha is forestland; 1443.13 ha is private land and Government land is 1221.90 ha. Total submergence area is 1365.239 ha. The total cost of the project is estimated to be Rs. 611.40 Crores.

The committee observed that the figures are not presented properly and thus, anomaly in the statistical data. The application should reflect all the details of the combined project and the same should be submitted again for consideration."

The Project Proponent (PP) and the Consultant, M/s WAPCOS, Gurgaon made a presentation of the project and *inter-alia*, provided the following information:

The project proponent submitted afresh application andpresentedthe same before the EAC. The committee noted that the proposed project consists of 3 components and will provide irrigation facility in 31,641 ha of area. It was informed that the project consists of 2 irrigation projects, viz. (i) Lower Vansadhara Irrigation Project Stage-I, construction of 366 m long barrage on Vansadhara River near Village Panidonger of Rayagada District and (ii) A 42.5 m high dam on Sana Nadi (tributary of Vansadhara river) near Village Khaira in Rayagada District ofOdisha and (iii) a left bank Gudari distributary (link canal). The gross command (GCA) area is 31,641 ha and Culturable command area is 22,150 ha. Total catchment area of the project is about 3,906 km^2. The total land requirement for this project is 3236.174 ha. Out of which, 651.138 ha is forestland; 1443.134 ha is private land and 1141.902 ha is Government land. Total submergence area is 1551.01 ha. The total cost of the project is Rs. 611.40 Crores.

The EAC after detailed deliberations and considering all the facts of the project as presented by the PP,***recommended*** scoping/ToR clearance for the project. The EAC also mentioned that since the acquisition of private land of about 1443.134 ha is involved, hence the "**land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines."**

Item No. 3.14 P.V. Narasimha Rao Kanthanpally Sujala Sravanthi Project in Warangal District of Telangana by Irrigation & CAD Department, Government of Telangana – for TOR.

The Project Proponent (PP) and along with the Consultant, EPTRI, Hyderabad made a detailed presentation of the project and *inter-alia*, provided the following information:

The project envisages construction of 28.2 m high barrage across Godavari river near Kanthanapalli Village in Warangal District of Telangana. A total of 1415.85 MCM of water is proposed to be diverted. The water will be utilized for stabilization of command area under Sriram Sagar Project (SRSP) Stage-I & II. Total land requirement is about 7,925 ha. Out of which 299.89 ha is forest land. Total submergence area is 4,170 ha. The project also envisages generation of 280 MW hydropower. Total cost of the project is about Rs. 10,500 crores. The Scoping/TOR clearance was accorded on 16.4.2012. Thereafter, validity of TOR was extended by 2 years.

The Scoping/TOR Clearance was accorded on 16.4.2012 for this project when the Andhra Pradesh State was not bifurcated. Now, the state is bifurcated into Telangana State and Andhra Pradesh State and the project falls in the bifurcated Telangana State. Accordingly, the project proponent (Telangana) made a separate proposal for Telangana state.

Now, the proposed project envisages construction of a barrage across Godavari river near Thupakulagudem on River Godavari 3 km downstream of existing J. Chokka Rao Devadula Lift Irrigation Scheme. The proposed project will stabilize the existing Devadula LIS having command area of 2,51,310 ha and also provide irrigation facility for a command area of 3,04,000 ha of SRSP Stage I & II. The project envisages 50TMC of water for stabilising the existing command and 50TMC for drinking water for enroute villages.

The EAC after detailed discussions observed that the proposed barrage is 1132 m long and stores about 64MCM (2.28 TMC) of water. It was noted that the existing Devadula LIS intake point will continue to be used to stabilize the command of Devadula LIS and SRSP Stage I & II of an area of 2,51,310 ha & 3,04,000 ha, respectively and these are existing projects andare in operationfor many years. It was informed that for both the projects, CWC clearances have been obtained. Total land requirement is about 674.18 ha. Total submergence area is 580.18 ha and the pondage area is within the river flanks only. The project boundary is at a distance of 2.5 km from Chhatisgarh. The estimated cost of the project is Rs. 2121 crores. The EAC also expressed that a provision of 50 TMC for drinking water appears to be on the higher side and actual requirement may be reassessed while conducting the study for EIA/EMP.

The EAC after detailed deliberations and considering all the facts of the project as presented by the PP,***recommended*** scoping/ToR clearance for the project with a condition that in principle clearance of CWC be submitted along with EIA & EMP report.The committee also suggested that -

i. Recycle water be used/ utilized for industries and horticultural purpose.
ii. The irrigation efficiency should also be worked out during the study.
iii. The project envisages stabilization of existing Devadula LIS of command area of about 2.5 lakh ha by constructing a barrage across river Godavari near the confluence with river Indravati.
iv. The performance report of the LIS may also be prepared based on the ground realities.
v. The solar power also may not be a cheaper alternative for running such high head LIS. This aspect may be looked into in details.
vi. The arguments, viz. need for providing employment to large number of people who are residing in rural areas and dependent on agriculture, overlooking the norms of benefit- cost ratio in light of erratic changes in the prices of agricultural produce, supplying water to agricultural lands at high altitudes, achieving self sufficiency to the state in food grains and so on in justification may not be tenable in the context of economic returns/improving the economy of the state. Water is not a solution everywhere.
vii. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines.

Item No. 3.15 Conducting of Cumulative Impact Assessment and Carrying Capacity Study of River Basins – For reconsideration of standard ToR of River Valley Projects.

For ensuring environmental, ecological and Bio-diversity sustainability, Cumulative Impact Assessment & Carrying Capacity Study (CIA & CCS) must precede consideration of individual River Valley Projects (RVPs) in a river basin for granting EC and FC. These studies have been used as a road map and as a tool for taking scientific decision-making. MoEF&CC, vide its OM dated 28.05.2013, has made these studies mandatory for all River Valley projects to be eligible for granting EC.

Further, it was informed that initially, vide OM dated 28.05.2013, it was mandated that State Governments concerned should conduct such studies and submit the report to this Ministry. Later on, for a meaningful outcome of these studies by way of factoring into environmental concerns, it was proposed that it would be appropriate that the MoEF&CC take over these studies. Accordingly, this Ministry decided to take over all such studies from the State Governments and from CWC as and where is basis, as conducting of such study falls primarily in the domain of the MoEF&CC.

The Consultant gave a presentation of ToR prepared by the Ministry which have been earlier used as Standards ToR for preparation twelve River Basin Studies.

Standard TOR for conducting of River Basin Studies

Objectives of the Study:

The study envisages providing optimum support for various natural processes and allowing sustainable activities undertaken by its inhabitants. The same is determined in terms of the following:

a) Inventorization and quantification of the existing relevant resources (such as water and land) and their production, consumption and conservation levels.
b) Review of existing and planned developments of water and other resources as per the master plan, particularly in terms of their impacts on various facets of environment, such as water (quantity and quality), land use and land cover, soil erosion and transport, etc.
c) Water availability assessment by CWC to be considered and studied so that CIA & CCS can be done effectively.
d) Determination of regional ecological fragility/ sensitivity based on hydrological, meteorological geo-physical, biological, socio-economic and cultural attributes.
e) Review of water sharing agreements and/or allocation by awards of tribunals among the party States.
f) Scenarios to be developed for cumulative impacts of existing and planned water resources projects in the basin and analysed.
g) Environmental flow assessment downstream of each project should also be carried out.

Study Area:

The study area to be covered in a River Basin Study (RBS) would cover a river basin / sub-basin. The study should consider all the major and medium river-valley projects in the study river basin, completed, under development and proposed.

Collection of Data:

The study should be based on collection of primary data for at least one water year. Emphasis may be laid on Terrestrial and Aquatic Biodiversity.

Data collection and analysis should be accomplished through the steps outlined next.

The estimation of supportive capacity of the basin should involve the preparation of the existing scenario, i.e. the preparation of detailed database of the study area. This should be accomplished through the steps outlined in following section:

1. **Meteorology:** The various meteorological data are to be mainly collected from India Meteorological Department (IMD) for meteorological stations located within the study area or in the vicinity of the study boundary. The data on various aspects such as rainfall, temperature, wind, humidity, radiation, etc. should be collected and analysed. If additional reliable quality data are available from state government or other agencies, the same may also be collected and used.

2. **Water Resources:**

   a) Collection of historical hydrological and hydro-meteorological data at various observation stations in the study basin for at least past 30 years or as available.
   b) Collection of groundwater observation data in the study basin including hydro-geological characteristics.
   c) Ground Water utilization can be assessed as a part of study, if possible depending on the basin to basin.
   d) Collection of salient features of various existing and proposed projects in the study area.
   e) Collection of data of existing and estimation of future demands, viz. municipal, irrigation, power generation, industrial, etc.
   f) Review of past studies/reports/data etc.
   g) Review of drainage characteristics of the study area, including various surface water bodies like rivers and lakes.
   h) Compilation of existing water sharing agreements/ Tribunal awards,
   i) Analysis of past assessments of water availability and assessing the water availability as per updated data for the system as a whole and at existing ongoing/proposed project locations on annual/ seasonal and monthly basis.
   j) Estimation of sediment load at various points in the study based on available secondary data.
   k) A note on water triggered disasters in the area, e.g., flood and droughts.

3. Water Quality

a) Secondary data/Primary data is to be collected for water quality in the study area. In addition to above, information on human settlement, sewage generated and mode of collection, conveyance treatment and disposal of sewage should also be collected.

b) The water quality monitoring should be conducted at different locations in the study area. The frequency of sampling should be once in a month for 12 months. The various parameters which include pH, Dissolved Oxygen (DO), Electrical Conductivity (EC), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Total Alkalinity, Total Hardness, Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Nitrates, Chlorides, Sulphates, Phosphates, Sodium, Calcium, Magnesium, Potassium, Iron, Manganese, Zinc, Cadmium, Lead, Copper, Mercury, Arsenic, Total Chromium and Total Coliform. Fluoride ratio to be calculated to assess the water quality.

4. Flora

Secondary/ primary data need to be collected for assessment of flora:

a) Characterization of forest types in the study area and extent of each forest type and density.
b) Information on vegetation pattern, dominant tree species and floral diversity.
c) Information on economically important species in the study area.
d) Information on endemic floral species found in the study area, if any should be assessed as a part of the study.
e) Location of wildlife sanctuaries, national parks, eco-sensitive zone, if any, in the study area.

5. Terrestrial Biodiversity

At least three season primary data to be collected and it should cover the following:

a) Preparation of comprehensive checklist of flora (Angiosperms, Gymnosperms, Lichens, Pteridophytes, Bryophytes, Fungi, Algae etc.) with Botanical and local name.
b) Importance Value Index of the dominant vegetation at various sampling locations.
c) Frequency, abundance and density of each species of trees, shrubs and herbs at representative sampling sites should be estimated.
d) Identification and listing of plants genetically and biologically; their economical and medicinal importance be described.
e) Major forest produce, if any, and dependence of locals on the same in the forests observed in the study area.

Fauna from the Secondary/Primary Sources

a) Inventory of Birds (resident, migratory), land animals including mammals, reptiles, amphibians, fishes etc. reported & surveyed in the study area should be prepared.
b) Presence of Rare Endemic & Threatened faunal species in the study area as per the categorization of IUCN Red Data list and as per different schedules of Indian Wildlife Protection Act, 1972 should be studied.
c) Presence of endemic faunal species found in the study area, if any, should be assessed.

d) Existence of barriers and corridors for wild animals, if any, in the study area should be covered.

e) Identification of threats to wildlife in the region due to the projects should be assessed and documented.

f) Presence of National Parks, Sanctuaries, and Eco-sensitive Zones etc. in the study area should be documented.

g) Migratory path of the wildlife animals to be identified and documented.

h) Biodiversity studies and wildlife data to be conducted using latest tools such as line transect for herbivorous mammals, sign survey for carnivores (tiger, leopard, jungle cat, etc.) and point counts for bird species to be collected from primary/secondary sources.

6. Aquatic Flora and Fauna:

a) Presence of major fish species to be documented.

b) Inventory of migratory fish species, migratory routes and period of migrations of various fish species to be documented based on primary or secondary sources.

c) To augment the existing data, a fisheries survey should be conducted at different locations in the study area. The survey should be conducted once per month for three months. The details of the monitoring work should be carried out as per the following:

i. Assessment of biotic resources with special reference to primary productivity, phytoplankton, zooplanktons, macro-invertebrates, especially % of clean water species (Ephemeroptera, Plecoptera and trichoptera) and pollution tolerant species (chironomidae, anelidae, mollusks, etc.)in the study area.

ii. Short term and long term impacts on fish diversity and their recruitment to be studied as a part of study.

iii. Breeding season with flow requirement for fishes to be assessed.

iv. Flow requirement for the fish migration needs to be assessed.

v. Biomass load analysis to be adopted for conducting of study on fishes.

vi. Fish composition and their conservational status needs to be assessed.

vii. Presence of breeding and spawning sites of fish species in the study area should be studied and documented.

7. Impact due to River Valley Project (RVP) Development:

a) Modification in hydrologic regime due to diversion of water for River Valley Project.

b) Depth of water available in river stretches during lean season and its assessment of its adequacy vis-à-vis various fish species.

c) Length of river stretches which are not directly impacted due to commissioning of River Valley Projects.

d) Impacts on discharge in river stretches during monsoon and lean seasons due to diversion of flow.

e) Impacts on water users in terms of water availability and quality.

f) Impacts on aquatic ecology including riverine fisheries (fish diversity, breeding, recruitment and livelihood of fisher folk as a result of diversion of flow.

g) Assessment of maintaining minimum releases of water during lean season, non-lean non-monsoon (NLNM) and monsoon seasons to sustain riverine ecology, maintain water quality and meet water requirement of downstream users.

h) Impact due to loss of forests ecology.

i) Impact on Rare, Endangered and Threatenedspecies & impacts on economically important plant species.

j) Impacts due to increased human interferences.

k) Impacts on flow quality and quality in various regions of the basin due to agricultural practices.

8. Additional Information:

a) Details on Irrigation, Urban, Tourism and Fisheries developments to be included in the report.

b) A note on impact of RVPs on floods and droughts in the study basin.

c) Maps that should be included: Index map, DEM, topography, map of river network, land use and land cover, soil map, location of hydro-meteorological monitoring stations, location of projects and Forest Cover. Other relevant maps that help in better visualization should also be included.

9. Cumulative impacts of commissioned, under construction and proposed projects in the basin to be assessed by integrating biodiversity profile of the projects sites. Different scenario models to be used to assess the cumulative impacts.

10. As part of cumulative assessment, a pristine/ unaltered tributary which may be preserved in natural conditions (to the extent feasible) may be identified for long-term preservation of ecosystem in the river basin.

11. Assessment of Carrying capacity (both ecosystem and water resources) for the river basin in terms of River Valley Projects to be determined based on some appropriate model. The impact of River Valley Projects and those of the projected future developments to be estimated based on the model used and would involve:

a) Study of various scientific approaches and methodologies developed to assess Carrying Capacity of an ecosystem, adopt the approach that suits the requirements of the study area and prepare a report.

b) Identify River Valley Projects related factors like construction of roads, vehicular movement of man and material, inflow of temporary labor, demographic changes post commissioning of River Valley Projects, tunnel excavation (blasting and muck disposal), noise, construction of transmission lines, canals, availability of water, water diversion for consumptive and non-consumptive uses, population influx, loss of forest area etc. that affect components that limit RVPs development.

c) Estimate carrying capacity in terms of the hydropower potential and also irrigation, industrial use, that can be sustainably developed in the study area for selected components (limiting factors) mentioned below.

   i. Land (Land use and land cover, Landslides).

   ii. Water (Drinking, Irrigation, Power, River ecology, Water Quality, Environmental Flows).

iii. Minimum distance between two successive Projects

iv. Air and Noise pollution

v. Biological (Terrestrial Ecosystem: Flora, fauna and avian-fauna, Aquatic Ecosystem)

vi. Social (Demography, Urbanization, Social and cultural, Tourism and economy)

d) Review selected biological indicators developed to assess and implement carrying capacity.

e) Analyze selected components (limiting factors) in respect of carrying capacity for different projects.

f) Estimate additional stressors in the area due to River Valley Projects.

g) Assess carrying capacity for River Valley Projects in terms of selected components.

h) Clear recommendations for implementing carrying capacity based sustainable River Valley Projects development in the study area should be given.

Item No. 3.16 Kameng River Basin Study in Arunachal Pradesh – for re-consideration of Final Report.

The findings of the Kameng RBS was also discussed during 1st and 2nd EAC meeting held on 30th December, 2016 and 30-31st January, 2017, respectively. The consultant made a presentation regarding the findings of the Kameng Basin Study. Further, the consultant submitted the response of comments raised during 2nd EAC meeting held on 30-31stJanuary, 2017.

A total 44 HEP have been considered for study out of which total 16 projects comes under category A and 14 projects are listed Category B and C respectively.The details are current status category A & B are given below:

Status of Projects in the Study Area (Category-A)

S. No.	Name of Project	River	Allotted capacity (MW)	Revised/ Proposed capacity (MW)	Status
1	Kameng-II	Kameng	600.00	600.00	-
2	Khuitam	Digen	29.00	66.00	• EC granted vide letter no. J-12011/49/2009-IA.Idated 28.01.11 by MoEF&CC
3	Talong Londa	Kameng	160.00	225.00	• EC recommended by EAC in 80th meeting held on 11thDecember, 2014
4	Kameng Dam	Kameng	600.00	480.00	• ToR for 480 MW was considered in 57th EAC meeting on 27-28th April, 2012 • Committee did not accept the proposal • Possibility for site changes to be explored.
5	Papu	Papu	90.00	90.00	• ToR was accorded on 22 March, 2013 in 65th EAC Meeting

S. No.	Name of Project	River	Allotted capacity (MW)	Revised/ Proposed capacity (MW)	Status
					• Extension of ToR was accorded on 26thOctober, 2015 in 88th EAC Meeting.
6	Pachuk-I	Pachuk	60.00	84.00	• ToR was accorded on 26thDecember, 2011
7	Pachuk-II	Pachuk	60.00	60.00	• ToR was accorded on 26thDecember, 2011
8	Pachuk-II Lower	Pakke Bung	45.00	51.00	-
9	Badao	Kameng	70.00	70.00	• TOR accorded on 7th October 2010
10	Kameng-I		1120.00	1120.00	-
11	Bichom ST-I			190.00	Project falls in Gongri/Dogri river, the tributary of Bichom river at downstream of Khuitam HEP (66 MW) & upstream of Dinchang HEP (252 MW). The TWL of Khuitam 1173m and FRL of Dinchang HEP is 1138 m. Thus, there is a level difference of 35 m only in between these projects. Therefore, the project location as proposed may not be viable.
12	Bichom-II			205.00	Project is located at longitude 92°37'00"E & latitude 27°18'00"N. As such the project falls in Bichom river and is located at downstream of Nafra HEP (120 MW) & upstream of Bichom Dam of Kameng HEP (600 MW). The TWL of Nafra HEP is 796.20 m and FRL of Bichom Dam is 770 m. Thus, there is a level difference of 26.2m only in between these projects. Thus, the location as proposed may not be viable.
13	Chanda			110.00	-
14	Kimi			535.00	Conceptual Stage
15	Pakke			110.00	Conceptual Stage
16	Seba			80.00	Conceptual Stage

Status of Projects in the Study Area (Category-B)

S. No.	Name of Project	River	Allotted capacity (MW)	Revised/ Proposed capacity (MW)	Status
1	Saskangrong	Saskangrong	7.00	45.00	• TOR accorded by SEAC and ToR extended in SEAC meeting Feb., 2014.
2	Digin	Sangti	46.00	46.00	• TOR accorded by SEAC and ToR extended in SEAC meeting Feb., 2014
3	Meyong	Tim Kong Rong	38.00	38.00	• TOR accorded by SEAC in SEAC meeting September, 2014
4	Phanchung	Pachi	60.00	45.00	• Granted EC by SEIAA on the basis of MOM on 19-21st March, 2016
5	Tarang Warang	Pacha	30.00	36.00	-
6	Marijingla	Kameng	60.00	46.00	• Applied for ToR on 15thJuly, 2011 but EAC did not considered.
7	Pakke Bung-I	Pakke Bung	15.00	40.00	• TOR accorded on 18th-20th September, 2014 by SEAC on MOM
8	Marjingla Lower	Kameng	48.00	48.00	• TOR accorded on 18th-20th September, 2014 by SEAC on MOM
9	Para	Para	55.00	45.00	• TOR accorded on 7th October, 2010
10	Rebby	Para	31.00	31.00	-
11	Lachung	Pachi	41.00	41.00	-
12	Papu Valley	Papu	35.00	48.00	• EC granted vide letter no. FOR (Env-18/2010/EIAPVHEP/58-63dated 23.07.13 by SEIAA) • EC revoked vide letter no. FOR (Env-18/2010/EIAPVHEP/191-98dated 26.09.14 by SEIAA)
13	Pasar			32.00	Conceptual Stage
14	Satuk			47.00	Conceptual Stage

The list of HEPs proposed on Kameng river and its tributaries is given below:

S. No	Name of the river	Name of the Hydroelectric projects	Total no. ofHEPs
1.	Kameng	Kameng-II, Talong Londa, Kameng Dam,Marjingla, Marjingla Lower, Badao, Kameng-I, Chanda	8
2.	Timkong Rong	Saskangrong,Meyong	2
3.	Phudung	Phudung, Dikshi	2
4.	Sangti	Digin	1
5.	Gang	Khuitam	1
6.	Tenga	Tenga	1
7.	Nargum	Denzi, Lower Ngorgun, Upper Ngorgun, Ankaling	4
8.	Pachi	Pachung, Lachung	2
9.	Papu	Papu, Papu valley, Pasar	3
10.	Kaya	Pichang	1
11.	Pacha	Sepla, Tarang Warang, Pacha	3
12.	Pachuk	Pachuk-I, Pachuk-II, Satuk,, Pachuk Lower	4
13.	Pakke Bung	Pakke Bung-I, Pakke Bung-II, Pakke Bung-III, Pakke Bung-IV,	4
14.	Para	Para, Rebby	2
15	Bishum	Debra, Dipre, Ditchi, Dibri	1
16	Gongri	Bichom ST-I	1
17	Bichom	Kimi & Bichom-II	2
18	Pakke	Sebu, Pakke	2
	Total		**44**

Three sanctuaries,viz. Eagle Nest, Sesa Orchid and Pakhui are situated in the Kameng river basin area. The findings of HEC-RAS model studies for various scenarios were also covered during the presentation. The scenarios covered are given in below.

Various scenarios covered as a part of HEC-RAS modeling

S. No.	Season	Flow Release(average of months)	Months
1	Monsoon Season	100%	June-September
2	Monsoon Season	30% to 15% at 1% ***interval***	June-September
3	Non-Monsoon non lean season-1	100%	October-November
4	Non-Monsoon non lean season-1	30% to 15% at 1% interval	October-November
5	Lean Season	100%	December-March
6	Lean Season	30% to 15% at 1% interval	December-March
7	Non-Monsoon non lean season-2	100%	April-May
8	Non-Monsoon non lean season-2	30% to 15% at 1% interval	April-May

The recommendations along with recommended Environmental Flows for HEPs in various sub-basins of Kameng river basin were also discussed in the EAC meeting.

Apart from major recommendations of the report, the State Government of Arunachal has dropped 2 nos. of projects namely Bichom Storage-I HEP (190 MW) and Bichom-II HEP (205 MW) for which detailed discussions was done in the EAC meeting held on 30.12.2016.

The response of Comment raised in 2nd EAC meeting held on 30th-31st January, 2017 is given below:

Comment raised in 2nd EAC meeting held on 30th-31st January, 2017	**Response**
EAC decided that in some of the projects based on the approved hydrology, the months considered for assessment for Environmental Flow for various season needs to be relooked.	Covered under recommendations in Kameng Basin Study report.
A site specific study shall be carried out for Pakke Bung-I & Pakke Bung-II HEPs.	Covered under recommendations in Kameng Basin Study report.
Integrated operation of the whole system should be studied. Further, the data of limited sites have been used to estimate flows at a number of sites and its implications needs to be understood.	Most of projects in Kameng Basin are Run-of-River scheme and no storage scheme is envisaged. Considering the maximum one day storage in upstream projects and water shall be released during peaking operations, which will be stored in the downstream project. In RoR schemes, there will be a time lag on first day of operation of Upper HEP. Downstream HEP shall start functioning along with Upper HEP from second day onwards.
The consultant also needs to clearly indicate how each point in TOR has been addressed. This will help in proper appreciation and use of the study in decision making.	Report has been prepared based on the modified ToRmentioned in the 86th EAC meeting held on 25.08.2015
The matter of conflict of interest is settled, keeping in view the objective assessment required for the study and evaluation of the report by experts.	-
The study should involve collection of one season primary baseline data for monsoon season for terrestrial and aquatic ecology.	Primary baseline data collection during monsoon season for terrestrial and aquatic ecology has been conducted in the month of September, 2015.
Study should be completed in 12 months period.	ToR was finalised in the 86th EAC meeting held on 25.08.2015 and Draft Report was submitted in the month of August, 2016.
Point-wise response to comments of 86th EAC meeting held on 25.08.2015	
Impacts to be assessed as a part of EIA studies for individual projects in the basin.	Impacts on modification in hydrologic regime, and Bio-diversity for individual projects have been covered as a part of the study.
Key Aspects to be covered as a part of Environmental Management Plan to be covered as a part of EIA studies for individual projects in the basin.	• Based on the available data, and river cross sections, Environmental flows have been suggested. • Environment Management Plan for the following aspects have been covered. ➢ Impacts on Economically important plants & Medicinal plants. ➢ RET, floral and faunal species.

The issues again raised in the 3rd EAC meetingand the responses are as follows:

- EAC raised the concern about the hydrological series in various projects which are based on the recent data.

  In this connection; consultant has given the clarification that hydrological data used for the analysis are based on the data provided by the project proponent and the same data has been used.
- EAC also raised the concern that Environmental Flows shall not be linked with the dependable year flow series.

  In this connection; consultant has given the clarification that project wise absolute values of Environmental Flows in various season has been given the Final Report.

After the detailed presentation Kameng Basin Study was ***recommended*** for approval.

Item No. 3.17 Any Other Items with the Permission of the Chair

The following itemswere taken up for the appraisal of the EAC afterapproval by the Chairman.

Item No. 3.17 (a) Kaleshwaram Project in Karimnagar District, Telangana by Irrigation and CAD Department, Government of Telangana for consideration of ToR.

The Project Proponent (PP)along with the Consultant, EPTRI, Hyderabad made a presentation of the project and *inter-alia,* provided the following information.

The project envisages construction of a barrage across River Godavari near Medigadda village across River Godavari in Karimnagar District of Telangana state for diversion of 180 TMC of water for providing irrigation facility in 7,38,851 ha area covering 7 Districts, namely Adilabad, Karimnagar, Nizamabad, Warangal, Medak, Nalgonda and Rangareddy. The projectalso proposes to provide drinking water facility for Hyderabad and Secunderabad cities. This is an Interstate project and boundary of the project is nearer to Maharashtra state and 302 ha of area likely to be submerged in Maharashtra. Total land requirement is about 32,000 ha, out of which 2866 ha is forestland. The total submergence area is about 13,706 ha. In addition to Medigadda barrage, 2 more barrages between Medigadda and Sripada Yellampally Project are likely to be constructed, one at Annaram and the other at Sundilla. The total length of water canal system is about 1,832 km. Total estimated cost of the project is about Rs. 80,499.71 Crores and it is proposed to be completed in 3 years.

The project was considered by EAC in its meeting held on 30-31stJanuary, 2017. The committee after detailed discussions observed that the techno-economic feasibility of the project produced by PP and in-principle CWC clearance was required to be submitted. The project proponent informed that the DPR has already been submitted to CWC. The PP also informed that the project is in scoping stage and CWC clearance will be provided at EC stage. It was intimated to the committee that the following are prescribed standard TOR:

i. Hydrological studies/data as approved by CWC shall be utilized in the preparation EIA/EMP report. Annual water yield should be given in the report.
ii. 10 daily flow serieswith 90%, 75% and 50% dependable year flow are to be presented in EIA report.
iii. For sedimentation rate, direct sampling of river flow is to be done during EIA study. Themeasurement should be conducted for minimum 1 year.
iv. Set-up a G-D monitoring station and few rain gauge stations in the catchment areaand collect the data during investigation.

It was clarified that the project is at scoping stage for conducting the study and collecting the data for the project within 10 km radius and CWC clearance at this stage may not be necessary. The PP already submitted the application to CWC.

The EAC after detailed deliberations and considering all the facts of the project as presented by the PP,***recommends***scoping/ToR clearance for the project with a condition that in principle clearance of CWC be submitted along with EIA & EMP report. The EAC alsonoted that since the land acquisition is involved, people whose**land is acquired for the project shall be suitably compensated in accordance with the law of the land and the prevailing guidelines.**

Item No. 3.17 (b) Morand-Ganjal Irrigation Project in Hosangabad District of Madhya Pradesh by M/s Narmada Valley Development Authority - For reconsideration of EC.

The Project Proponent (PP) and the Consultant, M/s R.S. Environlink Technologies Pvt. Ltd, Gurgaon, made a presentation of the project based on the queries raised in the EAC meeting held during 30-31stJanuary, 2017 and *inter-alia*, provided the following information:

i. A detailed list of plant diversity including herbaceous flora and total number of tree species in the submergence area.
ii. Measures to conserve endemic and endangered species and their conservation.
iii. Information on the total ecological services and their values provided by biodiversity of the area under submergence and steps for mitigating their losses.
iv. A list of fish species and their migratory nature at the upstream/downstream of dam including their period of migration.
v. The status of these Fish species as per IUCN/NBFGR listed under Wildlife Conservation Act/Biodiversity Act was also given.
vi. Justification for e-flow requirement, supporting the Umbrella Fish Spices Diversity and their migration period.
vii. Inventorization on the information on wildlife population density in the project area as this project area is surrounded by number of protected areas (Ratapani Sanctuary, Melghat Tiger Reserve, etc.), inventorization on prey density (herbaceous animals) around the project area from secondary sources.

The PP informed that there are some minor deviations in the land requirement figures andthe corrected in figures are presented below:

Description of Land	**Morand project (ha)**	**Ganjal Project (ha)**	**Total (ha)**
Forest Land	1501.14	870.00	2371.14
Government Land	250.00	134.97	384.97
Private Land	685.52	769.11	1454.63
Total	**2436.66**	**1774.08**	**4210.74**

It was also informed that 8 villages are likely to be submerged (2 – fullyand 6 - partially) due to the proposed project. Regarding presence of wildlife in the project area, it was mentioned thataccording to 2010 & 2014 Wildlife Census, the following were observed in an area of 25,395 ha in Morand and Ganjalregion:

The project proponent intimated that the environmental flow releases have already been explained in the earlier EAC meeting held on 30-31st January, 2017. The river cross sections for the critical downstream reaches of about 2 km below the Morand and Ganjal dam sites at

200 m were used for simulation. The MIKE 11 softwarehas been used to workout the release. The flow releases were simulated to work out depth and velocity during different release scenarios. Two (2) identified flow seasons wererepresented and simulatedin the model, viz. High flow & Low flow periods and compared with the natural conditions. The details are presented below:

Project	**Flow period**	**Recommended Release (cumec)**	**Duration (indays)**	**Equivalent volumetric release (MCM)**
Morand Dam	High flow period	8.39 (15%)	61	44.21
	Low flow period	0.30 (20%)	304	7.87
	Total annual requirement E-flows- **52.08 MCM**			
Ganjal Dam	High flow period	3.36 (15%)	61	17.7
	Low flow period	0.15 (25%)	304	3.94
	Total annual requirement E-flow release - **21.64 MCM**			

It was intimated that amarginally higher provision of 52.51 MCM as e-flow release for Morand dam and a higher provision of 29.68 MCM as e-flow release for Ganjal dam have been made in the DPR.

The committee noted that the budgetfor environmental management plan (EMP) has been revised from Rs.741.45 crores to Rs.742 crores.

After detailed deliberations and considering all aspects of the project, the EAC ***recommends the projectfor grant of Environmental Clearance***with the following additional conditions:

i. On-line monitoring system will be installed to measure and record the E-Flow releases.
ii. Stocking of fish in reservoir should be based on the area and size of fish. It should be implemented in consultation with the central /state department having expertise in reservoir fisheries.
iii. Local indigenous varieties of plants to be grown and maintained till their full growth including gap filling.
iv. Skill mapping be undertaken for the youths of the affected project area and based on the skill mapping, the trainings to the youths be incorporated for their appropriate engagements in the Project.
v. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines and all commitments made during the Public Hearing shall be fulfilled.
vi. The plastic waste shall be disposed after exploring various alternatives and not by land filling.
vii. Six monthly compliance reports shall be submitted by the project proponent to Regional Office, MoEF& CC, Bhopal without fail until completion of the works.

Item No. 3.17 (c) Expansion of Upper Bhadra Lift Irrigation Scheme (UBLIS) in Chikkamagalur District, Karnataka by M/s Karnataka Neeravari Nigam Ltd, Government of Karnataka - For Environment Clearance

The proposal was appraised by the re-constituted EAC for River Valley Projects which was earlier held in its 1st Meeting on 30 December, 2016. After detailed deliberations and considering all the facts of the project as presented by the PP, the EAC suggested the following members shall visit the site and submit a report on the viability of the scheme, etc.:

1. *Dr. Dinkar Madhavrao More* - *Member*
2. *Dr. R. Vasudeva* - *Member*
3. *Dr. Jai Prakash Shukla* - *Member*

Therefore, the committee deferred the proposal. The following members of the Sub-committee visited the project site of UBLIS from 16-19thFebruary, 2017:

1. Dr. D.M. More
2. Dr. Jai Prakash Shukla

Dr. R. Vasudeva could not participate in the visitas he was notfeeling well. Dr. S. Prabhu, Scientist"C" of MoEF & CC accompanied the team during the visit to the project.

The project site was visited by the Sub-Committee along with the Chief Engineer, KNNL, Upper Bhadra Project Zone Chitradurga, and the site team right from Superintending Engineer to Assistant Engineer deployed on construction of various components of the project. The representatives of the consultant, M/s Environmental Health & Safety Consultants Pvt. Ltd. Bengaluru was also present during the visit.

The following components of the project were visited:

1. Command area of the Tumkur Branch Canal (Right Bank Canal of UBLIS)
2. Vanivilas Sagar dam across river Vedavathi,
3. Chitradurga Branch Canal (Left Bank Canal of UBLIS)
4. Tunnel from where the branch canals off take.
5. Upper Bhadra Main Canal conveying water to tunnel.
6. Bhadra Dam across river Bhadra.
7. Link canal from reservoir Tunga to reservoir Bhadra.
8. Pump houses of four lifts.
9. Command of Bhadra Dam and
10. Aquaduct on Upper Bhadra main canal.

Dr. D.M. More, explained the details of the site visit and some observation of the site visit (a copy of the Site Visit of the Sub-Committee is enclosed) during the EAC meeting. After deliberation and considering the facts provided by the PP in the earlier EAC meeting held on 30th December, 2016, the EAC **recommends the project*for grant of Environmental Clearance*** with the following additional conditions including some observation made by the Sub-committee:

i. Lifting of water is sizable i.e. 21.5 TMC. The cost of lifting per unit of water (cum) may also be worked out and submitted.
ii. Suitability of farming high-density crops like groundnut, etc. to be examined with drip irrigation method and submitted.
iii. Land acquired for the project should be suitably compensated with the prevailing guidelines and all commitments made during the Public Hearing should be fulfilled.

iv. Certified compliance report of the EC conditions of the existing scheme should be submitted by the PP from RO, MoEF&CC, Bengaluru.
v. Solid waste management should beplanned out in details. Land filling of plastic waste shall be avoided and instead proposal for various uses may be identified and submitted.
vi. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines and all commitments made during the Public Hearing shall be fulfilled.
vii. Skill mappingof the human resources available around the project area is to be undertaken and on the basis of the database generated, variousoptions of their livelihood be preparedkeeping in view the needof the market.

Asthere was no Agenda Item left for discussion, the meeting ended with thanks to the Chair.

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Attendant Sheet of the EAC members:

LIST OF MEMBERS

3rd MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) FOR RIVER VALLEY & HYDROELECTRIC PROJECTS

DATE : 2-3rd March 2017

TIME : 10:30 AM to 5:30 PM

VENUE : TEESTA MEETING HALL, VAYU WING, GROUND FLOOR, INDIRA PARYAVARAN BHAWAN, NEW DELHI

Sl.No.	Name of Member	Signature
1.	Prof. Sharad Kumar Jain, Chairman National Institute of Hydrology, Roorkee - 247 667, India.	
2.	Dr. P. Pradeep Mujumdar, Member Professor, Deptt. Of Civil Engg., Indian Institute of Science, Bangalore, Karnataka	
3.	Shri. Sharvan Kumar, Director Member, Central Electricity Authority (CEA) Sewa Bhawan, R. K. Puram, Sector-1, New Delhi - 110 066	
4.	Shri N. N. Rai, Member Director, Central Water Commission (CWC) Sewa Bhawan, R. K. Puram New Delhi -110 066	
5.	Dr. J.A.Johnson, Member Scientist -D/E Wildlife Institute of India (WII) Post Box No. 18 Chandrbani, Dehradun - 248 001	
6.	Dr. B. K. Das, Member / Dr. A. K. Sahoo Director, Central Inland Fisheries Research Institute (CIFRI)	

7.	Dr. Vijay Kumar, Member/Dr. AK Sahu Scientist -F, Ministry of Earth Sciences, Prithvi Bhavan, IMD Campus, Opp. Indian Habitat Centre Lodhi Road, New Delhi - 110 003	Ab.
8.	Prof. Govind Chakrapani, Member Department of Earth Sciences, Indian Institute of Technology Roorkee, Roorkee - 247 667, Uttarakhand.	Ab.
9.	Dr. Chetan Pandit, Member Bunglow 119, Satantara Society, DSK Vishwa, Puna - 411 04, Maharashtra.	2/8/17
10.	Dr. Dinkar Madhavrao More, Member 1/7, Pritam Nagar, Karve Raod Kothrud Pune - 411 038, Maharashtra.	28/2/2017
11.	Dr. R. Vasudeva, Member Department of Forest Biology and Tree Improvement, College of Forestry, Sirsi - 581 401, Karnataka	Ab.
12.	Prof. S.R. Yadav, Member Department of Botany, Shivaji University, Kolhapur 416004	S.R. Yadav 2/3/2017.
13.	Dr. Jai Prakash Shukla, Member Principal Scientist Water Resources Management and Rural Technology CSIR - Advanced Materials and Processes Research Institute, (Formerly Regional Research Laboratory)	Ab.
14.	Dr. Kerketta, Member Secretary Director (IA-1) 3rd Floor, Vayu Wing, IP Bhawan Jor Bagh, New Delhi	7/3/17

Approval of the Chairman:

Subject: **Minutes - 3rd meeting of EAC (RVH)**
To: "Dr S. Kerketta" <s.kerketta66@gov.in>,
"Dr S. Kerketta" <suna1466@rediffmail.com>
Cc: Gyanesh Bharti <gyanesh.bharti@ias.nic.in>

Date: 03/28/17 04:32 PM
From: Sharad Jain <s_k_jain@yahoo.com>
Reply-To: Sharad Jain <s_k_jain@yahoo.com>

Minutes_3rd_EAC_RVH.docx (94kB) Minutes_3rd_EAC_RVH.pdf (649kB)

Dear Dr Kerketta,
I am sending the approved minutes of the third meeting of EAC (RVH).

Regards,

Sharad Jain
NIH Roorkee