

Minutes of the 27th Meeting of the Expert Appraisal Committee for River Valley and Hydroelectric Projects held on 23.09.2019 at Teesta Meeting Hall, 1st Floor, Vayu Block, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-3.

The 26th meeting of the re-constituted EAC for River Valley & Hydroelectric Projects was held on 20.08.2019 with the Chairmanship of Dr. S.K. Jain in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, 1st Floor, Vayu, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-3. The following members were present.

1. Dr. S.K. Jain - Chairman
2. Shri Sharvan Kumar - Representative of CEA
3. Dr. A.K. Sahoo - Representative of CIFRI
4. Dr. Vijay Kumar - Representative of Ministry of Earth Science
5. Dr. D.M. More - Member
6. Dr. J.P. Shukla - Member
7. Dr. (Mrs.) Poonam Kumria - Member
8. Dr. S. Kerketta - Member Secretary

Shri Chetan Pandit, Shri N.N. Rai, Dr. J.A. Johnson, Prof. R.K. Kohli, Dr. S.R. Yadav and Dr. Govind Chakrapani could not present due to pre-occupation. The deliberations held and the decisions taken are as under:

The Chairman of the EAC informed the house about the recent sad demise of Dr. B.P. Das, Ex Vice Chairman of EAC (RV & Hydroelectric Projects). An eminent Civil Engineer & Hydrologist, Dr. Das had served EAC for two tenures and was also given many other responsibilities by the Ministry. A two minutes silence was observed for the departed soul by the house.

Item No. 27.0 Confirmation of the minutes of 26th EAC meeting.

The Minutes of the 26th EAC (River Valley & Hydroelectric Projects) meeting held on 20.08.2019 were confirmed.

Item No. 27.1 Rongnichu Hydroelectric Project (96 MW) in East Sikkim district of Sikkim, by M/s. Madhya Bharat Power Corporation Ltd. - Regarding fresh ToR

File No. J-12011/20/2017-IA-1(R), Proposal No IA/SK/RIV/114561/2019

Project Proponent along with the EIA Consultant (M/s EQMS India Pvt. Ltd., 304-305, 3rd floor, Rishabh Corporate Tower, Community Center, Karkardooma, Delhi-92) made the detailed presentation and *inter-alia*, provided the following information:

Rongnichu Hydroelectric Project (96 MW) on Rongnichu stream in East Sikkim district of Sikkim, being developed by M/s. Madhya Bharat Power Corporation Ltd. (MBPCL), is a run-of-river hydro development project.

The Barrage complex is located about 2 km downstream of Namli village and 16 km south of Gangtok city along NH-31A. The project envisages construction of a 120 m long, 35 m width and 14m high Barrage across Rongni Chu, a tributary of Teesta river. A surface Desilting Basin is located on the left bank of the river, just upstream of the Barrage axis. The Desilting complex has 2 chambers of which one will be in service and the other will be kept stand by. The Desilting basin has a collection chamber at its end for collection of de-silted water. A Power Intake Structure located near the left end of this chamber feed a 12.581 km long Head Race

Tunnel (HRT) leading to a Surge Shaft at its tail end and a Pressure Shaft, which will terminate at the valve house. The water from Penstock shall feed 2 units of 48 MW (Pelton Turbines), installed in a surface Powerhouse proposed on the right bank of Rongpo river 2.5 km from Rongpo town by the side of Rongpo-Rongli State Highway.

The proposed scheme will provide a gross head of 423 m and a net head of 405 m for power generation and is intended to operate as a run-of-river scheme providing a daily maximum of 6 hours of firm peak energy during the non-monsoon season and during the monsoon season the generating units will operate continuously for several weeks. The present project having an installed capacity of 96 MW will generate approximately 384 GWh of electricity (gross) per annum in a 90% dependable year with 95% machine availability. Techno-Economic Clearance of 96 MW Rongnichu HEP DPR was granted by Government of Sikkim vide letter dated 01.10.2008 to expedite the implementation of the project.

The total catchment area at barrage site is 190 km² and the project has no irrigation component and thus there is no command area. The gross storage at FRL is only 0.33 MCM of which live storage at FRL is 0.24 MCM. Reservoir area at FRL is 10.70 ha. The total cost of project is Rs. 1187.48 Crores and cost per MW is Rs 1236.95 lakh.

On 4th April 2007 MoEF granted prior Environmental Clearance to MBPCL for setting up 96 MW RHEP in east district of Sikkim. After obtaining other statutory clearances MBPCL has been implementing the project satisfactorily. The Ministry vide letter dated 16.6.2017 granted extension of validity of EC initially for six months and further, vide letter No J-12011/56/2006-IA-I dated 9.11.2017 accorded extension of validity for two and half year i.e. up to 3.4.2020.

Work of Barrage complex is 92% completed, work of water Conveying system is 82% completed and work of Powerhouse complex is 70% completed. The balance works including testing of power plant and other components of project are to be completed by April 2021. The construction/implementation got delayed due to:

1. the extremely poor geology (class V-flaky rock/mud) encountered during the excavation of the last 1,128 m section of HRT,
2. heavy flow of slush encountered during excavation,
3. heavy water ingress made it impossible to continue excavation and
4. halted supply of material to power house complex due to Rongpo-Kumrek road Sliding.

M/s. Madhya Bharat Power Corporation Ltd. intend to enhance the installed capacity of power house from 96 MW to 115 MW owing to higher inflows available during five 10-daily blocks in monsoon period and in the light of enabling provision of running machines at 20% overload as stipulated in power potential studies carried earlier. The Energy and Power Department, Government of Sikkim, vide letter No, 91/GOS/EIP/2004-05/Part-III/924, Dated 2.8.2019 has issued no objection, if the generation capacity of RHEP is enhanced from 96 MW to 115 MW. Subsequently, a review of the original DPR (inflows and Section of unit size) revealed that 2x48 MW configuration was selected on the techno-economic criterion (cost-benefit analysis). Sufficient water was found available to sustain higher sized units without changing hydraulic structures (Barrage height, HRT/Penstock size, design etc.).

The total land requirement under the project for barrage, submergence, appurtenant works, has been assessed to be as 71.1836 ha of which private land is 33.9483 ha, forest land is 25.1388 ha, Power Department land is 0.707 ha and revenue land is 11.3895 ha. All private land has been acquired; diversion of forestland has been completed and revenue land has been transferred to the PP. Stage-I Forest clearance for diversion of 26.2313 ha forestland has been

accorded on 17.01.2008 and Stage-II forest clearance on 18.5.2019. The R&R package has been followed in toto and expenditure of Rs 2.06 crores has been spent for the purpose.

Project Benefit includes Increased Power Generation and additional Royalty to the State Government, Contribution to Development, Employment Potential, Guaranteed Energy and Price Stability, Flexibility to utilize other Renewable Source of Energy, Increased Green cover, etc.

As the commitments made during the public hearing held on 28.10.2006 has been fully complied with and R&R package has been followed in toto and expenditure of Rs. 2.06 crores has been incurred. No family was displaced and there is no further land requirement. Civil works under the project are almost complete and balance works broadly involve erection of hydro mechanical component and electro-mechanical equipment/plant and environmental management plan being executed or under execution, which do not directly impact public. Therefore, the PP requested that fresh public hearing be exempted.

The EAC noted that PP made the application *de novo* for seeking prior EC for RHEP as the validity of the existing EC is up to 03.04.2020 and further it will take another 12-15 months to complete the balance work. EAC also observed that PP requested to enhance the installed capacity of powerhouse from 96 MW to 115 MW owing to higher inflows available without changing hydraulic structures (Barrage height, HRT/Penstock size, design, etc.). EAC also noted the request regarding exemption of conducting fresh Public Hearing.

The EAC after deliberation on the information as submitted and presented, recommended for the enhancement of the installed capacity of powerhouse from 96 MW to 115 MW. In the *EAC meeting, discussion was held on the request of the PP regarding exemption of conducting fresh Public Hearing. EAC observed that since the public hearing was held on 28.10.2006 and commitments made during the public hearing held on 28.10.2006 has been fully complied with. R&R package has been followed in toto and expenditure of Rs 2.06 crores has already been incurred. No family was displaced and there is no further additional land requirement, fresh public hearing may not be necessitated. However, PP is required to publicize the draft EIA/EMP report for one month by uploading at the State Pollution Control Board website, requesting the local affected persons and others who have plausible stake in the environment impacts to send their comments. There is no change in hydraulic structures such as barrage height, HRT/Penstock size, design, etc. of the project by increase in the installed capacity from 96 MW to 115 MW owing to higher discharge available in the river. PP shall address all comments/issues received, during the one-month period, in the EIA/EMP report.*

After detailed deliberation, the EAC **recommended** for grant of standard ToR for increasing the installed capacity of the existing powerhouse from 96 MW to 115 MW of the proposed project with the following additional ToR conditions:

1. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, if any.
2. Forest clearance shall be obtained as per the prevailing norms of Forest (Conservation) Act, 1980, if any.
3. In case Forest land is further required, application to obtain prior approval of Central Government under the Forest (Conservation) Act, 1980 for diversion of forestland required should be submitted as soon as the actual extent of forest land required for the project is known, and in any case, within six months of issuance of this letter.
4. Fresh EIA/EMP report shall be uploaded in the public domain for one month at the State Pollution Control Board website, requesting the local affected persons and others

who have plausible stake in the environment impacts to send their comments. PP shall address all comments/issues raised in the EIA/EMP report along with the issues raised in the earlier public hearing with detailed present status.

5. Fund allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. 22-65/2017-IA.III dated 01.05.2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.
6. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.
7. As the Mamboing Lho Wildlife sanctuary is 3.87 km away from the project boundary, NBWL clearance shall be obtained, if the project site is falling inside the notified ESZ.
8. A detailed map regarding distance of the project boundary from the nearest wildlife sanctuary, duly authenticated by the Chief Wildlife Warden shall be submitted with EIA/EMP report.
9. Impact of the proposed project on the nearest Wildlife sanctuary shall be studied and proper conservation plan/mitigation measures shall be included in the EIA/EMP report.
10. Conservation plan for the Scheduled I species in the project study area, if any, shall be prepared and submitted to the Competent Authority for approval.
11. A copy of TEC of the revised DPR along with EIA/EMP report to be submitted.

No. 27.2 Khairibhandan Barrage Irrigation Project of Dept. of Water Resources, Govt. of Odisha at Analabani, Jashipur block of Mayurbhanj District, Odisha- Regarding Fresh EC

File No. No.J-12011/24/2015-IA-I Proposal No. IA/OR/RIV/30160/2015

Project proponent along with the consultant Visiontek Consultancy Services Pvt. Ltd. – IDCO Plot No. M22 & M23, Chandaka Industrial Estate, Patia, Bhubaneswar-24 made the detailed presentation before the EAC and *inter-alia*, provided the following information:

Khairibhandan Barrage Project is a Barrage project proposed in Baitarani basin on River Khairi and Bhandan. The project is proposed at village Analabani; block Jashipur, at Latitude of 21°57'59" N and Longitude of 86°03'32" E in Mayurbhanj District of Odisha. River Baitarani has total catchment area of 14,218 km², out of which 13,482 km² area is within Odisha. Khairi and Bhandan are two separate small streams in Baitarani river basin when they flow together with their confluence at upstream of village Analabani, the combined course of river is named as river Khairibhandan. The project area is covered in Topo Sheet No. 73K/1,73K/5,73F/16 & 73G/13. The barrage site is situated about 24.6 km (aerial distance) away from Karanjia Town. The nearest Railway Station is Badam Pahar which is about 16.4 km from the proposed barrage site. The length of approach road connecting to the barrage site is only 2 km. NH-6 (Nagpur-Kharagpur) at 1.37 km and SH-49 at 3 km from the project site.

The project envisages construction of a 6.0 m high and 171.5 m long Barrage across Khairibhandan river near village Analabani in Mayurbhanj District of Odisha to provide irrigation facility to 6,950 ha CCA. The two main canals are to originate from the head regulators located on either side of the barrage. The length of left main canal is 22.50 km and the design discharge of 4.352 cumecs to command a total CCA of 4,000 ha and GCA of 5,300 ha. The right main canal originates from right head regulator of the barrage. The length of right main canal is 18.30 km and designed to carry 3.373 cumecs to command a total CCA of 2,950 ha and GCA of 3,400 ha. The computed drainage shed area of the river at barrage site is 588 km². The estimated average annual yield and 75% dependable yield at barrage site is 49,924 ham and

37,908 ha, respectively. The designed flood discharge at the site is 3,709 cumecs at HFL of RL 394.00 m. The project is located in Jashipur Block of Mayurbhanj District near village Analabani.

Total land requirement is 418.569 ha, out of which 26.444 ha is forestland, 92.740 ha is government land and 173.035 ha is private land. Total submergence area is about 65.8 ha. No village is coming under submergence at full pondage area. Thus there is no Rehabilitation and Resettlement is involved due to the implementation of this project. The total cost of the project is about Rs. 235.42 Crores and to be completed in five years.

The study area covers about 10 km radius with respect to the dam site. The impact identification always starts with the collection of primary or base line data such as the ambient air quality, water quality, noise levels, land use patterns, flora & fauna and the socio-economic aspects within the 10 km radius zone. Maximum level of PM₁₀ recorded in the study area is 77.40 µg/m³ at Kumudabari village and the minimum recorded is 18.20 µg/m³ at Itamundi village. The maximum level of PM_{2.5} recorded in the study area is 48.60 µg/m³ at Kumudabari village and the minimum recorded is 10.80 µg/m³ at Padampur village. Maximum level of SO₂ recorded in the study area is 13.40 µg/m³ Near Hotel Shree Durga and minimum recorded is found to be below detectable limit at all the locations. Maximum level of NO_x is found to be Near Veterinary Dispensary of Kalashbandh village is 23.5 µg/m³ and the minimum recorded is found to be below detectable limit at Bhelupani village. A detailed measurement of noise level has also carried out at different locations within the study area.

Surface water samples have collected from River and ponds. The water quality is found to be within the norms and has been inferred that it can be used as source of drinking water after conventional treatment followed by disinfection. In order to assess the groundwater quality, samples drawn from the tube wells and dug wells from the adjoining villages of the study area. The groundwater at all places is found to be suitable for drinking purposes.

In the study area, floral species such 73 trees, 82 shrubs, 23 herbs, 16 climbers and 19 grass species have been recorded. Commonly found flora species are Sal in association with Acacia and Dalbergia sisoo. Faunal species viz., 12 mammals, 8 amphibians, 14 reptiles, 14 avifauna and 14 butterfly species have been recorded. The common wildlife found around the study area are different snakes, wild boar, wild bear, jackal and peacock. During the study period, two species viz., Indian Elephant and Rock Python are listed as Schedule I species as per Wildlife (Protection) Act, 1972.

Anticipated Environmental Impacts were studied in details due to incremental rise in vehicular traffic in the area due to transportation of machinery and construction activities, surface water quality due to waste water generated from labour colonies, noise environment due to vehicular movements, earth moving machinery, land environment due to Query Operations, Operation of construction equipment, Muck disposal and Construction of roads. The assessment of baseline data and predicted impacts on each component of environment indicate that very marginal adverse impacts on air, water, and noise and land environment envisaged.

ToR was accorded to the proposal vide letter No. J-12011/24/2015-IA I, dated 09.12.2015 and proposal grant of EC was submitted on 23.08.2019. The projected CCA is 6,950 ha and to be appraised by the SEIAA but as boundary of Similipal National Park is located within 10 km of the project boundary; therefore, project attracts General Condition.

As per the Ministry of Environment, Forest & Climate Change, Government of India, New Delhi vide S.O.1533 (E) dated, 14.09.2006 and the procedure prescribed therein, the Odisha

State Pollution Control Board, has conducted the Public Hearing on 13.04.2018 under the Chairmanship of ADM, Mayurbhanj at Moudi Grampanhayat, Block Jashipur, Mayurbhanj.

EAC after detailed deliberation on the information submitted and presentation made by the PP, **deferred** the project and sought the following additional information:

1. The *.kml* file of the instant proposal submitted with Form 2 is not in format. Proper *.kml* shape file having polygon feature should be uploaded.
2. Forestland is involved in the project (around 26.444 ha). However, it is mentioned in point 24 of Form 2 that 'No forestland' is involved and thus, necessary corrections in Form 2 be made. Status of application of Stage I FC to be submitted for Forest Clearance.
3. Boundary of the Similipal National Park is located within 10 km from the proposed project; therefore, project requires NBWL clearance. Further, details in Form 2 (Point 23.1 to 23.3) should be modified accordingly. List of schedule of mammal species to be revisited and listed as per the Wildlife (Protection) Act, 1972.
4. Ministry vide OM No. 22-65/2017-IA.III, dated 01.05.2018 has issued guidelines pertaining to Corporate Environmental Responsibility (CER) for both green field and brownfield projects. Thus, detailed on funds allocation for CER along with various activities proposed to be taken up as a part of CER to be indicated. Amount earmarked in Form 2 to be as per the aforesaid OM.
5. As per ToR conditions, Environment Management Plans such as CAT, Biodiversity Conservation plan, LAD plan, Solid waste management plan, etc. are to be included in the EIA/EMP report along with Environmental Matrix.
6. Break-up of the capital and recurring cost of the EMP along with the timeline for incurring the capital cost is to be provided in the EIA/EMP report.
7. An undertaking as a part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to be unique and submitted afresh.
8. Copy of Public Hearing advertisement in local language /official state language to be submitted and also the same shall be uploaded with Form 2.
9. Public Hearing issues raised and the reply by the PP shall be incorporated in the EIA/EMP report in the tabular form.
10. R&R - No details in point 27 of the Form 2.
11. Muck management plan shall have been prepared in accordance with the ToR. Details of muck generation and muck disposal sites along with rehabilitation of muck disposal sites should be included in the EIA/EMP report.
12. Sample on fish & plankton diversity for all the seasons (Pre monsoon, monsoon & post monsoon) is missing. Revisit the fish species list and categorize as per the IUCN list including systematic scientific documents of species.
13. Conservation plan for the Scheduled I species in the project study area, if any, shall be prepared and submitted to the Competent Authority for approval.
14. A copy of the approved DPR shall be submitted.
15. NABET Certificate submitted is for the period May, 2018 to March, 2020, whereas base line data has been collected in 2016-2017. A NABET certificate for the above period to be submitted.

Item No. 27.3 Lingampalli Reservoir Project, villages-Malkapur and Lingampalli, Tehsil-Chilpur, District-Jangaon, Telangana -Regarding Fresh ToR

File No. J-12011/79/2005-IA-I, Proposal No. IA/TG/RIV/116201/2019 (New),

IA/TG/RIV/116199/2004 (Old)

The Project Proponent (PP) applied for grant of ToR for preparation of EIA/EMP report and conduct of Public Consultation online on 29.08.2019. The PP along with the consultant (M/s RS Envirolink Technologies Pvt. Ltd., Gurgaon) made the detailed presentation on the project and *inter-alia*, provided the following information:

A lift irrigation scheme namely, J. Chokka Rao Godavari Lift Irrigation Scheme (JCRGLIS) was formulated and being executed, which was accorded EC vide letter No. J-12011/79/2005-IA-I dated 06.12.2005. The scheme was renamed as J. Chokka Rao Devadula Lift Irrigation Scheme (JCRDLIS) by Government of Andhra Pradesh vide GO dated 07.03.2007. The scheme envisages lifting of water 38.16 TMC from Godavari River near Gangaram village, district Warangal from El. 70.00 m to El. 470 m to irrigate 2.62 lakh ha CCA in the drought prone areas of erstwhile districts of Karimnagar, Warangal, Nalgonda and Medak.

The Lift Irrigation Scheme has inadequacy of sufficient balancing reservoirs dedicated to the scheme, which can store water during monsoon season and/ or low demand period and serve the scheme during the remaining period. The storage provided in the scheme is not sufficient and hence additional storage capacity is to be created to serve the command area, drinking water and industrial use by absorbing fluctuations in availability of water.

In this regard, in order to fully utilize the diverted water of Godavari River, the provision of sufficient storage has been proposed in the system to have operational flexibilities. There are existing reservoirs in the system having overall capacity of less than 8 TMC, which only act as transit storage for balancing purpose. Since there is already prior commitment for these storages and there is surplus over the demand in the rainy season but no storage available hence it is necessitated to have additional storage. In fact, in the original DPR it is suggested to have about 14 TMC live storage but only 6 TMC is available at gross. Therefore, the need for creation of additional storage is felt necessary, since there is a high gap between demand and supply and also the command area is not distributed uniformly.

Lingampalli Reservoir Project having capacity of about 10.78 TMC has been proposed. The reservoir is located at 17°56' N, 79°17' E near Malkapur village, Chilpur Mandal in Jangaon District (erstwhile Warangal Dist.) of Telangana State. Water at the rate of about 39.26 cumecs will be drawn from existing Dharmasagar Reservoir through Approach Channel of about 1.25 km to the surge pool at El. 297 m. Water will be lifted through Pumping Main of 17.0 km (3.0 m Dia., 3 Nos.), to fill the proposed Lingampalli Reservoir up to an Elevation of 424 m (TBL). The project components are detailed below:

- Construction of Head Regulator near Dharmasagar Reservoir.
- Construction of Approach Channel for a length of 1.250 km from Dharmasagar tank to proposed pump house.
- Construction of Double Lane Road Bridge on Approach Channel.
- Construction of Pump house near Dharmasagar (V).
- Laying of 3.00 m dia. pipeline (3 rows) from Dharmasagar pump house to Lingampalli Reservoir near Malkapur village for a length of 17.00 km.
- Formation of Earthen Bund (Bund Channel from km 0.00 to km 7.700).
- Formation of Concrete Dam of 200 m from km 5.925 to km 6.125.
- Construction of Viaduct Regulator on Flood Flow Canal.

➤ Construction of Escape Regulator for Chilpur Vagu.

A total of 1,786 ha land will be submerged at FRL 420 m. One village (Lingampalli village) and 7 Hamlets will be submerged due to construction of this reservoir. Number of displaced families shall be about 842 Nos. with a total population of 4,130. There is no forest area under submergence and therefore, there is no forestland requirement for the project.

EAC observed and discussed in detail that a large number of lift irrigation schemes are being proposed in Telangana state, where cost of lifting water may not work out to be beneficial and therefore such schemes should be examined carefully. In the proposed scheme, total cost of the project is Rs. 3226.40 crores for lifting and storing 10.78 TMC of water and annual energy cost has been worked out to be as Rs. 71.53 crores. The PP explained that proposed storage reservoir is part of original scheme i.e. J. Chokka Rao Devadula Lift Irrigation Scheme, which is largely executed and cannot utilize its full potential and serve the full command of 2.62 lakh ha of CCA, if additional storage capacity is not created. Therefore, the present project is proposed as an expansion of the original scheme and various approvals have already been obtained.

The PP submitted that since this is an expansion project where only storage reservoir is to be created on private land. Therefore, some of the conditions of the standard TOR such as CAT Plan, CAD Plan, Compensatory Afforestation Plan, NCS DP approval, environment flow assessment, etc. will not be applicable. EAC observed that lifting of water over exorbitant height (more than 500 m or so) and transporting over several km for irrigation, that too for traditional food grain crops with traditional methods of irrigation, is not going to be an economically viable proposition. It incurs huge recurring expenses and hence not sustainable.

After detailed deliberation on the information submitted and presentation made by the PP, the EAC **recommended for grant of standard ToR** to the proposed expansion scheme and the following additional ToR conditions suggested:

1. The proposed scheme is an expansion to the J. Chokka Rao Devadula Lift Irrigation Scheme, so the unique name of the proposed should be like **“Construction of Lingampalli Reservoir as an additional storage for the existing J. Chokka Rao Devadula Lift Irrigation Scheme.”**
2. EC has been accorded to J. Chokka Rao Devadula Lift Irrigation Scheme vide letter No. J-12011/79/2005-IA.I, dated 06.12.2005. However, vide GO No. 60, dated 07.03.2007, this scheme has been renamed as J. Chokka Rao Devadula Lift Irrigation Scheme. Therefore, project name has been changed for which the PP has to apply for the same before granting ToR to the Lingampalli Reservoir.
3. An existing canal to be diverted for which necessary permission is required from the Competent Authority.
4. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
5. All the tasks including conducting public hearing (PH) in all the districts shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. PH issues raised and compliance of the same shall be incorporated in the EIA/EMP report.
6. Funds allocation for Corporate Environment Responsibility (CER) shall be made as per O.M. No. 22-65/2017-IA.III, dated 01.05.2018 for various activities therein. The details of funds allocation and activities for CER shall be incorporated in EIA/EMP report.
7. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.
8. Conservation plan for the Scheduled I species, if any, in the study area shall be prepared and submitted to the Competent Authority for approval.

9. Since this is an expansion project where only storage reservoir is to be created on private land, some of the conditions of the standard TOR such as CAT Plan, CAD Plan, Compensatory Afforestation Plan, NCSDP approval, environment flow assessment, etc. will not be applicable.

Item No. 27.4 Jamrani Dam Multipurpose Project by Irrigation Department, Uttarakhand – Reconsideration of Environmental Clearance reg.

File No. J-12011/04/2007-IA-I & Proposal No. IA/UK/RIV/80127/2006

The Project Proponent (PP) and the Consultant, M/s Voyants Solutions Pvt. Ltd, Gurgaon, made a presentation on the project and *inter-alia*, provided the following:

Jamrani Dam Multipurpose Project envisages construction of 130.60 m high roller compacted concrete gravity dam across the river Gola, a tributary of river Ramganga, a flashy seasonal river which originates in Kumaon Himalayas and flows through south eastern Kumaon in the State of Uttarakhand, India. Jamrani MPP is proposed near village Jamrani, district Nainital, Uttarakhand 10 km upstream of existing Gola barrage, which is located near Kathgodam. The catchment area at proposed dam site is 450 km². The live storage created by project is to be used for drinking water, irrigation & power generation. The live storage of the project about 142.72 MCM out of which 42.7 MCM will be utilized for meeting the requirement of drinking water to Haldwani city and an additional irrigation to 57,065 ha with an incidental hydro power generation of 14 MW installed capacity with estimated annual power generation of 63.4 MU. Construction of Jamrani dam was to be constructed to provide augmentation storage for Gola barrage.

Jamrani Dam Multipurpose Project by Irrigation Department, Uttarakhand was earlier appraised in the 22nd meeting of the EAC held on 27.02.2019 for Environment Clearance. The EAC sought the following additional information from the PP:

1. One season baseline data be collected and incorporated in the EIA/EMP report for consideration of the proposal again.
2. Downstream impact due to this up to Gaula Par village be studied.
3. E-flow be studied to ensure provision of minimum flow for the fish species particularly Mahseer and trout.
4. Periphyton composition list needs to be examined.
5. As the EIA/EMP is very old, Social Impact Assessment be carried out to ascertain the need and impacts due to the project in the present context.

The Project Proponent (PP) and the Consultant, M/s Voyants Solutions Pvt. Ltd, Gurgaon, made a presentation on the additional information sought in this EAC meeting and *inter-alia*, provided the following:

- 1. One season baseline data be collected and incorporated in the EIA/EMP report for consideration of the proposal again**

It was informed by the PP that baseline data was earlier collected during Post-monsoon- 2006; Pre-monsoon-2007 and Post-Monsoon-2007 and Pre-Monsoon-2009. As per the recommendation of EAC in the 22nd meeting held on dated 27.02.2019, one-month additional baseline data has been collected during Pre-monsoon season (March-April 2019). Baseline data has been collected for Meteorology, Ambient Air Quality, Ambient Noise, Water Quality, Soil and Ecology and presented in the following slides. The EIA & EMP report has been updated as per the collected data of March-April-2019. A revised EIA/EMP report has also been submitted.

2. Downstream impact up to Gaula Par village

PP informed that in the lean season, scanty water is available in some stretches upstream of Gola Barrage in the river. The river becomes very thin, which does not cover the total river width. Immediately downstream of Gola Barrage except for the monsoon, there is approx. 12 km dry stretch, because of the following reason:

- a) water stream disappears in the Bhabar area into permeable sediments due to porous nature of soil and
- b) fresh water is used for drinking by the locals and irrigation purpose.

After construction of this project, this river stretch will not be dried up because of the following reasons:

- a) Downstream of proposed dam up to existing Gola Barrage (approx. 9 km stretch) will receive environmental flow throughout the year (as per norms).
- b) Additional water required for irrigation, water supply and power generation will be released through river.
- c) Five (5) streams are also joining Gola river in this stretch. Thus, this stretch of river will receive water throughout the year.

3. E-flow be studied to ensure provision of minimum flow for the fish species particularly Mahseer and trout.

PP informed that the annual yield at Dam site at 75% & 50% dependable years works out to be 283.06 MCM & 393.31 MCM, respectively. At Gola barrage site, 75% dependable year work out to be 377.41 MCM. The same has been adopted for planning of the project. E-flow has been calculated for obtaining International Clearance/ JRC angle from the Ministry of Water Resources, RD & GR (Flood Management Wing) vide dated 29.11.2018.

E-flow for monsoon months from June to September has been calculated based on the average 10-daily discharge (in cumecs) (1977-78 to 2005-06). The following are the details:

S. No.	10 daily Discharge	June	July	August	September
1.	I	4.86	33.16	47.80	45.02
2.	II	4.52	30.12	45.12	41.17
3.	III	14.84	32.46	47.37	31.87
4.	Month wise average	8.073	31.913	46.783	39.353
Monsoon Season Monthly Average			31.53		
E- Flow for Monsoon			= 30% of average = 9.459 Cumecs		

E-flow for lean month from January to May has been calculated based on the average 10-daily discharge (1977-78 to 2005-06)-

S. No.	10 daily Discharge	January	February	March	April	May
1	I	3.99	3.49	4.16	2.89	2.11
2	II	3.79	4.66	3.24	2.22	2.52
3	III	3.58	3.82	2.90	2.21	2.54
4	Month wise average	3.786	3.99	3.43	2.44	2.39
Lean Season Monthly Average			3.2072			
E- Flow for Lean Season			= 20% of average = 0.641 Cumecs			

E-flow for non-monsoon non-lean month from October to December has also been calculated based on the average 10-daily discharge (1977-78 to 2005-06)-

S. No.	10 daily Discharge	October	November	December
1	I	16.36	7.62	4.75
2	II	20.08	6.27	4.51
3	III	10.23	5.65	4.06
4	Month wise average	15.556	6.513	4.44
Non Monsoon Non Lean Monthly Average		8.836		
E- Flow for Non Monsoon - Non Lean		= 25% of Average = 2.209 Cumecs		

4. Periphyton composition list needs to be examined.

It was informed that a total of 20 taxa have been recorded from 7 sampling locations.

5. Social Impact Assessment.

It was informed that there are 208 Project Affected Families (PAF), of which 89 vulnerable affected families (constituting 47 BPL family & 42 Schedule Cast families). The Affected peoples will be facilitated based on their skilled and employment shall be done during construction period. Shifting of religious properties will be completed before project implementation.

Acquisition of land is through District Collector as per RFCTLARR 2013 and the R&R measures and the compensation shall be worked out strictly as per the provisions of RFCTLARR 2013. The basic facilities e.g., Irrigation, access roads, retaining wall, drainage and footpath will be constructed. Any unforeseen impacts will be mitigated as per the law

Estimation for Proposed Land Acquisition and R&R

S. No.	Item	Amount (Rs. In Lakh)
1.	Total cost of Land (A+B+C+D+E)	12,440.92
2.	Demarcation cost (1% of total) as CWC guideline	124.41
3.	Legal expenses of LA (1% of total) as CWC guideline	124.41
4.	Final Award of Land Acquisition (F+G+H)	12,689.74
5.	Cost of structure	5,153.90

6.	Solatum 100% on structure cost	5,153.90
7.	Total Compensation of Land Acquisition	22,997.54
8.	Total R&R Cost	1,290.39
9.	Total LA & R&R Cost	24,287.93
Contingency @ 15%		3643.91
Net debitale to R&R implementation programme		27,931.12

The Stage-I Forest Clearance (351.55 ha) for the project has been obtained vide letter No. **8-36/2013-FC**, dated 25.04.2018. EAC after detailed deliberations on the information provided by the PP, recommended for grant of EC subject to the condition that the PP would provide the following additional information to the Ministry to their satisfaction, on or before 18.10.2019:

1. The *.kml* file of the project including the muck disposal areas.
2. Muck disposal Plan as submitted is coming in the forest area should be revisited by clearly indicating the area, locations, muck holding capacity, protection measures, etc.
3. Wildlife Conservation Plan for Schedule I species, duly approved by the State Chief Wildlife Warden, to be submitted.
4. The proposed cropping pattern may be relooked in respect of Sugarcane crop. Detailed clarification regarding extent of irrigation in the proposed scheme shall be submitted along with the list of villages and districts that will be benefited in the proposed scheme.
5. Land requirement details are to be reconciled between the EIA report and Form 2 including the total land requirement of land with break up.
6. Capital and recurring cost submitted in Annexure II are to be same as per the EIA/EMP report. The cost estimated (for both Capital and recurring) for implementation of EMP shall be submitted as per the Terms of Reference.

Item No. 27.5 Nardave Medium Irrigation Project at Nardave, Tal: Kankavali, Dist.: Sindhudurg by M/s Water Resources Department, Konkan Irrigation Development Corporation, Maharashtra - Regarding reconsideration of Environmental Clearance.

File No. J12011/7/2017-IA.I(R), Proposal No. IA/MH/RIV/62328/2017

The Project Proponent (PP) along with MITCON Consultancy and Engineering Services Ltd., Pune made a detailed presentation of the project and *inter-alia*, provided the following information:

The project envisages construction of concrete gravity dam having a maximum height of 66.43 m and 1,749 m length with gated spillway on the right flank and Irrigation cum Power Outlet (ICPO) on the left flank with gross storage capacity of 123.74 MCM on Gad river near Nardave village in Sindhudurg district of Maharashtra state.

The project has GCA of 12,631 ha, CCA of 9,978 ha and ICA of 8,084 ha on both the banks of Gad river to be benefitted by 48 villages of Kankavali, Kudal and Malvan Talukas of Sindhudurg District. Irrigation proposed in the project is by lift irrigation for which a series of 14 Nos. of K.T. Weirs shall be provided along the river course to enable lifting of water for irrigation. The project also envisages a ROR scheme underground powerhouse with generation capacity of 3 MW (2x1.5 MW). Total catchment area is 47.70 km². There is no upstream

utilization and net annual yield at 75% dependability is 125.80 MCM. There are no projects on the downstream of Nardave Medium Project.

The PP informed that the project was submitted to the 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 27.09.2012. The MoEF & CC did not consider the proposal as the project was falling in the Western Ghat areas. Later on, the PP in the EAC meeting held during 2-3 March, 2017 intimated that moratorium on Western Ghats has been lifted and therefore PP has applied online for grant of ToR on 8.2.2017 as per the EIA Notification, 2006 and amendment thereon.

The original administrative approval for the project was given vide letter (Marathi) MHD/1085/(390/85) WRI dated 12.07.1989 for Rs. 32.43 crores. As the project was prior to enforcement of EIA Notification, 2006 and further, it was also not coming under the purview of EIA Notification, 1994, construction works had already been initiated. Till date, 61.50% work of total dam, 80% of ICPO, 40% of spillway work and 11 KT Weirs have been completed. As of now, a total of Rs. 382.00 crores has already been spent for construction work.

ToR was granted vide letter No. J-12011/7/2017 IA-I (R) dated 10.10.2017 for collection of baseline data and preparation of EIA/EMP report. Public hearing (PH) was held on 29.08.2018 at Dyandeep Sanskrutik Bhawan, Madhyamik Vidya Mandir, Kanedi, Tehsil Kankavali, Dist. Sindhudurg Chaired by the District Collector, Sindhudurg. PP informed that issues raised during the PH were adequately addressed. Major issues were related to compensation under R&R, impact on biodiversity, risk due to dam break, air pollution, noise generation, etc.

PP submitted the EIA/EMP report to the Ministry online on 11.01.2019. The total land requirement is 631.162 ha and almost 91% of land acquisition work has been completed. Out of this total land, 585.772 ha is private land (remaining 19.115 ha to be acquired), 11.25 ha is Govt. Land and 34.14 ha is forestland. The submergence area in the catchment of the dam is 356.35 ha. Five (5) villages consisting of 967 families are likely to be submerged due to the proposed project. Stage-I forest clearance for 34.14 ha of forestland for diversion of non-forest use has already been obtained on 30.09.2009 (No. 6-MHC 018/2011- BHO/1691).

The project is about 2 km away from the Radhanagari Wildlife Sanctuary. Standing Committee on NBWL in its meeting held on 21.01.2015 recommended this proposal for Wildlife Clearance. The revised administrative approval has been accorded on 19.07.2007 [Marathi Govt. vide order No. Nardave-2007/140/(47/2007)-MPR-MPR Mantralay, Bombay]. The revised estimated cost of the project is about Rs. 44,670.76 lakhs (at 2005-06 PL). the project to be completed in 24 months.

Base line data has been collected during October, 2017 to May, 2018. In addition to this, data of June to September, 2017 was considered for ecology. Ambient Air Quality and Ambient Noise levels monitoring have been carried out at 8 locations from both submergence and command area of the project. Air quality at all the stations has been found to be within prescribed limit. Surface water samples from 5 locations and that of Groundwater from 9 locations have been collected. Soil samples have been collected from 13 locations. In most of the project areas, the soil type is found to be silty clay. Soils found in the project area are fertile with moderate NPK and micronutrients. Project benefit includes: 1) Increase in employment: 62 persons; 2) The proposed Nardave Medium Irrigation Project intends to irrigate 8,084 ha in 48 villages of Kankavali, Kudal and Malvan Taluka of Sindhudurg District; and 3) It will lead to increase in the agro-based industries in the command area, which would eventually lead to the economic up-liftment of the area.

The EAC after detailed deliberations and considering all the facts of the project as presented by the PP, observed that PP has commenced and continued the work and then stopped the work due to paucity of funds. EAC, therefore, deferred the proposal and sought some additional information in the 21st EAC meeting held on 28.01.2019. PP submitted the requisite information to the Ministry and accordingly proposal has again been listed in the 24th EAC meeting held on 27.05.2019.

PP along with consultant made the presentation before the EAC in the 24th meeting. After detailed deliberation on the information as presented and submitted to the Ministry, EAC defer the project again for want of the following information:

1. Information on seasonal variation on the environmental attributes including details on fish species.
2. As indicated migratory fish species are available, provision for fish passage in the EMP needs to be relooked.
3. Environmental matrix needs to be clarified.
4. For mapping of wildlife zone, high-resolution images should be included.
5. Data for all seasons (Pre-monsoon, monsoon & post monsoon) on soil, water, air to be submitted. Anticipated impacts because of the proposed project during all seasons should be worked out along with management plan.
6. Detailed data on plant diversity, endemic plants and status of species be submitted.
7. Approved conservation plan for Schedule I species in the project site should be submitted.
8. Declaration by way of affidavit that project cost was less than 100 Crores and as such project did not attracts the EIA Notification, 1994.
9. Declaration by way of affidavit that no construction work has been taken up after EIA Notification 2006 and amended thereof.
10. Status of NBWL Clearance.
11. Environmental Management Plan with budget breakup (Capital as well as recurring) shall be submitted.
12. Fund allocation for CER shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 1st May, 2018 for various activities therein. The details of funds allocation and activities for CER shall be incorporated in EIA/EMP report.
13. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III&IIIA) given in the EIA Notification, 2006.

Project Proponent (PP) submitted the above information to the Ministry online on 05.09.2019 and accordingly proposal was further considered in the 27th meeting held on 23.09.2019. PP in the 27th meeting informed the following to the EAC:

1. 65% work of total dam is complete,
2. 82% of ICPO is complete,
3. 40% of Spillway work is complete,
4. out of 14 KT Weirs, 11 have been complete. PP further informed that 91% of land acquisition and 82% Rehabilitation work have also been done, and
5. Wildlife Clearance has been granted vide letter No. Kaksha/23(2)/Vaji/Sarvey/Pra.kra.60/819/2019-20 dated 06.06.2019.

PP made the presentation on the information sought in the 24th meeting. EAC observed that PP has once again collected the baseline data from June, 2017 to May, 2018 i.e. (Monsoon, post monsoon and Pre-monsoon) and the same was presented. PP submitted the list of fish species with budgetary provision of Rs 55.00 lakhs (Rs 50.00 lakh capital cost & Rs 5.00 Lakhs

recurring cost) and high resolution image showing Nardave Medium Irrigation project, boundary of Radhanagari Wildlife Sanctuary. EAC observed that part of the submergence is inside the Wildlife sanctuary and Wildlife Clearance has been granted vide letter dated 06.06.2019. Further, PP had paid Rs 8.93 crores to Sahyadri Tiger Reserve Conservation Foundation for habitat development & Protection of wildlife. The details budgetary provision for EMP are as below:

S. No	Particulars	Capital cost (Rs. in lakhs)	Recurring cost (Rs. in lakhs)
1.	Rehabilitation and Resettlement Plan	7840.832	-
2.	Green belt development/afforestation	140.07229	10.0
3.	Management of Physical and Environmental Resources	-	23.79
4.	Catchment Area Treatment Plan	243.46	10.00
5.	Fishery Management and Conservation Plan including fish seed pond	50.00	05.00
6.	Biodiversity and Wild life Conservation Management Plan	15.00	05.00
7.	Sanitation and Solid Waste Management Plan	05.00	02.00
8.	Muck Management Plan	185.314	-
9.	Health Management Plan	68.58	0.500
10.	Disaster Management Plan	25.00	0.500
Total cost		8573.259	61.29

EAC also noted that construction of Nardave Irrigation project on Gad river near Nardave village, Sindhudurg district was started in the year 2001. The administrative approval was accorded in 1989 for Rs. 32.44 crores which was subsequently revised in 1997 to Rs 102.98 crores as per 1993-1994 PL. EAC deliberated that Konkan region is known for the heavy rainfall and quantum of water in rainy season flows in to the Arabian Sea because of poor irrigation facilities, etc. Moreover, population in the project area is dependent on the agriculture and the proposed project intends to irrigate 8,084 ha of land in 48 villages of Sindhudurg district which will help to improve the agriculture and employment to the project area. *EAC noted that the instant project is for irrigation and end use beneficiaries are needy farmers. Further, project may also lead to increase in the agro-based industries in the command area, which would eventually lead to the economic up-liftment of the area.*

EAC also noted that PP has submitted the CER of Rs 31.74 lakhs on the balanced cost of the project. Various activities include Infrastructure creation for drinking water supply, Road development, awareness to local farmers to increase yield of crop and fodder, Avenue Plantation, Plantation in community areas/Compensatory afforestation, Awareness program in and around the project area on environment, etc. After deliberation on the technical details, information as sought in the 24th meeting and documents submitted to the Ministry, EAC **recommended the proposal for grant of Environmental Clearance** subject to compliance of applicable Standard EC with the following additional conditions:

- i. Wildlife Conservation plan for all Schedule I species shall be implemented with the approval of the Competent Authority.
- ii. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.

- iii. The project proponent shall comply with the provisions contained in this Ministry's OM No. 22-65/2017-IA.III dated 1st May, 2018 regarding Corporate Environment Responsibility.
- iv. Latest status of QCI-NABET certificate having accreditation for Schedule 1 (c) of the EIA Notification, 2006 to be submitted for the consultant.
- v. Revised EMP including labour management plan for their health safety and energy conservation measures shall be submitted along with the revised cost. Cost of environmental monitoring programme shall also be included in the total EMP cost with capital and recurring expenditure.
- vi. Ministry vide OM dated 25.07.2014, lifted the moratorium from the villages falling in Non Ecologically Sensitive areas except the village covering under PIL 179 of 2012 filed at Hon'ble High Court of Bombay. An undertaking shall be submitted that moratorium from these 48 villages of Sindhudurg district have been lifted.
- vii. Necessary permission/clearance to be obtained for quarrying construction materials for the project as per the EIA Notification, 2006 and subsequent amendments thereof.
- viii. Solid waste generated, especially plastic waste, etc. should not be disposed of as landfill material. Use of single-use plastics may be discouraged.

Item No. 27.6 P.V. Narasimha Rao Kanthanapally Sujala Sravanthi Project (PVNRKSSP) Jayashankar Bhupalapally District, Telangana by Irrigation & CAD Department, Government of Telangana- Regarding reconsideration of Environmental Clearance.

File No. J-12011/1/2010-IA-I, Proposal No. IA/TG/RTV/87571/2017

Online application for consideration of EC by the EAC was received on 05.12.2018. In the 21st EAC meeting held on 28.01.2019, the Project Proponent along with consultant M/s Environmental Health and Safety Consultants Pvt. Ltd., Bengaluru made the presentation on the proposed project and *inter-alia*, provided the following information:

The proposed scheme involves construction of 1,132 m long barrage near Thupakulagudem village on river Godavari located 3 km downstream of existing J. Chokka Rao Devadula Lift Irrigation Scheme (JCRDLIS). The proposed project stabilizes and provides irrigation facilities to the existing 5,55,310 ha of command area belonging to J. Chokka Rao Devadula LIS (2,51,310 ha) and Sri Ram Sagar Project (SRSP) - Stage I & II (3,04,000 ha). 50 TMC of water will be utilized for stabilizing the existing command area and 50 TMC of water will be utilized for drinking water purposed for enroute villages. The boundary of Eturnagaram Wildlife Sanctuary is located adjacent to the proposed barrage. Reserve Forests namely; Nuguru RF and Perur RF are located at close proximity and 3 km, respectively from the proposed barrage. No project activities will be carried out in the Eturnagaram WLS.

Total land required for the project is about 674.18 ha, out of which 580.18 ha of river bed area and 94 ha of private land to be used for the project. Out of 94 ha of private land, 65 ha has already been acquired and remaining 29 ha has to be acquired. Land acquisition will be done as per the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Compensation, Rehabilitation and Resettlement, Development Plan) Rules, 2015 published in the Govt. of India Gazette on 18th December, 2015. Total cost of the project is Rs. 2121.00 Crores.

The command area is already benefiting to the existing irrigation facilities for the Kharif and bi-seasonal crops and the proposed scheme of irrigation has also been planned during Rabi season. Total power required for the proposed project is 1.5 MW, which will be sourced from Transmission Corporation of Telangana Limited (TSTRANSCO). The project has been proposed to provide irrigation facilities to the areas of Eturnagaram Mandal, Jayashankar Bhupalapally District.

Government of Telangana has accorded administrative approval for this project vide order No.14 dated 13.02.2017 and the total cost of the project is Rs. 2,121 Crore. The Scoping/TOR clearance for the project was accorded on 03.04.2017. Public Hearing was conducted at Bhupalapally District on 27.09.2018. Application for EC has been submitted to the Ministry online on 05.12.2018.

As per Godavari Water Disputes Tribunal Award (GWDT), the total allocation of water in the Godavari river to the Telangana State and Andhra Pradesh is 1,480 TMC with a view to optimally utilize the water earmarked to all the water resources projects of Telangana region, the Irrigation & CAD Department prepared a comprehensive plan for irrigation development in the region, considering shortfall in the existing and ongoing projects, and accordingly reallocated for the existing projects. The net water availability at proposed barrage site has been worked out to be 407.4 TMC of which, 180 TMC is allocated for Kaleshwaram Irrigation project (peddha), 4.5 TMC for Kaleshwaram LIS (tank filling) and 100 TMC for the proposed PVNRKSSP. The total requirement of water amounting is 284.5 TMC and balance 122.90 TMC of water shall be released at the downstream. Hence, sufficient water is available for the project and downstream users, etc.

As per standards ToR, Telangana State Pollution Control Board has conducted Public Hearing at Zilla Parishad High School, Eturnagaram, Jayashankar Bhupalapally District on 27.09.2018. The main issues raised during the public hearing are implementation of environmental safeguards to mitigate air, water and noise pollution, Catchment Area Treatment (CAT), jobs for local people and fair compensation for land losers. Majority of them supported the project for implementation.

The various environmental aspects covering the 10 km radius of proposed barrage and existing command area were considered for baseline data collection. The baseline data (Monsoon season: July-September, 2017, Post Monsoon: October-December, 2017 and Pre-monsoon season: January-March, 2018) has been collected covering Physico-chemical aspects, biological aspects and socioeconomic aspects. Baseline 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 for minimizing the anticipated impacts.

Environmental Management plan (EMP) cost to mitigate the anticipated impacts due to air, water, noise pollution during construction and operational phase is Rs. 163.65 crores. Environmental Monitoring proposed during the construction and operation phase of the project is Rs. 30.33 lakhs. The detailed break up are as provided below:

Sl. No.	EMP	Cost (Rs. In lakhs)
1.	Catchment Area Treatment (CAT) Plan	158,15.00
2.	Command Area Development	70.00
3.	Restoration of construction site (GB development)	14.00
4.	Fisheries Conservation and Management Plan	27.50
5.	Reservoir RIM Treatment	10.00
6.	Land Acquisition	2,53.03

7.	Local Area Development Plan (LADP)	40.00
8.	Public Health Delivery System	10.25
9.	Sanitation and Solid Waste Management Plan	7.00
10.	Energy Conservation Measures	65.00
11.	Environment Safeguard Measures to control Air, Noise & Water Pollution	23.25
12.	Environment Monitoring Programme	30.33
Total		1,63,65.37

Based on the capital cost of the project (Rs. 2121 Crores), capital investment considered for the CER as per the Ministry OM is 0.5% amounting to Rs. 10.60 crores. Activities proposed under CER by the PP includes provision of RO drinking water, construction of new toilets, provision of infrastructure to Government Mandal Hospital, providing computer and accessories (15 nos.) lab to the Tribal Hostel, up-gradation of approach road of 4.0 km, construction of CC roads, provision of Solar stand post (10 nos.) and skill development and training programme.

Benefits of the projects include stabilization of the existing irrigation schemes by providing assured water for irrigation; Providing Drinking water is essential as per National Water Policy, 2012; Agricultural linkages will be considerably improved; the project improves total farm output and hence raises farm income; Project improves yields through reduced crop loss due to erratic, unreliable or insufficient rainfall; extensive agricultural production supplies raw materials to the nearby small scale industries thereby increasing the economy in the region; direct employment opportunities for 400 members (50 Technical and 350 construction labourers) will be provided during construction phase. Further, indirectly labour opportunities will be substantially improved since larger area will be brought under irrigation. It improves fodder crops and in turn dairy farming in the command area.

The EAC deliberated and after considering all the facts of the project as presented by the PP, deferred the proposal and sought the following additional information:

- i. Price of lifted water to be shall be calculated based on all the inputs required.
- ii. The environmental matrices for both construction and operation phases is to be revisited. Updated matrix shall be submitted to the Ministry for reconsideration.
- iii. Provisions of fish pass be explored. List of fish species to be revisited from the secondary sources and accordingly be updated in the EIA/EMP report. Minimum flow requirement be calculated during the leanest season for fish like Hilsa, Bengalensis, etc.
- iv. Detail present status of R&R to be implemented. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
- v. Only three reptile species are reported from the project area. It needs to be updated with updated list of reptiles present in this area.
- vi. Submission of certificate from the Chief Wildlife Warden that project is outside ESZ of Eturangaram Wildlife Sanctuary.

The project proponent submitted the additional information online on 30.04.2019. After submission of the additional information, the proposal has again been reconsidered for Environmental Clearance in the 24th EAC meeting held on 27.05.2019. The Project Proponent and the Consultant, Environmental Health & Safety Consultants Pvt. Ltd., Bengaluru, made a presentation on the additional information. The EAC in its 24th meeting deliberated and

considered all the facts of the project as presented by the PP and recommended for grant of environmental clearance (EC) for the proposed project with the following additional conditions:

- i. Necessary permission to be obtained for quarrying construction materials for the project as per the EIA Notification, 2006 and subsequent waste generated, especially plastic waste, etc. should not be disposed of as landfill material. It should be treated with scientific approach and recycled. Use of single-use plastics may be discouraged.
- ii. Under CER activities, preference should be given to strengthen the basic amenities in the project affected villages like maintaining drinking water supply, providing health care facilities, etc.
- iii. Preference to be given to the local villagers as per the requirements and suitability, in the job/ other opportunities in the project, etc.
- iv. Measures to be taken to develop skills of the local villagers particularly with respect to the trades related to construction works such as electrician, welder, fitter, etc.
- v. An undertaking as part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to the project have not been copied from other EIA reports before grant of EC.

While processing the file for approval of the EAC recommendations by the Competent Authority, some of the discrepancies were observed. Accordingly, Ministry vide letter dated 18.07.2019 advised PP to submit the following:

- i. Approval/clearance from CWC regarding net availability and on interstate issue and GWDT award for total allocation of Godavari River water to the Telangana State.
- ii. Submission of approved conservation plan by Chief Wildlife Warden for Schedule-I species.
- iii. The .kml shape file having polygon feature.

PP submitted the above information vide letter dated 19.08.2019. Vide aforesaid letter PP submitted that the 1,486 TMC of Water is available from different sub-basins of the Godavari Basin. Out of this 1,486 TMC, utilization for Telangana State is 954.23 TMC and for Andhra Pradesh is 531.77 TMC based on geographical disposition of the projects.

However, as per the copies submitted to the Ministry for the earmarked utilisations of water available to the projects in Godavari Basin, Telangana State, earmarked utilization of water is 30 TMC for the instant project. As per the EIA/EMP report, utilisation for the instant project is 100 TMC (50 TMC for stabilization of existing command area & 50 TMC of water for drinking purposes). However, 130.548 TMC, 22.999 TMC and 60 TMC have been earmarked to SRSP Stage I, SRSP Stage-II and JCRDCLIS, respectively.

Also, PP submitted a letter addressed to the Chief Wildlife Warden Telangana State Forest Department, Aranya Bhawan, Hyderabad duly submitting the list of Schedule-I Species observed during the preparation of EIA/EMP studies along with the conservation plan.

Kml file as submitted by the PP was verified on the GIS based Decision Support System (DSS) by the GIS-DSS Cell, FC Division. As per the verification on DSS, instant project also falls in the Forestland i.e. RF/PF. Also, some non-forestry activities depicted in the project boundary. Contrary, PP submitted that construction of proposed barrage across Godavari river does not involve any diversion of forestland.

In view of above, the proposal was further referred to the EAC in the 27th meeting held on 23.09.2019 for further deliberation and reconsideration on the recommendations made in the

24th EAC meeting. The Consultant, Environmental Health & Safety Consultants Pvt. Ltd., Bengaluru, made a presentation before the EAC in the 27th meeting, on the observations of the Ministry and informed the following:

During the detailed land re-survey and joint site inspection with Telangana State Forest Department, the land that has already mutated to I&CAD Dept., is now stated by the Forest Department that an area of 27.91 ha of land is Forestland. Application for diversion of forestland is submitted on 03.08.2019. The State Forest Department, Telangana has accepted the online proposal on 16.08.2019 and directed to process the proposal.

The EAC observed that application for diversion of forestland is submitted on 03.08.2019 and accepted online proposal on 16.08.2019 by the State Forest Department. Further, PP submitted the information sought by the Ministry vide letter dated 19.08.2019 but did not inform the Ministry about the acquisition of forestland to the proposed project. The EAC observed it is a lapse on the side the PP and sought clarification for not informing the Ministry on the same.

EAC based on the information provided by the PP and as presented, once again reiterated and **recommended** for grant of Environmental clearance to the proposed project with the following additional conditions:

- i. Stage I Forest Clearance shall be submitted to the Ministry before issuance of Environmental Clearance to the project.
- ii. Necessary permission to be obtained for quarrying construction materials for the project as per the EIA Notification, 2006 and subsequent amendments thereof.
- iii. Solid waste generated, especially plastic waste, etc. should not be disposed of as landfill material. It should be treated with scientific approach and recycled. Use of single-use plastics may be discouraged.
- iv. Under CER activities, preference should be given to strengthen the basic amenities in the project affected villages like maintaining drinking water supply, providing health care facilities, etc.
- v. Preference to be given to the local villagers as per the requirements and suitability, in the job/ other opportunities in the project, etc.
- vi. Measures to be taken to develop skills of the local villagers particularly with respect to the trades related to construction works such as electrician, welder, fitter, etc.
- vii. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.

Item No. 27.7 Channaka-Korata (Rudha) barrage on Penganga River-Interstate Irrigation Project, Adilabad district of Telangana by Irrigation & CAD department, Government of Telangana-reg. reconsideration of Environmental Clearance.

File No. J-12011/17/2016-IA-I(R) Proposal No. IA/TG/RIV/55126/2016

Earlier, ToR for the proposed project has been issued on 05.09.2016. The Project Proponent (PP) applied online on 16.04.2019 for grant of environmental clearance. In the 24th EAC meeting held on 27.05.2019, the PP along with the Consultant, M/s. Aarvee Associates

Architects Engineers and Consultants Pvt., Ltd., Hyderabad accredited with NABET/ QCI made a detailed presentation of the project and *inter-alia*, provided the following information:

In the Interstate Board (ISB) meeting held at Mumbai on 23.08.2016, both Telangana and Maharashtra states have signed the interstate agreement of Channakha-Korata barrage and in that meeting construction of Channakha-Korata barrage by Telangana state has been signed. The annual gross yield is 321.96 million m³ (11.37 TMC) at 75% dependability and the net annual flow at the barrage is 303.61 million m³ (10.71 TMC). As per the agreement, 42.48 MCM (1.5 TMC) of water will be shared between Telangana and Maharashtra states in the ratio of 80:20 i.e., 33.98 MCM (1.2 TMC) and 8.5 MCM (0.3 TMC), respectively. It is a joint project between the States of Maharashtra and Telangana on River Penganga and is independent of the joint Lower Penganga Project, which envisages construction of a barrage across River Penganga on the downstream of Lower Penganga Project to irrigate an area of 6,677.00 ha (5,463.00 ha in Telangana and 1,214.00 ha in Maharashtra). Command area lies in 14 villages of three mandals viz., Tamsi, Adilabad and Jainad in Adilabad district of Telangana state and 9 villages in Kelapur tehsil of Yavatmal district of Maharashtra state. The Gross Command Area of the project is 10,442.913 ha. Total land requirement is 228.08 ha which is entirely private land. Total submergence area is about 31.16 acres in Telangana state. A total of 23 villages consisting of 283 persons are likely to be affected due to this project. The Government of Telangana has already acquired this private land with an R&R budget of Rs. 17.8 Crores. The total cost of the project is about Rs. 399.16 Crores and is proposed to complete the construction work in 2 years. Telangana state will share the 100% cost of the project.

Background

The Channakha-Korata (Rudha) barrage is located on Penganga River near Channakha village in Kelapur Tehsil of Yavatmal district in Maharashtra state and Korata village in Tamsi Mandal of Adilabad district of Telangana State. The proposed barrage across Lower Penganga river lies at Longitude: 78°31'7.30" E and Latitude: 19°49'8.19" N. The free Catchment area for Barrage is 1338.12 km².

Project Features

The major components of project are Barrage, Reservoir, Pump House, Pressure mains, Approach bund and Canal network. A Broad crested type Barrage is designed with a length of 342.00 m having 23 Gates. With 3.36 km long main canal (Distributaries for a tentative length of 30 km) in Telangana state on right bank of the river and in Maharashtra state with Piped Distribution network on left bank of the river. The Pump House is located at upstream of barrage near Hathighat village, to lift 4.50 cumecs of water from Barrage. An approach channel 120 m long connects the fore bay of the pump house to the riverbed level. Vertical Turbine pumps (4 Nos.) of 1.92 MW each are proposed to lift the water through MS pressure mains. The power required for lifting the water will be 7.68 MW. The Salient features of the proposed Channakha-Korata barrage Project for Telangana are given Table-1.

Table-1: Salient Features of Channakha-Korata barrage

HEAD WORKS/BARRAGE		
A	Location	
	District	Adilabad
	Mandal	Tamsi
	Village	Korata

B	Watershed	
	River	Penganga
	Free catchment area	1,33,812.00 ha
C	Barrage	
	Type	Barrage with vertical lift gates
	Total Length	342 m
	Maximum height	10 m
	(a) above FRL and (b) above MWL	+213.000 m, +218.10 m
D	Reservoir	
	FRL	+213.00 m
	MWL	+218.10 m
	Dead storage level	+203.00 m
	Lowest River Bed Level	+201.645 m
E	Submergence	
	Area under submergence	31.16 acres
	Only Private land (Total)	31.16 acres
F	Pump House	
	Location	U/S of barrage at Hathighat village
	Peak demand	4.47 cumecs
	No of vertical turbines	4 nos. of 1.92 MW each
	Total Capacity of the pumps	4.5 cumecs
	Power required	7.68 MW
G	Command area/Canal Distribution	
	Command Area	6677.00 ha (CCA) 10,442.913 ha (GCA)
	Water Requirement	4.50 cumecs
	Designed for water	4.53 cumecs
	Length	3,360 m
H	Drinking Water	
	Water allotted for drinking	1.15 MCM
	Villages benefitted	23 Nos.
I	Cost of the Project	Rs. 399.16 Crores
	Cost of the EMP	Rs. 21.15 Crores

Project Benefits

1. As per Godavari Water Disputes Tribunal Award, it is agreed that from Lower Penganga dam to confluence up to Wardha river and downstream of Saykheda and Waghadi dam, 9 TMC water is allocated to Maharashtra state and remaining water is allocated to Telangana state. To utilize this water, 4 barrages have been proposed along Penganga river, out of which 3 are inter-state projects. Channakha-Korata barrage is second among them.
2. The 4.5 cumecs of water for irrigation is proposed to be lifted from the barrage and delivered at elevated place and will be carried through gravity canals.
3. 1,214 ha of command area in Maharashtra state is proposed to irrigate by piped irrigation.
4. The project is having 31.16 acres of submergence in Telangana state at FRL of barrage at 213 m.
5. To provide water facilities from the allocated water resources, for irrigating the left out ayacut of Lower Penganga Project situated in the uplands & drought prone areas of Adilabad district, Telangana state and Yavatmal District in Maharashtra state.
6. Provision of drinking water supply is made to the 14 villages of Telangana state and 9 villages of Maharashtra state.

7. Direct employment opportunities available for 500 persons during peak construction and 350 during non-peak activities and 20 persons during the operation phase of the project.
8. There is no forestland involved in the construction of the project.
9. Improved agricultural production leads to establishment of the food processing units thereby improving the economy of the region. Indirect labor opportunities will be substantially improved since larger area will be brought under Irrigation
10. The Benefit Cost (B.C.) ratio for this joint project is 1.60.

Baseline Status of Project Site

The Baseline data has been collected during Monsoon, Post-monsoon and Pre-Monsoon i.e. from September, 2016 to August, 2017. M/s Vision Labs, Hyderabad an accredited consultant by NABL has been engaged for the same. The environmental attributes covered for the study include ambient air quality, ground and surface water quality, noise levels, land environment including soil quality, land-use pattern, forest cover, biological environment, socio-economic and health status of the population, demography and quality of life. The primary and secondary data of the stated parameters have also been collected and included in the EIA report.

Air Environment:

The criteria adopted for selecting the monitoring stations, sampling and analysis has been carried out as per the guidelines of CPCB. After a preliminary survey of the study area and taking into account the meteorological (predominant wind directions, wind speed) and topographic conditions, traffic volume, major settlements in the study region, six (6) stations have been selected for carrying out Ambient Air Quality Monitoring (AAQM). The parameters selected for analyzing ambient air quality status were SO_x, NO_x, PM₁₀, PM_{2.5} and CO. The highest value of PM₁₀ of 46.8 µg/m³ has been observed at Korata village in pre-monsoon and lowest value of 16.2 µg/m³ has been found at Ghubadi village in monsoon. The highest value of PM_{2.5} observed at Korata in pre-monsoon and the lowest value observed at Ghubadi village in monsoon, which are 25.8 µg/m³ and 8 µg/m³, respectively. The highest value of SO_x of 6.7 µg/m³ has been recorded at Korata in pre-monsoon and lowest value 4.0 µg/m³ has been recorded at Pippalkhoti, Korata, Ghubadi, Kodori and Akoli during the study period. The maximum value of NO_x has been observed to be 17.5 µg/m³ at Korata village in pre-monsoon and minimum value of 8.7 µg/m³ recorded at both Kodori and Akoli villages during monsoon. The CO concentrations at all the locations are found to be less than 1 mg/m³.

Surface Water quality:

During the study period nine (9) Surface water samples have been collected for assessing the water quality. Monitoring samples have been fixed based on proximity to the project site, their activities and depending upon its utility by the people in the region. Analysis has been carried out for the selected physio-chemical parameters along with bacteriological indicators of pollution.

The surface water samples collected from the various sources showed pH value ranging between 7.38-8.65 during the study period. Some of water samples have been found to be slightly turbid during monsoon and the analysis results show that the hardness values are in the range of 100 to 200 mg/l. The values of Dissolved Oxygen are in the range of 2.3 to 7.5 mg/l. At three locations viz., SW-3, SW-6 and SW-7, DO levels are found to be less in monsoon. The BOD values are found to be 3-38 mg/l. The COD values are found to be between 8-126 mg/l. The highest COD was observed at SW-6 location. The concentrations of Chlorides, Sulphates, Iron and Zinc are well within the limits. Overall, the surface water quality in all seasons is observed to be satisfactory with the IS: 2296 Class "C" Standards.

Ground Water Quality

For assessing the groundwater quality in the study area, seven (7) samples have been collected from the identified bore wells/dug wells. Sampling has been carried out for three different seasons during the study period.

The groundwater samples collected from the various sources showed pH value ranging in between 6.85 to 8.0 during the study period. Water quality analysis also shows the hardness values are in the range of 130 to 460 mg/l, fluoride values are in the range of 0.40 to 0.8 mg/l. The Chloride concentration in the samples collected has been found to be between 10-165 mg/l. In general, the groundwater quality assessed during all seasons is found to be satisfactory.

Noise Environment

Noise levels have been monitored at ten (10) locations. Precision integrating microcomputer controlled sound level meter having statistical unit with digital display has been used for ambient noise level monitoring. It has been observed that all the values measured during the study period are well within the CPCB standards prescribed for residential areas during day and night times. At Hathighat pump house, the values of daytime and nighttime noise levels are found to be in the range of 40.6-64.4dB(A) and 32.5-50.5 dB(A), respectively.

Land Environment

Based on the land use and land pattern of the existing region, fifteen (15) locations have been identified and analyzed for soil quality. It has been observed that the pH of the soil varies from 7.16 to 8.12, which is considered being very slightly alkaline in nature. The EC of all the soil samples are found to be in the range of 118-185 μ S/cm. The soil nutrients such as Nitrogen, Phosphorous and Potassium (NPK) are the index of the soil fertility. The NPK values are in the range of 102-524 kg/ha, 18-72 kg/ha & 71-239 kg/ha, respectively. Nitrogen values found to be low at some locations in the study area as compared to the minimal requirement of 280 kg/ha, Phosphorous levels are found to be high at all the locations as compared to the general requirement of >10 kg/ha, and Potassium levels are also found to be lesser at some locations as compared to the minimum limit of 108 kg/ha. Overall the soil quality in the study area is found to be rich in Organic Carbon.

Biological Environment

Tippeshwar Wildlife Sanctuary is 3.50 km from proposed project and the forest area is classified as dry deciduous forest as per Champion and Seth (1968) and the region falls in hot arid climatic zone. The flora and fauna have been studied in the project with respect to terrestrial, aquatic and avian aspects in both forest and non-forest areas. There is no forest diversion involved in the construction of the project.

Based on the proposals of I&CAD Department, Govt. of Telangana, the SBWL has considered the proposal on 31st January, 2018 and approved the proposal for recommendation to NBWL with the condition to form a committee to suggest mitigation measures after spot inspection of the area and the conditions as laid down by the Chief Wildlife Warden. Subsequently, constituted Expert Committee visited Channakha-Korata barrage site on 4th May, 2018 and 3rd-5th September, 2018 and suggested mitigation measures. The same is addressed in mitigation measures of EIA study and will be adhered to. Accordingly, budgetary provision of Rs. 8.00 Crores has been made in the EMP for implementing Biodiversity and Wildlife conservation including Tiger Conservation Plan.

Public Consultation:

Public Hearing (PH) has been conducted at Zilla Parishad High School, Pippalkoti village Tamsi Mandal, Adilabad District of Telangana on 24.5.2018 Chaired by the Joint Collector & Addl. District Magistrate, Adilabad. Similarly, PH was held Lokshradeya Abasaheb Deshmukh Parawekar Vidyalaya, Chanakha, taluk Kelapur, Yavatmala District, Maharashtra on 12.10.2018 Chaired by Assistant Collector & Sub-divisional Magistrate, Yavatmala. Both the PHs are held as per the provisions of the EIA Notification, 2006.

All the issues raised during the public hearing have been incorporated in the EIA/EMP report. The main issues raised during the public hearing are construction of roads, implementing environmental safeguards to mitigate air, water and noise pollution, jobs for local people and fair compensation for land losers. Local people supported the project for implementation because many farmers committed suicides and therefore, irrigation facilities created by this projects will certainly reduce this agrarian distress to some extent in the district.

Environmental flow:

<i>Season</i>	<i>Average inflow (in cumecs)</i>
<i>Lean</i>	<i>0.89</i>
<i>Monsoon</i>	<i>455.83</i>
<i>Non-Lean Non-Monsoon</i>	<i>14.47</i>

Environmental Management Plan

The Environmental Management Plan (EMP) depicts the procedure in which the project proponent would carry out the implementation of the mitigation measures and ensures compliance with environmental regulations that are binding on the project. EMP is prepared based on the assessment of adverse impacts due to the proposed activity. The EMP is also drawn after due consultation of Environmental Experts, project proponents and other relevant authorities.

The EMP provides the best management practices which are to be adopted to mitigate environmental impacts in similar projects. This plan also specifies the organizational requirements and institutional strengthening necessary for sound environmental management of the project. The major components of the EMP are:

- Providing mitigation measures for the adverse impacts identified and quantified,
- EMP implementing Agency,
- Monitoring of the EMP implementation,
- Training on Environmental management,
- Budget for EMP implementation.
- Disaster Management

Costs of Implementation of EMP

The design and construction of the project involves a number of activities such as resettlement & rehabilitation, erosion prevention, compensatory afforestation, eco-conservation measures, traffic management, health & safety, etc., only those activities that are not covered under the budget for construction are shown in the EMP implementation budget. The total budget for implementation of EMP works out to be Rs. 21.15 Crores as given in below table.

The main components are:

- Compensatory Afforestation
- Tree plantation / Transplantation
- Environmental monitoring during construction and operation phase
- Training during construction and operation phase

Budget for Implementation of EMP

S. No.	Item	Cost (Rs. in lakhs)
1.	Logistics and Administrative cost: Vehicle costs and office administration & logistics, etc. for EMC (Environment Management Cell)	38.00
2.	Construction costs: For Sanitation Bio-Toilets, Dust Suppression provision, Decommissioning of Cofferdam, Labour camps, Traffic Management and Monitoring of flora and fauna including Tiger & others during construction and Operation phase etc.	1,019.60
3.	Tree plantation: Compensatory Tree Plantation along the service road of the Canal having length of 30Kms and administrative building area (8000 nos. of trees x Rs. 1000/per tree including 5 years of maintenance)	96.00
4.	Monitoring costs: Construction Phase: Air Quality & Noise level Monitoring, Water Quality & Soil Quality Analysis and Awareness/Training programs.	34.22
5.	Monitoring costs: Operation Phase: Air Quality & Noise level Monitoring, Water Quality & Soil Quality Analysis	4.74
6.	Corporate Social & Environmental Responsibility:	6,00.00
	Sub Total	17,92.56
	GST @ 18.00 %	3,22.66
	Grand Total	21,15.22

Summary & Conclusion:

The identified and quantified significant project & environmental impacts/ issues are summarized below:

- The command area development plan is designed in such ways that covers maximum culturable command area with minimal displacement of humans/livestock along the project corridor. Eventually, the project reduces agrarian distress prevailing in the project area, i.e., Adilabad district, Telangana and Yavatmal district, Maharashtra for the last two decades.
- The Baseline Data for Air, Water, Soil & Noise has been collected during Monsoon, Post monsoon & Pre-Monsoon Seasons from September, 2016 to August, 2017. The ambient air quality levels for all the parameters monitored are well within the standards. This may be

due to no industrial/mining/commercial activities carried out in the study area. The water quality of the study area is suitable for usage in irrigation and the same waters can be used for drinking purposes after disinfection.

- c. As per the Impact Matrix method carried out, the proposed Channakha- Korata barrage project would result in a number of positive permanent impacts on availability of irrigation water, drinking water, rising of groundwater table, aesthetics and socio-economic status of the region. The adverse impacts anticipated are marginal, temporary and reversible mainly during land acquisition and construction period. These adverse impacts can be mitigated by adopting suitable R&R package and suitable mitigation measures.
- d. There will be a positive impact by On Farm Developmental (OFD) works due to construction of distributaries channels, which serve the water till tail end of the command area and also the command area less than 40 ha will be served. An amount of Rs. 247.5 lakhs is included in the capital cost of the project towards OFD Works.
- e. Decommissioning of cofferdam will be carried out with proper Engineering and Environmental measures in order to avoid any adverse impact on the environment. A detailed plan is prepared for the same and will be adhered during construction phase. Engineering measures include dewatering procedure to protect the uncured masonry or concrete and Environmental measures include Erosion & Sediment control measures, Turbidity monitoring and Post Construction Restoration and Re-vegetation.

EAC after detailed deliberations, and considering all the facts of the project as presented by the PP, recommended for grant of environmental clearance subject to submission of the following information along with some additional information:

1. Declaration by way of affidavit that construction of any component of the proposed project had not been carried so far without prior approval from the MoEF & CC.
2. EIA/EMP report be prepared as per the Generic structure (Appendix III of EIA Notification, 2006). Public hearing detail shall be submitted in the chapter of Additional studies.
3. Content of the summary of EIA be made as per the Appendix III A of EIA Notification and therefore should be reframed accordingly.
4. An undertaking as a part of the EIA report stating that the contents (information and data) of the EIA report have not been copied from any other EIA reports.
5. The KML file of the proposal having all the polygon feature be submitted.

The above information has been furnished in the Ministry and found to be in order. However, while processing the file for approval of the EAC recommendations by the Competent Authority, some of the discrepancies were observed. Accordingly, Ministry vide letter dated 18.07.2019 advised PP to submit the following:

1. Status of PIL No. 1055/2018 filed before the Hon'ble High Court of Mumbai at Nagpur Bench.
2. Extent of forestland used in the state of Maharashtra.
3. NOC from the states as per GWDT award.

The PP submitted the above clarification of the information and placed before the EAC in this meeting. The submission of the PP is as provided below:

Sl. No.	Query raised	Submission of the PP
1.	Status of PIL No. 1055/2018 filed before the Hon'ble High Court of Mumbai at Nagpur	As per the ESZ notification of Tippeshwar Wildlife Sanctuary, the boundary of the ESZ is running on the left bank of the Penganga river

	Bench.	in Maharashtra state and the left bank of the Channaka-Korata Barrage is abutted on its boundary only.
2.	Extent of forestland used for non-forest purpose in the state of Maharashtra.	The PP informed that there is no forest area involved in the state of Maharashtra.
3.	NOC from the states as per GWDT award.	The PP informed that as per Godavari Water Disputes Tribunal Award, it is agreed that from Lower Penganga dam to confluence up to Wardha river and downstream of Saykheda and Waghadi dam, 9 TMC water is allocated to Maharashtra state and remaining water is allocated to Telangana state. To utilize this water, 4 barrages have been proposed along Penganga river, out of which 3 are inter-state projects. Channakha-Korata barrage is second among them.
4.	EAC further observed that lifting of water over exorbitant height (more than 500 m or so) and transporting over several km for irrigation, that too for traditional food grain crops with traditional methods of irrigation, is not going to be an economically viable proposition. It incurs huge recurring expenses and hence not sustainable.	

EAC based on the information provided by the PP and as presented, once again reiterated and **recommended** for grant of Environmental clearance to the proposed project with the following additional conditions:

- i. From .kml file, it has been found that some forestland is involved in the state of Maharashtra. Therefore, Stage I Forest Clearance shall be submitted to the Ministry before the issuance of Environmental Clearance to the project.
- ii. As the Tippeshwar wildlife Sanctuary is located within 10 km away from the project boundary, NBWL clearance shall be obtained.
- iii. Necessary permission to be obtained for quarrying construction materials for the project as per the EIA Notification, 2006 and subsequent amendments thereof.
- iv. Solid waste generated, especially plastic waste, etc. should not be disposed of as landfill material. It should be treated with scientific approach and recycled. Use of single-use plastics may be discouraged.
- v. The project proponent shall comply with the provisions contained in this Ministry's OM No. 22-65/2017-IA.III dated 1st May, 2018 regarding Corporate Environment Responsibility (CER). Under CER activities, preference should be given to strengthen the basic amenities in the project affected villages like maintaining drinking water supply, providing health care facilities, etc.
- vi. Preference to be given to the local villagers as per the requirements and suitability, in the job/ other opportunities in the project, etc.
- vii. Measures to be taken to develop skills of the local villagers particularly with respect to the trades related to construction works such as electrician, welder, fitter, etc.
- viii. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.

Item No. 27.8 Any other items with the permission of the Chair

As no agenda item was left for discussions, the meeting ended with thanks to the Chair.

Subject: **Re: Draft Mom of 27th EAC RVP - reg.**
To: Dr S Kerketta <s.kerketta66@gov.in>
Cc: S Kerketta <suna1466@rediffmail.com>

Date: 10/13/19 12:49 PM
From: Sharad Jain <s_k_jain@yahoo.com>
Reply-To: Sharad Jain <s_k_jain@yahoo.com>

27th_EAC_MoM.docx (117kB)

Dear Dr Kerketta,
I am sending the edited minutes. These are fine for me but corrections are required at two places, yellow highlighted.

Regards,

Sharad K Jain / शरद कुमार जैन
Director, NIH Roorkee, and Chairman EAC
Tel: 01332 272106

On Thursday, 10 October, 2019, 04:08:42 pm IST, Dr S Kerketta <s.kerketta66@gov.in> wrote:

Sir,

PFA for kind approval.

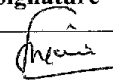
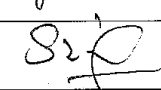
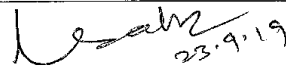
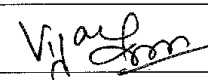
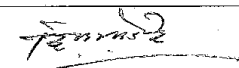
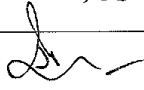
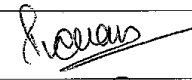
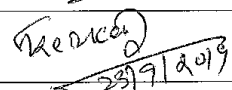
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regards,

Dr. S. Kerketta
Director- IA (Thermal, River Valley & HEP)
MoEF&CC, New Delhi
Phone: 011-24695314 (O), 26113096 (R)

LIST OF MEMBERS

**27th MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) FOR
RIVER VALLEY & HYDROELECTRIC PROJECTS**

DATE : 23rd ~~August~~ ^{Sept} 2019
TIME : 10:30 am onwards
VENUE : Teesta Hall, Indira Paryavaran Bhawan, New Delhi

Sl.No.	Name of Member	Signature
1.	Prof. Sharad Kumar Jain, Chairman	
2.	Shri. T. P. Singh Member	Regd.
3.	Shri. Sharvan Kumar, Member	
4.	Shri N. N. Rai, Member	ABS
5.	Dr. J.A. Johnson , A.K. Sahoo Member	 23.9.19
6.	Dr. A.K. Sahoo , J. A - Johnson Member	ABS
7.	Dr. Vijay Kumar, Member	
8.	Prof. Govind Chakrapani, Member	ABS.
9.	Dr. Chetan Pandit, Member	ABS.
10.	Dr. Dinkar Madhavrao More, Member	
11.	Prof. R.K. Kohli, Member	ABS.
12.	Prof. S.R. Yadav, Member	ABS.
13.	Dr. Jai Prakash Shukla, Member	
14.	Dr. Poonam Kumria, Member	
15.	Dr. Kerketta, Member Secretary Director (IA-1)	 23/9/2019