Minutes of the 22nd Meeting of the Expert Appraisal Committee for River Valley and Hydroelectric Projects held on 27.02.2019 at Teesta Meeting Hall, 1st Floor, Vayu Block, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi–3.

The 22nd meeting of the re-constituted EAC for River Valley & Hydroelectric Projects was held on 27.02.2019 with the Chairmanship of Dr. Sharad Kumar Jain in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, 1st Floor, Vayu Wing, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi-3. The following members were present.

1.	Dr. Sharad Kumar Jain	-	Chairman
2.	Shri N.N. Rai	-	Representative of CWC
3.	Dr. A.K. Sahoo	-	Representative of Director of CIFRI
4.	Dr. D.M. More	-	Member
5.	Shri Chetan Pandit	-	Member
6.	Dr. (Mrs.) Poonam Kumria	-	Member
7.	Dr. S.R. Yadav	-	Member
8.	Dr. S. Kerketta	-	Member Secretary

Shri Sharvan Kumar, Dr. J.A. Johnson, Dr. Vijay Kumar, Dr. J.P. Shukla, Prof. R.K. Kohli, Dr. T.P. Singh and Dr. Govind Chakrapani could not present due to pre-occupation. The deliberations held and the decisions taken are as under:

Item No. 22.0 Confirmation of the minutes of 21st EAC meeting.

The Minutes of the 21st EAC (River Valley & Hydroelectric Projects) meeting held on 27.11.2018 were confirmed.

Item No. 22.1 Cumulative Impact Assessment and Carrying Capacity Study (CIA & CCS) of Teesta River Basin. Presentation of draft report before the EAC for recommendation of the Study.

The Consultant, M/s WAPCOS, Gurgaon made a presentation on the study and *inter-alia*, provided the following:

Teesta River Basin study in West Bengal portion has been initiated at the instance of Ministry of Environment, Forest & Climate Change (MoEF&CC), Government of India while according prior Environmental Clearance to Teesta Low Dam – V hydroelectric project. Draft Report of Teesta Basin for West Bengal portion was appraised in 92nd EAC meeting held on 28th and 29th March, 2016. Draft Final Report of Teesta Basin for West Bengal portion was appraised in the 96th EAC meeting on 11th and 12th August, 2016.

Table-1: List of hydroelectric projects in Teesta River Basin

S. No.	Project Name	Proposed IC (MW)	Current Status
1	Teesta HEP Stage-VI	500	Under Construction
2	Teesta Intermediate HEP	84	Scoping Clearance accorded by MoEF & CC in October, 2013
3	Teesta Low Dam –I and II HEP	81	Scoping Clearance accorded by MoEF & CC in December, 2013
4	Teesta Low Dam –III HEP	132	Commissioned

5	Teesta Low Dam –IV HEP	160	Commissioned
6	Teesta Low Dam –V HEP	80	Scoping Clearance accorded by MoEF & CC in May, 2013
7	Jorthang Loop HEP	96	Commissioned
	Total	1133	

Table-2: List of hydroelectric projects covered in Ramam River Basin

S. No.	Name of Project	IC (MW)	Status
1 .	Rammam Stage-I HEP	48	Project handed over to NHPC Ltd. by WBSEDCL
2 .	Rammam Intermediate Small HEP	12	Project handed over to NHPC Ltd. by WBSEDCL
3 .	Rammam Stage-II HEP	51	Project under operation by WBSEDCL
4 .	Rammam Stage-III HEP	120	Under construction by NTPC Ltd.
Total		231	

The Teesta sub-basin in West Bengal covers an area of 3,225 km^2 which comprises of hilly terrain of Darjeeling district (approximately 1,121 km^2) and plains of Jalpaiguri district (2,104 km^2). The study was carried out in Teesta river and its tributaries flowing in the hilly terrain of West Bengal. Monitoring samplings were located at 15 sites of Teesta, Rangit and Riyang Khola rivers. All the samplings were carried out on monthly interval from April, 2014 to March, 2015. The detailed presentation on the findings of terrestrial ecology, aquatic ecology, fauna and avifauna has been revealed. The design flow series for the various hydroelectric projects on Teesta River along with its tributaries were also presented.

The details of free stretch between various projects with and without Teesta Low Dam V HEP is given in Table-3 and 4, respectively.

Table-3: Details of length of free flow of river with Teesta Low Dam V HEP

S. No.	**Projects**	**Length of free flow of river (km)**
A.	**River Teesta**	
1.	TWL of Teesta VI HEP & FRL Teesta Intermediate HEP	1.40
2.	TWL of Teesta intermediate HEP and FRL of Teesta Low Dam III HEP	6.00
3.	TWL of Low Dam III HEP and FRL of Teesta IV Low Dam HEP	4.47
4.	TWL of Teesta IV Low Dam HEP and FRL of Teesta V Low Dam HEP	1.10
5.	TWL of Teesta Low Dam V HEP and FRL of Teesta Barrage	15.0
B.	**River Great Rangit**	
6.	TWL of Jorthang Loop HEP & FRL of Teesta Low dam (I&II) HEP	1.124
7.	TWL of TLDP (I & II) HEP & Confluence of Bari Rangit &Teesta River	3.0
C.	**River Rammam**	

S. No.	Projects	Length of free flow of river (km)
8.	TWL of Rammam-I HEP & FRL of Rammam Intermediate HEP	1.0
8.	TWL of Rammam Intermediate HEP and Trench Weir of Rammam-II HEP	1.0
10.	TWL of Rammam-II HEP & FRL of Rammam-III HEP	1.60
11.	TWL of Rammam-III to confluence with Great Rangit River	6.70

Table-4: Details of length of free flow of river without Teesta Low Dam V HEP

S. No.	Projects	Length of free flow of river (km)
A.	**River Teesta**	
1.	TWL of Teesta VI HEP & FRL Teesta Intermediate HEP	1.40
2.	TWL of Teesta intermediate HEP and FRL of Teesta Low Dam III HEP	6.00
3.	TWL of Low Dam III HEP and FRL of Teesta IV Low Dam HEP	4.47
4.	TWL of Teesta IV Low Dam HEP and FRL of Teesta Barrage	20.77
B.	**River Great Rangit**	
5.	TWL of Jorthang Loop HEP & FRL of Teesta low Dam – I&II HEP	1.124
6.	TWL of Teesta low Dam – I & II HEP & Confluence of Bari Rangit & Teesta River	3.0
C.	**River Rammam**	
7.	TWL of Rammam-I HEP & FRL of Rammam Intermediate HEP	1.0
8.	TWL of Rammam Intermediate HEP and Trench Weir of Rammam-II HEP	1.0
9.	TWL of Rammam-II HEP & FRL of Rammam-III HEP	1.60
10.	TWL of Rammam-III to confluence with Great Rangit River	6.70

The EAC after detailed deliberations and considering all the facts of the project as presented by the Consultant, **deferred the proposa**l and sought some additional information as below:

1. Detailed report on phytodiversity (algae, Lichens, bryophytes Pteridophytes, gymnosperms & angiosperms) endemism, RET species, species from CITES list based on primary and secondary data has to be provided as it is an important data for conservation and sustainability in future. Biodiversity has to be looked carefully in any EIA report.
2. The present RBS has to be linked with the Teesta RBS in Sikkim which has already been completed long before. It was suggested that the last project on Teesta river in the state of Sikkim shall be configured with the first project on Teesta river in West Bengal for the aspects of Environmental Flow releases, Free Flow stretch and other parameters.
3. The total number of hydroelectric projects (operational, under construction and proposed) to be considered in the RBS shall be finalized and freezed in consultation with the state government. No other HEPs shall be considered once the RBS is finalized.

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Item No. 22.2 Cumulative Impact Assessment and Carrying Capacity Study (CIA & CCS) of Yamuna River Basin in Uttarakhand. Presentation of draft report before the EAC for recommendation of the Study

The Consultant, M/s ICFRE, Dehradun made a presentation on the study and *inter-alia*, provided the following:

The draft study report on 'Cumulative Environmental Impact Assessment (CEIA) & Carrying Capacity Study (CCS) of hydroelectric projects in Yamuna, Tons and its Tributaries in Uttarakhand was presented by Indian Council of Forestry Research and Education (ICFRE), Dehradun along with its partner institutions viz. Alternate Hydro Energy Center (AHEC), Indian Institute of Technology (IIT) Roorkee; ICAR-Directorate of Coldwater Fisheries (DCFR), Bhimtal and Salim Ali Center for Ornithology and Natural History (SACON), Coimbatore.

The study was conducted during 2013-2014 and was submitted to UJVNL in the year 2015. It was presented before the State Environmental Appraisal Committee of MoEF&CC, Uttarakhand during 2016. The final report was submitted incorporating the comments made by SEAC.

A total of 46 hydroelectric projects were considered for the CIA study, of which 09 HEPs are commissioned, 06 HEPs are under construction, 31 HEPs are under development. There are only 12 projects on main Yamuna River and 09 projects on Tons river a major tributary of river Yamuna. Other HEPs are distributed in 13 tributaries of River Yamuna and Tons. There are 29 small hydroelectric projects of less than 25 MW capacity and 17 large projects of above 25 MW capacities. The various components such as profile of study area; hydropower interventions in Yamuna river basin; longitudinal sections of the Yamuna river and major tributaries; affected (diverted/submerged) length of Yamuna river and its tributaries; Land Use / Land Cover changes; water availability- hydrographs, flow duration curves; Environmental Flow Requirements (EFR); water sharing, flashiness and diurnal variation & water quality, sedimentation; riparian distance to be maintained between two cascade projects; terrestrial and aquatic floral & faunal diversity; social, economic and cultural status of Project Affected Villages (PAVs) and Project affected Families (PAFs); cumulative impact assessment based on valued ecosystem component analysis; and recommendations, environmental action plan and suggestions were discussed and deliberated at length in EAC.

Following are the suggestions/comments of the EAC:

1. No river cross sections have been used for quantification of E-flow. E-flow study should be carried out by using data of river cross sections d/s of projects or other suitable locations and after carrying out simulation analysis. Further, depth requirement for umbrella fish species should be taken for lean, non-monsoon non-lean & monsoon seasons separately. 25 cm is too less depth of water for E-flow estimation considering umbrella fish species viz., Trout and Mahseer. The recommended Environmental Flow Rate (EFR) is required to be relooked based on the actual river cross sections, water depth requirement specific to the umbrella fish species and other downstream uses. In addition, the lower stretch of the Yamuna River is having high fish abundance, catch and the river being flat compared to middle and upper stretch of Yamuna River, would require different EFR for hydroelectric projects falling in these stretches. EFR recommendations should be based on analysis of actual data.

2. Plankton/Benthic diversity should be grouped based on zonal, Periphyton group must be included in the site of trout zones. Depth & velocity requirement for Tor sp. must be revised seasonally.
3. Report on phytodiversity (algae, Lichens, bryophytes Pteridophytes, gymnosperms & angiosperms) endemism, RET species, species from CITES list based on primary and secondary data needs to be provided.
4. Criteria for estimation of riparian distance to be maintained between projects in cascade shall be relooked by considering all relevant parameters in addition to water quality.
5. The recommendations should be specific in nature and linked with presented data and the impacts assessed.
6. Recommendations regarding hydroelectric projects proposed to be considered/ dropped should be firmly supported with scientific data like extent of threat to habitat, migration routes, breeding sites, and other parameters etc. as per the provisions of prevailing regulations in the country. The HEPs proposed to be considered/ dropped based on their proximity to Protected Areas and ESZ should also be relooked as per above criteria.
7. Proper linking be made between data, observations *vis-a-vis* recommendations. The Environmental Action Plan should be specific and aimed at mitigation of the adverse impacts due to hydroelectric projects.
8. EAC noted that the river basin study should not be limited to a particular state, it has to consider the complete basin or sub-basin. Thus, the hydroelectric projects located in the state of Himachal Pradesh in the Yamuna river basin should be included in the CIA & CC study. Hence, all the hydroelectric projects in Yamuna river basin up to Paonta Sahib in Sirmour district of Himachal Pradesh should be included in the study.
9. To that end, a proposal detailing revised scope of work, Terms of Reference, time frame, cost estimates, deliverables is required to be invited for completing the study in Yamuna river basin as above.
10. The total number of hydroelectric projects (operational, under construction and proposed) to be considered in the RBS shall be finalized and frozen in consultation with both the state governments. No other HEPs shall be considered once the RBS has been finalized.

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Item No. 22.3 Eastern Rajasthan Canal Project (ERCP) at Sawai Madhopur, Rajasthan by M/s ACE WR Zone Jaipur, Rajasthan- reg. Fresh ToR File No. J-12011/23/2018-IA.I(R) & Proposal No. IA/RJ/RIV/80561/2018

In the 19th meeting of the re-constituted Expert Appraisal Committee for River Valley & Hydroelectric Projects, held on 26.10.2018, a Sub-committee was constituted (vide Ministry letter No. J-12011/23/2018-IA-I(R) dated 20.01.2019) as follows:

1.	Dr. S.K. Jain	-	Chairman
2.	Shri Sharvan Kumar	-	Member
3.	Shri N.N. Rai	-	Member
4.	Dr. J.A. Johnson	-	Member
5.	Dr. S.R. Yadav	-	Member
6.	Dr. D.M. More	-	Member
7.	Dr. S. Kerketta	-	Member Secretary

The following are the ToR of the Sub-Committee:

1. The command area is falling in Ranthambhore Wildlife Sanctuary. Any likely adverse impact on wildlife due to the proposed project, if any, be ascertained.
2. Meeting with local stakeholders to discuss the benefits derived due to this project.
3. Any other issues as raised by general public during the site visit.

The Sub Committee visited the site of Eastern Rajasthan Canal Project in Rajasthan on 29th and 30th January, 2019 (report is given in Annexure). Prof. S.R. Yadav, Shri Sharvan Kumar and Shri N.N. Rai could not be present with the team due to preoccupation.

The Committee visited the existing Ajan Dam site and its command area. Ajan dam is situated adjacent to Keoladeo National Park, Bharatpur District. During visit of the proposed Doongri Dam, the villagers of Bhavpur coming under the dam axis have also been interacted. During interaction, it has been found that the villagers are interested for implementation of the project and support the project as they will be duly compensated and rehabilitated at a location which would be approachable.

In the meeting, the EAC agreed with the observations made by the Sub-committee which are outlined below:

1. The water allocated for drinking needs should be carried through close pipes as per the National Water Policy 2012.
2. The Isharda Dam Project is for drinking water supply and is already under construction. The two proposed canals- one coming from existing Galwa Dam to Isharda Dam and the other from Isharda Dam to Morel Dam are to be delinked from the main proposal as these canals are also linked for irrigation purposes. The PP may modify the proposal and re-submit for further consideration.
3. PP may explore lining of canals to save water due to seepage loss and use saved water to increase area under command.
4. Some parts of the three notified protected areas (National Parks/Wildlife Sanctuaries) viz., Ranthambhore National Park, Keoladeo National Park and Barthi Wildlife Sanctuary are coming under submergence due to implementation of the proposed project. Suitable area may be identified adjacent to the wildlife sanctuaries so that the core area of the wildlife sanctuary is kept intact. Necessary conservation measures be planned for new areas to be acquired and implemented in synchronization with the construction of the project.

   As part of safeguarding environment, every year a provision of minimum 15 million cu ft of water should be supplied to Keoladeo National Park in Bharatpur as it is one of the Ramsar sites as well as UNESCO's Natural World Heritage Site.
5. In the towns to be provided with drinking water facilities under the project, STP may be constructed. Thermal power plants shall use treated water from the STP located within 50 km radius from the plant, as per the Policy of the Government of India.
6. In total 13 districts are coming within the proposed project. Public hearings are to be conducted in each of district as per the guidelines of EIA Notification, 2006 and amendment thereof.
7. Many farmers in the State are cultivating mustard cash crop. Bee keeping may also be explored as a part of additional livelihood to the people of Rajasthan.
8. Bund Baretha dam has been declared as Baretha Wildlife Sanctuary in 2017. Therefore, a letter from local DFO stating that the State Forest Department is aware of such proposed project in the vicinity of Bird Sanctuary Reserve needs to be provided.
9. Part of submergence area of proposed Doongri dam is adjacent to the boundaries of Kailadevi Wildlife Sanctuary, Karaoli and Ranthambore National Park, Sawai Madhopur. Similarly, the catchment area of Bund Baretha Dam is also coming under the Baretha Wildlife sanctuary. Therefore, total area coming under the Wildlife

Sanctuary to be provided in the EIA/EMP report as a part of present land use pattern in the proposed project.

As the project proponent did not attend the meeting, the proposal was **deferred**.

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Item No. 22.4 Transfer of Rajasthan share of Yamuna Water at Tajewala Head works to Churu and Jhunjhunu districts of Rajasthan by Underground Conveyance System – Regarding consideration of Fresh ToR
File No. J-12011/06/2019-IA.1 (R), Proposal No. IA/RJ/RIV/95014/2019

The proposed alignment of underground Conveyance System for transfer of Rajasthan share of Yamuna water from Tajewala Headworks, Hatnikund to Churu and Jhunjhunu districts of Rajasthan passes through 7 districts of Haryana and Churu district of Rajasthan on a chainage stretch of 263.0 km up to main reservoir and then distribution network of underground pipe line in the command area in Churu and Jhunjhunu districts of Rajasthan. The Cultivable will be about 1,05,000 ha.

As per interstate agreement held between basin states of upper Yamuna River, viz. Himachal, Haryana, UP, Delhi & Rajasthan in 1994, 1119 MCM water has been allocated to Rajasthan. Out of this, 671 MCM (Seasonal allocation: July-Oct 577 MCM; Nov-Feb 42 MCM; March-June 52 MCM) is to be drawn from Tajewala head works in Haryana on Yamuna river. After construction of three dams in the upper reaches of Yamuna River (Kishau Dam, Renuka Dam, Lakhwar-Vyasi Projects) the seasonal allocations will be July-Oct 550 MCM; Nov-Feb 60.5 MCM; March-June 60.5 MCM.

The complete project is conceptualized in two parts. First transfer of water from Tajewala to Rajasthan through underground conveyance (263 km), its storage in a Raw Water Reservoir (RWR) within Rajasthan boundary and then its utilization for irrigation purpose in Churu and Jhunjhunu districts. Second, the available water proposed to be used for drinking water purpose. The present DPR is prepared for utilization of water for irrigation only; separate DPR for utilization of water for drinking purpose shall be prepared. The drinking water shall be supplied to Jhunjhunu and Sikar districts of Rajasthan. 60% water (350.2 MCM) is reserved for domestic use, 40% (233.5 MCM) shall be used for irrigation in about 1,05,000 ha in Churu and Jhunjhunu and 87.2 MCM will get evaporated or lost in seepage reservoir.

The terrain between Tajewala and Churu district is such that water can be brought by gravity as there is level difference of about 110 m. The distance between these two points is about 263 km.

Project involves construction of gated structure at Tajewala to divert water to pipelines. It is proposed to convey water from Tajewala to Churu (Rajasthan) by laying underground five rows of 3200 mm dia. MS pipe line which will run across seven Districts i.*e Yamuna nagar, Kurukshetra, Karnal, Kaithal, Jind, Hisar and Bhiwani* of Haryana territory and reach Churu district of Rajasthan.

The water brought from Haryana is to be stored in a storage reservoir, which is proposed to be located near Tamba kheri village in Rajgarh Tehsil of Churu District of Rajasthan. The proposed storage capacity of the reservoir is 350 MCM. Since there is no natural river or drain in the area an artificial reservoir is proposed to be constructed by constructing an U shaped earthen embankment around it, The length of the embankment would be around 30 km and maximum height about 16m. The total submergence area would be around 50 sq km. Mostly Agriculture

land would be submerged, practically no habitation or very few structures and few km of village roads may get submerged.

The command area is lying in Churu and adjoining portion of Jhunjhunu districts of Rajasthan, which is lying at higher level than the reservoir hence water from this point shall be pumped to command area. A main pumping station will be constructed near storage reservoir. The entire command area is proposed to be divided into ten blocks comprising of 10,000 ha each, where a small reservoir to store water temporarily will provided. Water from main pumping station will be pumped to these block level reservoirs through underground pipe network. Each block of command will be further divided into chaks comprising of about 400 ha each, there are 253 chaks proposed. A small storage reservoir is proposed to be provided for each chak which is termed as diggies. Each chaks will be further divided into cluster of farms comprising of 5-8 ha. Water from diggies will be further pumped to cluster of farms through underground HDPE pipe lines. This in turn will be connected to sprinkler systems to be owned and operated by farmers.

The irrigation intensity is proposed to be 80% in Rabi and 80% in kharif, total intensity as 160%. The pipe network shall run for 120 days in Rabi (from 1st Nov to 28th Feb) and 30 days (from 1st September to 30th September) in Kharif.

Total 7733.15 ha of land will be required for the project in Haryana and Rajasthan. Out of which, 1958.3 ha land (61.39 ha Govt. land and 1896.91 ha Private land) will be acquired temporarily and 5774.84 ha land (319.44 ha Govt. land and 5455.4 ha private land) will be acquired permanently for which compensation and R&R plan has been prepared according to Land acquisition act of 2013 and rules thereof. Out of the total land requirement the project involve 8 ha of Kalesar wildlife sanctuary area and 10.6 ha of other forest areas (Bir Sonthi RF & Balachur PF). The total cost of the project is about Rs. **23965.845** Crores.

The EAC after detailed deliberations and considering all the facts of the project as presented by the PP observed that project involves huge investment (~24,000 crores) to convey the water from Haryana to Rajasthan over a stretch of 263 km approx. Also, proposal was not prepared with care and lacks clarity. It also appeared that all alternatives were not carefully examined. EAC further noted that PP has not even visited the site. The committee took this very seriously considering the fact that project components involve large financial investment. EAC opined that the PP should visit the project site and nearby areas along with the consultant to get familiar with the area, collect factual information about the pre-construction environment settings, environmentally sensitive areas, etc. They also need to investigate if better alternatives are available. With these suggestions, the EAC **deferred** the proposal.

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Item No. 22.5 **Construction of Barrage for Securing the Foundation of Taj Mahal Improvement in Water Level, Beautification & Navigation at 1.50 km downstream of Taj Mahal, Agra, U.P. – reg. Fresh ToR**
File No. J-12011/21/2018-IA.1 (R), Proposal No. IA/UP/RIV/76099/2018

Present proposal envisages construction of conventional barrage for securing the foundation of Taj Mahal, improvement in water level of Agra, beautification, navigation on river Yamuna at 1.50 km down stream of Taj Mahal, Agra.

The location of proposed barrage is at Latitude 27°11'05.2" N and Longitude 78°03'16.5" E. It is proposed to create storage of water all the time in dry river, recharging the ground water and provision of navigation through river routes as it has been declared National Waterway No. 110 between Delhi to Allahabad, thus reducing the pressure on the other mode of transport,

development of green belt around the pond will improve the environment around the Taj Mahal, which is a world Heritage Monument. Total length of bay is 475 metre; total number and type of gates are 20 vertical gates and two nos. navigation bay for provision of navigation lock gate.

Since the pond level is below the High Flood Level. The total height of barrage is 2.50 m with pond level 146.00m and crest level 143.50 m. Hence The submerged area will be within the main river cross section. No additional land will be required for submergence area. Only in lean season the water level shall be maintained behind the Taj and upstream area by the barrage. The total submerged area including river bed will be around 580 ha.

The land requirement for the project is 30 ha. Out of these 30 ha, around 7.30 ha land o be acquired from private agriculture land for different component of project. The total quantity of water required during construction period is 142 KLD (100 KLD for construction purpose and 42 KLD for domestic purpose). Water requirement during construction stage will be met from surface water. The municipal solid waste generated during construction will be about 115 kg/day considering the entire project and it will be managed &handled in accordance with Solid Waste Management Rules, 2016. The cost of work is Rs. 706.83 crores and approved /sanctioned by Chief Engineer's committee of U.P. Irrigation and Water Resources Department, Lucknow dated 06.04.2018. The estimated time of Project completion is of 2 years. The B.C. ratio of project is 0.27.

The project proponent didn't attend the meeting. However, the Member Secretary informed that the instant project does not involve any components of irrigation/hydropower generation which are listed in the 1(c) of the schedule of EIA, Notification, 2006. Therefore, the above project activity may be considered other than Category 1(c). The EAC, based on the information available found that the project involves infrastructure development i.e. construction of conventional barrage for securing the foundation of Taj Mahal, improvement in water level of Agra, beautification and navigation of river Yamuna at 1.5 km down stream of Taj Mahal. T**herefore, it was opined that the instant case may be appraised by the committee dealing with infrastructure projects and may be transferred accordingly.**

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Item No. 22.6 **100 MW Malana II HEP, Kullu, Himachal Pradesh by M/s Everest Power Private Limited at Himachal Pradesh – Regarding Amendment in Environmental Clearance.**
File No. J-12011/21/2005-IA-I Proposal No. IA/HP/RIV/94369/200

The PP applied online on 31.12.2018 for setting up of additional surface spillway by converting non-over-flow on the right bank of dam. As, the project proponent did not attend the meeting, the proposal has been **deferred** accordingly.

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Item No. 22.7 **Saundatti HEP (1200 MW) Integrated Renewable Energy with Pumped Storage Project by M/s Greenko Solar Energy Pvt. Ltd. at village Karlakatti, Tehsil - Saundatti, District - Belgaum, Karnataka. – reg. Fresh Environmental Clearance.**
File No. J-12011/11/2018-IA.I(R), Proposal No. IA/KA/RIV/74600/2018

The PP made a presentation along with the Consultant, RS Envirolink Pvt. Ltd., Gurgaon for considering the proposal for grant of Environmental Clearance and *inter-alia*, provided the following information:-

The project was considered as per the provisions of EIA Notification, 2006 and amendments thereof. The Project Proponent and their Consultants, made a detailed presentation on the project. Proposed Standalone Pumped Storage Project (1260 MW) is a part of Saundatti Integrated Renewable Energy Project (IREP). The other components of Saundatti IREP include Wind and Solar energy projects. EC is being sought only for development of 1260 MW Standalone Pumped Storage component.

The proposed IREP is a self-identified project and first of its kind which can meet the dynamic needs of DISCOMs/STUs, through Schedulable Power on Demand (SPOD). The scheme envisages:

a. 24 Hours Round the Clock (RTC) Base Load Energy
b. 18 Hours Base Load Energy as per Demand
c. 12 Hour Peak Load Energy (6 hours + 6 hours)
d. Energy Storage Service, Grid Management, Frequency Management & Ancillary Services

The scheme envisages construction of:

e. 96 m high Dam for creation of Saundatti IREP reservoir of 1.01 TMC live storage capacity
f. Power Intake Structure
g. 2 nos. of 833 m long and 12.0 m dia concrete lined head race tunnel
h. 2 nos. of 30 m Dia. circular shape surge shaft with orifice dia. of 5 m
i. 4 nos. of 730 m long and 7.5 m dia. inclined circular steel lined Penstock tunnel / Pressure Shaft each for each unit of 252 MW.
j. one 730 m long and 7.5 m dia inclined circular steel lined Penstock tunnel/ Pressure shaft bifurcated to 2 penstocks to feed 2 units each of 126 MW.
k. A surface Power house having an installation of four nos. reversible Francis turbine each of 252 MW capacity (all 4 units are with variable speed turbines) and two nos. reversible Francis turbine each of 126 MW capacity (both units are with variable speed turbines) operating under a rated head of 147.99 m in generating mode and 156.39 m in pumping mode.
l. 70 m wide and Full Supply Depth (FSD) of 5.50 m Tail race channel of 1.93 km long connecting to the Existing Renuka Sagar reservoir.

The project proponent apprised the EAC that necessary approval has been accorded by the Government of Karnataka for the proposed Standalone Pumped Storage Component of Saundatti IREP with an installed capacity of 1260 MW and for utilization of 1 TMC from Renuka Sagar Reservoir. The project envisages creation of new upper reservoir located in Karlakatti & Chakrageri Villages under Yakkundi Gram Panchayat in Saundatti Taluk, which is about 80 Km from Belagavi, Karnataka. Whereas, the existing Renuka Sagar reservoir near Naviluteertha Dam, Vatnala village in Saundatti Taluk of Belagavi District will be the lower reservoir. The Renuka Sagar reservoir (Existing) is under operation with a live storage capacity of 34.346 TMC and Saundatti IREP reservoir is proposed for the live storage capacity of 1.01 TMC.

The total land requirement for the proposed development of pumped storage project is about 228.97 ha. Out of the total land requirement, around 167.65 ha is forest land, 37.34 ha is Private land and 23.98 ha is Government/ Assigned Land. No families are to be displaced by the Project and it does not involve any resettlement. Private land acquisition will be as per the provisions of RFCTLARR, 2013 and the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Karnataka) Rules, 2015 issued by the Government of Karnataka vide Notification RD 152 AQB 2013, dated 17.10.2015. The private land required for

the project is proposed to be purchased through direct negotiations between land owners and Project Proponent.

Component wise break-up of required land is presented below:

Sl. No.	Components	Total Area (ha)	Forest Land Area (ha)		Non-Forest Land Area (ha)	
			Surface	UG	Private Land	Govt/PWD
1	Approach Road to Project Components	4.27	4.11	0.00	0.16	-
2	Dam & Submergence	138.12	138.12	0.00	0.00	-
3	HRT & Surge shaft	9.27	0.00	3.95	0.00	5.32
4	Ramps to Adit for Surge Shaft & Pressure Shaft	0.42	0.42	0.00	0.00	-
	Adit to Surge Shaft	0.45	0.00	0.45	0.00	-
	Adit to Pressure shaft	0.62	0.00	0.62	0.00	-
	Approach to Power house	4.36	4.36	0.00	0.00	
5	Power House including Pressure Shaft, Tail Race Pool & Ramp to Adit for Pressure Shaft	22.26	15.62	0.00	6.64	-
6	Tail Race Channel	23.65	0.00	0.00	4.99	18.66
7	Contractor facilities, Cement and E&M stores, Temporary Colony area (5.0 ha + 5.0 ha).	10.00	0.00	0.00	10.00	-
8	Muck Disposal area	10.00	0.00	0.00	10.00	-
9	Job Facility Yard & others	5.30	0.00	0.00	5.30	-
10	Magazine	0.25	0.00	0.00	0.25	-
	TOTAL	**228.97**	**162.63**	**5.02**	**37.34**	**23.98**

Online application for diversion of 167.65 ha of forestland has been submitted vide proposal No. FP/KA/HYD/37723/2018; dated 18.12.2018. There is no National Park/Wildlife Sanctuary within 10 km radius of the project area. The total cost of the project is about Rs. 5535.22 Crores.

First Scoping Clearance for Saundatti Pump Storage Scheme with capacity of 1200 MW (as part of Integrated Renewable Energy Project) was issued by MoEF&CC on 18.05.2018. Revised Scoping Clearance due to change in project capacity from 1200 MW to 1260 MW, was issued vide letter No. J-12011/12/2018-IA.I (R) dated 25.09.2018. Baseline data was collected for 3 seasons – lean (January 2018), Pre-monsoon (May, 2018) and Monsoon (August, 2018).

For collection of baseline data, study area has been delineated as per approved ToR i.e. area within 10 km radius of the main project components like Pump house, Power House, Balancing reservoirs and approach road etc.

Primary Data was collected through field surveys in different seasons i.e. winter/lean season, pre-monsoon/summer and monsoon for soil fertility, ambient air quality, ambient noise level, traffic density, water quality (surface as well as ground water), flora and fauna within the study area. Baseline data was discussed in detailed along with impacts during construction and operation phase of the project. Data on AAQ during monsoon could not be included in preparation of EIA report, as the baseline data on the same was not reliable and representative

for prediction of impact. To mitigate the potential impacts, mitigation measures are suggested and environment management plans have been proposed along with budget for implementation. Following activities are proposed under Environmental Management Plan:

Following activities are proposed under Environmental Management Plan:

1. For Biodiversity Conservation & Management plan budgetary provisions of Rs. 280.00 lakhs have been allocated for activities such as Awareness Programme, Development of Community Pasture Lands, Fire Protection Measures, Infrastructure Development, Development and maintenance of nature trails and eco-development programmes etc.
2. Muck Dumping & Management plan has been prepared for dumping of excavated muck. The total quantity of muck likely to be generated from excavation is about 7.21 Mcum. About 5.33 million m^3 of excavated muck is expected to be utilized for rockfill and aggregate for construction. About 1.00 million m^3 will be utilized for levelling of reservoir bed level. Total quantity of muck proposed to be disposed of in designated muck disposal area, after considering 40% swelling factor would be 1.64 million m^3. For disposal of 1.64 million m^3 of muck, two sites have been identified with total area of 10 ha. Total capacity of these sites is about 1.75 million m^3. A provision of Rs 385.28 lakhs has been earmarked for muck management.

Other Components of EMP were also discussed along with the budgetary provisions. Total amount proposed for implementation of Environmental Management Plan (EMP) is Rs. 7070.62 lakhs and the budgetary provisions for implementing EMP are outlined below.

Sl. No.	**Management Plans**	**Amount (Rs. in lakhs)**
A	**Environmental Management Plan**	
1	Biodiversity Conservation & Wildlife Management Plan	280.00
2	Muck Dumping and Management Plan	385.28
3	Solid Waste Management Plan	186.16
4	Public Health Delivery System	147.00
5	Energy Conservation Measures	185.00
6	Landscaping, Restoration & Green Belt Development Plan	149.50
7	Compensatory Afforestation Plan*	3637.48
8	Air, Water & Noise Management Plan**	166.20
9	Environmental Monitoring Program	
10	Rehabilitation and Resettlement Plan	517.50
11	Disaster Management Plan	275.00
Total A		5929.12
B	**Corporate Environment Responsibility Plan**	**1141.50**
	Total (A+B)	**7070.62**

**Actual cost of Compensatory Afforestation will be finalized by forest Department.*
***Cost of Air, Water & Noise Management Plan is given in Environmental Monitoring Plan*

EAC discussed in detailed the activities to be taken under CER and budget thereof. EAC suggested that in consultation with local authorities and affected villages, the project should focus on fully developing few key areas to permanently strengthening basic activities in the project area. EAC also observed that budget proposed for CER is less than that of mentioned in OM No. 22-65/2017-IA.III dated 01.08.2018; which is 0.5% of the capital investment for greenfield projects with capital investment greater than Rs. 1000 crore and less than equal to Rs. 10,000 crore.

As per the provisions of EIA Notification, 2006, Public Hearing was conducted by Karnataka State Pollution Control Board (KSPCB) on 7.01.2019 at project site adjacent to Mallur Electrical Sub-Station, Karlakatti Village, Yakkundi Gram Panchayat, Saundatti Taluk, Belagavi District, Karnataka and the Proceedings of Public hearing were forwarded by KSPCB. Issues discussed and demands raised during Public Hearing were deliberated in detailed by the EAC. EAC observed that public has raised issue on Water Availability, Dam Safety, Land Acquisition and Land compensation. Commitments made by the PP were also discussed in the meeting and EAC opined that all the commitments made during public hearing should be completed.

During the Presentation, EAC deliberated on the impact on reservoir capacity due to disposal of about 1 million m^3 of muck in reservoir. Project proponent informed that this will lead to levelling of surface of reservoir reducing the dead storage without affecting the live storage. EAC also discussed on the implementation of measures proposed under Bio-diversity Conservation Plan and opined that apart from deposition of allocated funds with appropriate authority, the PP should follow up them for timely and effective implementation. EAC also discussed that proposed EMP budget should be made part of the environment clearance letter and it should be binding on developer to spend the budget and should be implemented the measures as proposed in time.

After detailed deliberations, and considering all the facts of the project as presented by the PP including Public Consultation, the EAC has recommended the proposal for grant of environmental clearance with the following conditions:

1. After observing the project capital cost, EAC mentioned that total budget under Corporate Environment Responsibility (CER) should be as per applicable norms (refer Ministry's OM No. 22-65/2017-IA.III dated 1.8.2018) of the Project Capital Cost
2. Adequate protection measures should be taken up to avoid any spillage of muck to the adjoining agricultural fields.
3. Apart from strengthening the basic amenities in the project affected villages like maintaining drinking water supply, providing health care facilities, etc. CER activities should give preference to education facilities along with amenities in Schools.
4. Provision of permanent job opportunities to project affected families and other villagers as permanent source of livelihood should be explored.
5. Skill development to be provided to the habitants of affected panchayats in the trades which can give them opportunity for employment in the project.
6. Consolidated EIA/EMP report is to be submitted as per the generic structure given in the EIA Notification, 2006.
7. Public hearing issues raised and compliance of the same by the PP should be incorporated in the EIA/EMP report.
8. Financial provisions made for conservation of biodiversity has to be carefully monitored. The money goes to forest department. Are there way to check that he work on conservation has been done to expectations?

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Item No. 22.8 Kaleswaram Lift Irrigation Scheme near Kannepally village, Mahadevpur Mandal, Jayashankar Bhoopalpally district, Telangana – Regarding Fresh Environmental Clearance
File No. J-12011/20/2017-IA-1(R), Proposal No. IA/TG/RIV/65564/2017

The Project Proponent and the Consultant, Enviro Infra Solutions Pvt. Ltd., Ghaziabad, made a presentation on the project and *inter-alia,* provided the following:

The project envisages lifting of 4.5 TMC of water from Godavari River to fill 14 Minor irrigation tanks, The project is proposed to be constructed in Mahadevpur Mandal, Jayashankar Bhoopalpally district (previously Karimnagar) to benefit 18,211 Ha of command area under the existing MI tanks. Out of 4.5 TMC of water, the project envisages supply of 0.3 TMC drinking water to the enroute villages. This scheme benefits 63 villages belonging to 4 Mandals.

Construction work involves intake canal, pumping stations, pressure main and gravity canals. An intake canal of length 200 m will be used to convey water to Pumping station - I. The water will be lifting through pump house and with the help of pressure main (pipelines) and the water will be conveyed to tanks through pipelines buried underground. Gravity canal network will be constructed under each tank to convey the water to the fields.

The project has been accorded administrative approval vide order No. G.O. MS No. 220 dt: 11.10.2007 for 443 Crores and revised administrative approval vide order No. G.O.Ms No.158 dt: 30.07.2008 for 632 Crores and the total cost of the project is 499.23 Crores.

Total land requirement is 1467 ha, out of which 259 ha is forestland, 568 ha government land and 640 ha is private land. Diversion of 258.028 ha of forest land for laying pipelines for which Stage-II Forest Clearance has been accorded by the Ministry on 27.12.2017. The project doesn't involve submergence and hence no Rehabilitation and Resettlement. The boundary of Pranahita Wildlife (Black buck) Sanctuary is located at a distance 12 km from the lift point and the ESZ boundary of the Sanctuary is at a distance of 7 km from the lift point. As per the observations of EAC, 10% of the total command area of 1902 ha will be brought under micro irrigation.

CWC in its letter dated 30.10.2017 confirmed the availability of 284.3 TMC of water at the Kaleshwaram Irrigation Project at 75% dependability from the period 1971-72 to 2011-12. Hence, after due consideration of the water requirement of Kaleshwaram Irrigation Project of 180 TMC, still there will be surplus flow of 100 TMC in the Godavari river. Out of which, 4.5 TMC will be utilised for tank filling project.

The Scoping/TOR clearance for the project was accorded on 04.08.2017. In order to assess the baseline environmental status, command area, 10 km radius from the lift component and command area were considered and the data was collected for three seasons namely Monsoon (July, 2017 – September, 2017), Post – Monsoon (October, 2017 – December, 2017) and Pre – Monsoon (January, 2018 – March, 2018). Environmental Public hearing were held on 24.09.2018 at the premises of BLM Gardens (functional hall), near MRO office, Garepally, Kataram, Jayashankar Bhupalpally district as per the procedure laid down in EIA Notification, 2006 and its amendments.

No RET floral species recorded in the project site and study area. Black-shouldered kite and Oriental honey buzzard are the only avifaunal species belonging to Schedule I of Wildlife (Protection) Act, 1972. Butterflies such as Common pierrot, Blue pea, Common gull and Common crow are the only species belonging to Schedule I, II and IV of Wildlife (Protection) Act, 1972. As per IUCN Conservation status, 2018 two vulnerable species namely, sambar deer and sloth bear were recorded in the command area. Sloth bear and Sambar Deer belongs to Schedule-I and Schedule-III of Wildlife (Protection) Act, 1972 respectively in the command area.

The cost estimates for implementation of EMP during construction phase and operational phase are as follows:

Sl. No.	Particulars	Cost in Rs.

1	Environmental safeguard measures for mitigating air and noise pollution	17,35,250/-
2	Land acquisition	70,23,00,000/-
3	Green belt development	27,30,15,000/-
4	Construction of embankment for intake canal	3,50,000/-
5	Fisheries conservation and management plan	10,00,000/-
6	Public health delivery system	4,00,000/-
7	Sanitation and Solid waste management plan	1,00,000/-
8	Energy conservation measures	5,00,000/-
9	Command area development	45,00,000/-
10	Environmental monitoring programme	43,31,380/-
11	Catchment area treatment plan	38,44,25,500/-
12	Local Area Development	33,80,000/-
	Total	**137, 60, 37, 130/-**

The EAC after detailed deliberations and considering all the facts of the project as presented by the PP, **deferred the proposa**l and sought some additional information as below:

i. The committee opined that the PP shall relook at the matrices and update them. For each activity, weights should be assigned carefully. Updated matrices shall be submitted to the Ministry for reconsideration in the EAC.
ii. List of fish species like Hilsa needs to be rechecked.
iii. Cost estimate for implantation of fisheries management plan needs to be clarified and basis for calculation of fingerling stocking of fishes is to be submitted.
iv. Plant diversity has to be documented properly and attention has to be paid to especially RET & endemic species the region.
v. Certificate from Chief Wildlife Warden regarding distance of Pranahita Wildlife (Black buck) Sanctuary and Sivaram Wildlife Sanctuary from the project site (all components) is to be submitted.
vi. Wildlife Conservation plan for all Schedules I species is to be prepared and submitted.
vii. Cost of green belt plan and conservation plan for Schedule I species under Environmental Management Plan be separated and therefore revised EMP cost is to be submitted.
viii. Cost for handling muck under Muck Management plan is to be envisaged and incorporated in Environment Management Plan.

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Item No. 22.9 Improvement of drainage path of Kalisindh river near Balinda Ghat for prevention of floods in Jhalawar town by Water Resources Kalisindh Project Division, Jhalawar, Rajasthan – Regarding Fresh ToR
File No. J-12011/05/2019-IA.1 (R), Proposal No. IA/RJ/RIV/92303/2019

The PP applied online on 31.12.2018 for improvement of drainage path of Kalisindh river near Balinda Ghat for prevention of floods in Jhalawar town. As the project proponent did not attend the meeting, the proposal has been **deferred** accordingly.

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Item No. 22.10 Jamrani Dam Multipurpose Project by Irrigation Department, Uttarakhand – Regarding reconsideration of Environmental Clearance.
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 km^2. The live storage created by project is proposed 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 proposed to be constructed to provide augmentation storage for Gola barrage.

In 1975, the project was accorded administrative approval by erstwhile Government of Uttar Pradesh and technically approved for Rs 61.25 crore by Planning Commission. The scheme was accepted by Advisory Committee on Irrigation, Flood Control and Multipurpose Projects for an amount of Rs. 144.84 crore in its 43rd meeting dated 18.05.1989. Gola barrage together with 40.5 km of canal system and renovation of about 244 km long canal system was completed in 1981. Revised cost based on approved designs and quantities at May, 2018 Price Level is Rs. 2584.10 Crores.

Bhabar area of Kumaon region depends entirely on Gola canal system taking off from a barrage constructed at river Gola near Kathgodam both for irrigation & drinking water. The rising demand of drinking water in Haldwani City and nearby villages is due to high population growth in the area. The water availability in lean periods decreases significantly and creates problems for large population of the area.

The river Gola is a flashy and rainfed perennial river. About 400 cumecs discharge may be expected in floods while summer discharge may reduce down to only a few cumec. Floods of moderate intensities occur with very sharp peaks & short duration. Construction of a storage reservoir is the only solution for effective utilization of water of river Gola. Storage created by construction a dam upstream of Gola barrage will enhance the existing irrigation system in commands of Nainital district, Uttarakhand and Rampur, Bareilly districts of Uttar Pradesh with creating an additional irrigation potential of about 57,065 ha. Accordingly, intensity of irrigation will be expected to be increased from 158.85% to 196.88%, besides providing assured supplies to the existing irrigation systems and domestic water demands for Haldwani city.

Besides additional irrigation area of 57,065 ha, 42.7 MCM for drinking water and annual power generation of 63.4 MU, there are various other indirect benefits viz. pisciculture, attraction of tourism, recharge of groundwater in adjoining area, creation of employment among the local people, infrastructure development of the area, etc. After the construction of Jamrani dam, employment opportunities and standard of living of the local people will be provided.

The baseline study for different environmental attributes was carried out in three seasons during 2006 –2007. The pollutant concentration in the air were well below the NAAQS as perm Air (Prevention & Control of Pollution) Act, 1981 dated April 11, 1994 and [EPA Notification: GSR 176 (E), April 2, 1996. The noise monitoring shows that L_{eq} (noise level equivalent) day and night time noise levels were within the standards. The analysis of ground water indicates that the pH is within limit. The total hardness, TDS values in all water samples

was well below the permissible limit specified for drinking water purpose. The fluorides level was much lower than the permissible limit for drinking purposes. The BOD and COD values were also very low indicating absence of organic pollution loading. During the survey conducted, no threatened/endangered species (IUCN-Vulnerable category) had been recorded around the dam site within (10 km radius). During the survey, no fish species was observed in the upstream of Khinchi Gola and Lugar stream and downstream of Barajalla stream. On the basis of different fish catch or visual observation made during survey, none of the fish recorded are listed under Indian Wildlife Act, 1972 and IUCN (2006).

The Public Hearing for the above mentioned project was held on 12.05.2008 near Field School situated in village Damuadunga, Tehsil Haldwani which is approximately 3 km away from the Kathgodam Railway Station. The meeting was presided by Upper collector, Nanital and Organized by Uttarakhand State Pollution Control Board, Dehradun. The public notice was advertised in the local newspaper for the commencement of the Public hearing dated 10th April, 2008 Wide publicity was also carried out in the villages falling under project zone. The public hearing was attended by villagers and the representative of affected Gram Panchayat. 124 stake holders marked their presence in the meeting. The main issues raised during Public Hearing were regarding the compensation against land acquisition and supply of clear water.

Hydrology has been approved by Hydrology (North) Directorate, CWC, New Delhi vide letter No. Hydrology (N) Dte. / 1 / UP/ 218/ 83/ 106-07, dated 01.03.2011. The main features of Hydrology of the project are:

Catchment area up to dam site - 450 km^2
Annual yield at dam site in 50% DY – 393.31 MCM
Annual yield at dam site in 75% DY – 283.06 MCM
Design Flood or PMF estimated – 8427 cumecs
Rate of sedimentation – 14.29 ham/100 km^2/ year

The following approvals have been obtained till date:

a. **Irrigation Planning:** Concurrence of both the States on irrigation planning has been obtained from Ministry of Agriculture and CWC vide letter No. 2/463/IP-88/NE/ 537 dated 05.07.2012.
b. **Power Potential Studies:** Earlier, proposal of hydro power generation with installed capacity of 30 MW (3x10MW) was submitted in the DPR, 2005. After examination, CEA has approved 14 MW installed capacity for power generation from the project vide letter 207/14/2012-HPA/2821 dated 07.12.2012. The main features of the power potential studies are:

   Installed capacity: 14 MW
   FRL : 762.00 m EL
   MDDL : 717.47 m EL

c. **Dam Design:** Civil-hydel design of the dam has been approved by CWC vide letter No. 03/152/2006 - CMDD (N&W) dated 14.05.2013.
d. **Hydel Civil Design:** Hydel Civil Design of the dam has been approved by CWC vide letter No. 11/ 23/ 2012/ HCD- N & W dated 10.05.2013.
e. **Gate Design of Dam:** Gate design of the dam has been approved by Project Appraisal (North) Directorate, CWC vide letter No. 2/140/2012-PA (1063-64) dated 16.05.2013.
f. **Electro-mechanical works:** Design of electro-mechanical works has been approved by CEA vide letter No. 10/ 20/ HE & TD- 2014/ 1896-98 dated 21.11.2014.

g. **Forest Clearance:** Forest Clearance has been cleared by Ministry of Environment, Forest & Climate Change vide letter No. F No. 8-36/ 2013- FC dated 25.04.2018.
h. **Inter-state matters on MOU:** Inter-state matters on MoU has been cleared by Central Water Commission vide letter No. 2/6/ ISM- 2/ 2017/189 dated 25.05.2018.
i. **Cost-Electro-Mechanical Works:** Cost of the Electro-Mechanical Works has been vetted/approved by Hydro Project Appraisal Division, Central Electricity Authority, Ministry of Power vide letter No. 207/ 14/ 2004/ HPA/ 1031 dated 06.11.2018.
j. **International clearance/ JRC angle:** International clearance/ JRC angle has been issued by Ministry of Water Resources, RD & GR (Flood Management Wing) vide letter No. Z- 23011/ 4/ 2014- Ganga (Pt- 1)/ 3675- 76 dated 29.11.2018.
k. **Cost Estimate:** The revised cost estimate of Rs. 2584.10 crores on price level May, 2018 has been approved by CWC vide letter No. 2/140/Vol-V/2012-PA(N)/437-41 dated 06.02.2019
l. **BC Ratio:** On the basis of approved cost by the CWC, the BC Ratio was finalized as 1.09 vide letter No. CWC ID No. 8/7/U.U./2004/IP(N)/38 dated 09.02.2019
m. **Environmental Clearances:** Status of Environmental Clearance-

i. **In the 35th EAC Meeting dated 18th & 19th Feb., 2010,** the Ministry of Environment, Forest and Climate Change had recommended Environmental Clearance subject to additional information which was submitted by IWC-Irrigation Department to the Ministry vide letter No. 587 IWC/R-13/ dated 20.03.2010.
ii. In absence of Forest Clearance for the diversion of forest land, EC of the Project was kept in abeyance till the decision on diversion of forest land is taken; vide MoEF's letter No. J-12011/71/2008-IA.I.
iii. Stage-I Forest Clearance (351.55 ha) for the project was obtained vide letter No. **8-36/2013-FC,** dated 25.04.2018.
iv. After obtaining Forest Clearance, a request for reconsideration for grant of EC was made by the PP vide letter No. 681/ PCH/R-13/E.I.A. dated 09.05.2018.
v. The PP was requested to upload the relevant documents for the EC application online for further reconsideration vide letter No. J-12011/71/2008-IA-I dated 20.07.2018.
vi. All the relevant documents were uploaded online on 13.02.2019 for consideration of grant Environmental Clearance.
vii. The Decision of Writ Petition (PIL) No. 138 of 2017 by the Hon'ble High Court of Uttarakhand regarding construction of Jamrani dam mentioned that ***"all the codal formalities shall be completed within a period of 3 months for Construction of Dam at the earliest".***

The EAC after detailed deliberations and considering all the facts of the project as presented by the PP, **deferred the proposa**l and sought some additional information as below:

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 project 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 old, Social Impact Assessment be carried out to ascertain the need and impacts due to the project in the present context.

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Item No. 22.11 Karchham-Wangtoo Hydro Electric Project (HEP) (1000 MW) by M/s Jaiprakash Power Ventures Limited - Regarding Transfer of EC File No. J-12011/47/2005-IA & Proposal No. IA/HP/RIV/10037/2005

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

The project will utilise the head available between the tail waters of Baspa Hydroelectric Project Stage-II and head waters of Nathpa-Jhakri Hydroelectric Project. Commissioned on 13.09.2011, the Karcham-Wangtoo HEP is located on river Satluj in the district of Kinnaur of Himachal Pradesh. It's diversion dam is located at village Karcham and the powerhouse is located near village Wangtoo on NH-5. It is one of the largest HEP in the Private Sector which involves construction of 44.60 km long tunnels of various sizes.

This project was accorded environmental clearance on 09.11.2005 to M/s Jaiprakash Power Ventures Ltd. (JPVL). Vide order dated 25.06.2015, the High Court of Himachal Pradesh sanctioned a scheme of arrangement for transfer of the Project from JPVL to Himachal Baspa Power Company Limited (HBPCL). Subsequently, JPVL approached the GoHP for (i) transfer of the Project from JPVL to HBPCL and (ii) transfer of the shareholding of HBPCL to JSW Energy Limited, a company incorporated under the Company Act, 1956.

Vide the tripartite agreement dated 29.08.2015 executed amongst GoHP, JPVL and HBPCL ("Tripartite Agreement"), GoHP *inter-alia*, consented to the transfer of all the rights, assets, liabilities, obligations, privileges and benefits of the Project from JPVL to HBPCL and transfer of shareholding to HBPCL from JPVL and then from HBPCL to JSW.

An online application for amendment of EC was submitted on dated 18.02.2019 requesting the Ministry for an amendment in EC for change of name from Himachal Baspa Power Company Ltd. to JSW Hydro Energy Ltd.

The MoEF vide their letter No. J-12011/47/2005-IA-I dated 21.03.2016 had already granted NOC for transfer of EC from JPVL to HBPCL and now the name of Himachal Baspa Power Company Limited has been changed to 'JSW Hydro Energy Limited' with effect from 11.09.2018. The following documents were submitted for change of name in the EC:

- Certificate of Incorporation by the Registrar of Companies dated 11.09.2018.
- Status of pattern of Shareholding of the company.
- List of Directors of the Company.
- Acknowledgement letters dated 25.09.2018 intimating change of name to MoEF & CC.
- NOC granted by MoEF & CC vide dated 21.03.2016.
- Copies of Tripartite Agreement.

The EAC observed that name of "Himachal Baspa Power Company Limited" has been changed to "JSW Hydro Energy Limited" with effect from 11.09.2018. Based on the relevant information submitted and as presented by PP, the EAC **recommended** that the Environmental Clearance already granted to the project may be transferred in the name of M/s JSW Hydro Energy Limited.

Item No. 22.12 Any Other items with the permission of the Chair

As there being no agenda item left, the meeting ended with a vote of thanks to the Chair.

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Annexure

Site visit Report of Eastern Rajasthan Canal Project at Sawai Madhopur, Rajasthan by M/s ACE WR Zone Jaipur, Rajasthan Jaipur in the State of Rajasthan

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In the 19th meeting of the re-constituted Expert Appraisal Committee for River Valley & Hydroelectric Projects was held on 26.10.2018. In the meeting, it was decided that a 7 Member Sub-Committee shall visit the proposed project site and to submit a report as per the Office Order for appraisal in the next EAC meeting. The Sub Committee was constituted vide Ministry letter No. J-12011/23/2018-IA-I(R) dated 28.01.2019 having the following Expert Members:

1.	Dr. S.K. Jain	-	Chairman
2.	Shri Sharvan Kumar	-	Member
3.	Shri N.N. Rai	-	Member
4.	Dr. J.A. Johnson	-	Member
5.	Dr. S.R. Yadav	-	Member
6.	Dr. D.M. More	-	Member
7.	Dr. S. Kerketta	-	Member Secretary

The following are the ToR of the Sub-Committee:

1. The command area is falling in Ranthambhore Wildlife Sanctuary. Any likely adverse impact on wildlife due to the proposed project, if any, be ascertained.
2. Meeting with local stakeholders to discuss the beneficial drawn due to this project.
3. Any other issues as raised by any general public during the site visit.

The Sub Committee visited the project site of Eastern Rajasthan Canal Project in Rajasthan on 29th and 30th January 2019. Prof. S.R. Yadav, Shri Sharvan Kumar and Shri N.N. Rai could not be present with the team due to preoccupation, however, other members visited the area.

The Committee visited the existing Ajan Dam site and its command area. Ajan dam is situated adjacent to Keoladeo National Park Bharatpur District. During visit of the proposed Doongri Dam, the villagers of Bhavpur coming under the dam axis have also been interacted. During interaction, it has been found that the villagers are interested for implementation of the project and support the project as the villagers will be duly compensated and rehabilitated at a location which would be approachable to the mainstream areas.

All the concerned officers from the fields were present during the site visit.

Background of the Project:

During visit, the project proponent gave a detailed of the project and *inter-alia,* provided the following:

This project is proposing to stabilize as well as to create drinking water resources for projected population of year 2051 of 13 districts of Rajasthan state and creating 2.02 lakh ha command area by micro irrigation scheme in Sawai Madhopur, Karoli, Dausa, Bharatpur and Dholpur Districts of Rajasthan, also includes supplying water to Delhi Mumbai Industrial Corridor (DMIC), as proposed by M/s Water Resources

Zone, Jaipur, Rajasthan. The project envisages construction of five barrages and one dam viz. Kunnu barrage on river Kunnu, Ramgarh barrage on river Kul, Mahalpur barrages on river Parbati, Navnera barrage on river Kalisindh, Mez barrage on river Mez and Dongri dam on river Banas to provide irrigation facility in 2,02,500 ha of land in Dholpur (72,500 ha) and Sawai Madhopur (1,30,000 ha) Districts of Rajasthan with an irrigation intensity of 120%. About 2.81 crores population will be provided drinking water facility. About 80,000 ha of command area in 13 districts will be stabilized. Total length of the water conductor system is about 1,268 km consisting of gravity canal, pumping main and tunnels. The main canal from proposed Dongri dam in Sawai Madhopur Command area is located at a distance of 1 km from Ranthambhore Wildlife Sanctuary. Total submergence area is 40,886 ha. The total submergence of forest area is about 9,081.40 ha, out of which 3,703 ha is coming under Ranthambhore Wildlife sanctuary. The total land requirement for project is 67,615 ha, out of which 5378.4 ha is forest land; 29,422.5 ha is private land, 29,111.1 ha is government land and wildlife land is 3,703 ha. The total cost of the project is about Rs. 37,247.12 Crores.

Kunnu barrage on Kunnu River, tributary of Chambal river is proposed at Hanotiya village of Baran District having location at Latitude 25^{0}15' 56.7" N and Longitude 77^{0}13'20" E. This barrage is having FRL of 306 m, length 132.5 m, height 20 m and reservoir capacity of 56.97 MCM. The water will be pumped through pipeline from Kunnu barrage and further routed through gravity channel and finally will draw water through natural channel to **Ramgarh barrage** proposed at Kul river, a tributary of Parvati river. Ramgarh Barrage is located at Latitude 28^{0}18'36.7" N and Longitude 76^{0}39'03" E. This barrage is having FRL 240 m, length 73 m, height 26 m and reservoir capacity of 50.49 MCM. From Ramgarh barrage, water will be routed through the gravity channel to the **Mahalpur Barrage** proposed on Parvati River. Mahalpur Barrage is located at Latitude 25^{0}19' 46" N Longitude 76^{0}33'50" E. This barrage is having FRL 230 m, length 339 m, height 29 m and reservoir capacity of 162.20 MCM. The water from Mahalpur barrage will be routed through gravity channel to **Navnera Barrage** proposed at Kalisindh river. Navnera Barrage's Latitude 25°29'03" N Longitude 76°18'58" E. This barrage is having FRL 217 m, length 609 m, height 26 m and reservoir capacity of 226.65 MCM.

The water collected from all four barrages will be further routed through gravity channel / pumping up to **existing Chakan dam** by crossing the Chambal river. The Chakan dam is situated on Chakan river at Latitude 26^{0}48'11"N and Longitude 76^{0}13'22" E having FRL of 235 m and storage capacity of 12.9 MCM. One barrage is also proposed at Mej river at Latitude 25^{0}40'03"N Longitude 76^{0}15'46" E having FRL 210 m, length 235 m, height 20 m and storage capacity of 50.8 MCM. Water will be pumped from Mej Barrage through pipe line and further routed by gravity channel and shall join the channel connecting Navnera Barrage to Chakan Dam. From existing Chakan dam water will be pumped and further routed through gravity channel up to **existing Kumahariya dam** situated on local nallah at Latitude 25^{0}51'12"N Longitude 76^{0}8'6" E and having FRL 267 m, length 2,790 m, height 5.8 and storage capacity of 2.7 MCM. From Kumahariya dam, two feeder systems are proposed. One feeder involves pumping through pipe line and further routed through gravity channel up to **Galwa Dam** situated on Galwa river at Latitude 25^{0}52'50"N Longitude 76^{0}00'32" E and having FRL 274.82 m, length 6,068 m, height 7.8 m and storage capacity of 48.7 MCM. Other feeder (Gravity channel) off taking from Kumahariya dam will feed to **existing Mui dam** situated on local Nala at Latitude 25^{0}57'10"N Longitude 76^{0}15'59" E and having FRL 265 m, length of 914 m, height 6.4 m and storage capacity of 1.26 MCM. Natural channel emanating from Mui dam will feed water to **existing Surwal Dam** situated on local Nala at Latitude 26^{0}04'25"N Longitude 76^{0}19'56" E and having FRL 248 m, length 4,014 m, height 4.57 m and storage capacity of 25.97 MCM. Natural channel emanating from the Surwal dam will transfer water to **Doongri Dam**, proposed at the Banas river,

tributary of the Chambal river at Latitude 26^{0}07'58" N and Longitude 76^{0}38'02" E. This barrage is having FRL 230 m, length 1583 m, height 28.0 m and storage capacity of 2098.51 MCM.

From Galwa dam two feeder system are emanating. One feeder involves pumping through pipe line and further routed through gravity channel up to **existing Bisalpur Dam** situated on Banas river at Latitude 25^{0}54'22"N Longitude 75^{0}25'22" E and having FRL 315.5 m, length 574 m, height 39.5 m and storage capacity of 1095.8 MCM. From Bisalpur Dam water will be routed to **existing Tordi Sagar Dam** situated on Banas river at Latitude 26^{0}12'15"N Longitude 75^{0}23'38" E and having FRL 313.95 m, length 1800 m, height 14.1 m and capacity 47.1 MCM through the gravity channel. From Tordi Sagar Dam, water will further be routed to **Mashi Dam** situated on Banas river at Latitude 26°25'42"N Longitude 75°45'32" E and having FRL 284 m, length 2,070 m, height 5.1 m and capacity 48.1 MCM by means of gravity channel. Other gravity channel emanating from Galwa dam will feed to **Isharda Earthen dam** under construction on Banas river at Latitude 26°06'30"N Longitude 76°00'30" E and having FRL 256 m, length 4,700 m, height 25 m and capacity 91.75 MCM. Isharda dam is proposed for supply of drinking water facilities in 1200 villages and six towns of Dausa and Sawai Madhopur Districts. From Isharda dam, two water carrier systems off taking, one gravity channel will be feeding water to **Morel dam** situated on Banas river at Latitude 26°27'18"N Longitude 76°19'33" E and having FRL 262.43 m, length 5565 m, height 24.08 m and capacity 76.6 MCM and this gravity channel will further feed water to **existing Khura Chainpura Dam** situated on local nallah at Latitude 26°35'50"N Longitude 76°40'46" E and having FRL 217 m and capacity 2.26 MCM.

Other carrier system emanating from Isharda dam involves pumping water through pipe line and further routed through gravity channel to **Kanota dam** situated at Latitude 26°54'50"N Longitude 75°55'56" E and having FRL 361.28 m, length 2499 m, height 14.8 m and capacity 14.13 MCM. From Kanota dam water will be pumped through pipe line to existing Ramgarh dam situated at Latitude 27°3'06"N Longitude 76°03'03" E and having FRL 385.57 meter, length 1,950 m, height 26.0 m and capacity 75.0 MCM. Further, water will be pumped through pipe line and routed through gravity channel to **existing Kalakh Sagar Dam** situated at Latitude 26°58'37"N Longitude 75°27'10" E and having length 274 m, height 38.0 m and capacity 20.66 MCM.

Khura Chainpura dam will be receiving water through two alternatives and also transferring the water through two water carrier systems to feed different existing dams situated in Karoli, Alwar, Bharatpur and Dholpur districts. From the proposed Doongri dam water will be routed to **existing Kalisil dam** situated at Latitude 26°16'11"N Longitude 76°47'08" E and having FRL 247.75 m, length 2200 m, height 22.12 m and capacity 41.80 MCM through gravity channel. From Kalisil dam, water will be pumped and routed through pipeline/gravity channel and will feed water to existing Khura Chainpura dam.

One gravity channel emanating from Khura Chainpura will deliver water through outlet in the catchment of **existing Panchana dam**, Karoli district situated at Latitude 26°33'04"N Longitude 76°59'27" E and having FRL 258.62 m, length 1,063 m and capacity 59.5 MCM. The same gravity channel continued and will deliver water through outlet in the catchment of **existing Baretha dam**, Bharatpur district situated at Latitude 26°53'31"N Longitude 77°22'03" E and having FRL 208.48 m, length 1,189 m, height 11.30 m and capacity 52.7 MCM. Further, this gravity channel continued and will deliver water through outlets in the catchment of **existing Parvati dam, Ramsagar dam & Urmila Sagar dam** situated in Dholpur district to feed them. Parvati dam situated on Parvati river at Latitude 26°36'28" N Longitude 77°26'31" E and having FRL 223.41 m, length 7,990 m, height 28.0 m and capacity 120.81 MCM. Ramsagar dam situated on Parvati river at Latitude 26°35'27"N Longitude 77°35'29" E and having FRL

217.99 m, length 5000 m, height 10.13 m and capacity 30.83 MCM. Urmila Sagar dam situated on Parvati river at Latitude 26°39'07"N Longitude 77°45'21" E and having FRL 210.15 m, length 2700 m, height 15.82 m and capacity 16.22 MCM. This gravity channel will terminate in Urmila Sagar dam situated in Parvati Basin. From Khura Chainpura dam, other water carrier system involving pumping through pipe line and gravity channel will feed **existing Jaisamand dam** in Alwar district situated on Ruparail river at Latitude 27°29'28"N Longitude 76°35'03"E and having FRL 283 m, length 1,396 m, height 8.48 m and capacity 26.96 MCM.

During the visit of the project site, it is observed that part of submergence area of proposed Doongri dam is adjacent to the boundaries of Kailadevi Wildlife Sanctuary, Karaoli and Ranthambore National Park, Sawai Madhopur. Shri Bharat Singh Verma, Range Officer of State Forest Department was present and said that some part of the submergence area of Doongri dam is falling under the Kailadevi Wildlife Sanctuary and Ranthambore National Park, Sawai Madhopur. The Buffer Zone/Eco Sensitive Zone of Kailadevi Wildlife Sanctuary and Ranthambore National Park, Sawai Madhopur to be confirmed and accordingly necessary permission to be obtained from the concerned authority. Part of the catchment area of existing Bund Baretha dam has been also declared as the Baretha Wildlife sanctuary. The existing Bund Baretha dam is also being accompanied by means of feeder canal and other natural streams.

Observations made of the Committee:

1. The water allocated for drinking needs should be carried through close pipes as per the National Water Policy 2012.
2. The Isharda Dam Project is for drinking water supply and is already under construction. The proposed two canals- one coming from existing Galwa Dam to Isharda Dam and the other from Isharda Dam to Morel Dam are to be delinked from the main proposal as these canals are also linked for irrigational purposes. The PP may modify the proposal and re-submit for further consideration.
3. PP may explore lining of canals to save water due to seepage loss and use saved water to increase area under command.
4. Some parts of the 3 notified protected areas (National Parks/Wildlife Sanctuaries) viz., Ranthambhore National Park, Keoladeo National Park and Barthi Wildlife Sanctuary are coming under submergence due to implementation of the proposed project. Suitable area may be identified adjacent to the wildlife sanctuaries so that the core area of the wildlife sanctuary is kept intact. Necessary conservation measures be planned for new areas to be acquired and implemented in synchronization with the construction of the project.

   As part of safeguarding environment, every year a provision of minimum releasing 15 million cu ft of water should be supplied to Keoladeo National Park in Bharatpur as it is one of the Ramsar sites as well as UNESCO's Natural World Heritage Site.
5. In the towns to be provided with drinking water facilities under the project, STP may be constructed. Thermal power plants located within 50 km radius from the STP can use the treated water in their plants. This is as per the Policy of the Government of India.
6. In total 13 districts are coming within the proposed project. Public Hearings are to be conducted in each of district as per the guidelines of EIA Notification, 2006 and amendment thereof.
7. As the farmers in the State are cultivating mustard cash crop, bee keeping may also be explored as a part of additional livelihood to the people of Rajasthan.

8. Bund Baretha dam has been declared as Baretha Wildlife Sanctuary in 2017, therefore, a letter from local DFO stating that the State Forest Department is aware of such proposed project in the vicinity of Bird Sanctuary Reserve.
9. Part of submergence area of proposed Doongri dam is adjacent to the boundaries of Kailadevi Wildlife Sanctuary, Karaoli and Ranthambore National Park, Sawai Madhopur. Similarly, the catchment area of Bund Baretha Dam is also coming under the Baretha Wildlife sanctuary. Therefore, total area coming under the Wildlife Sanctuary to be provided in the EIA/EMP report as a part of present land use pattern in the proposed project.
10. Some photographs of the site visit are annexed.

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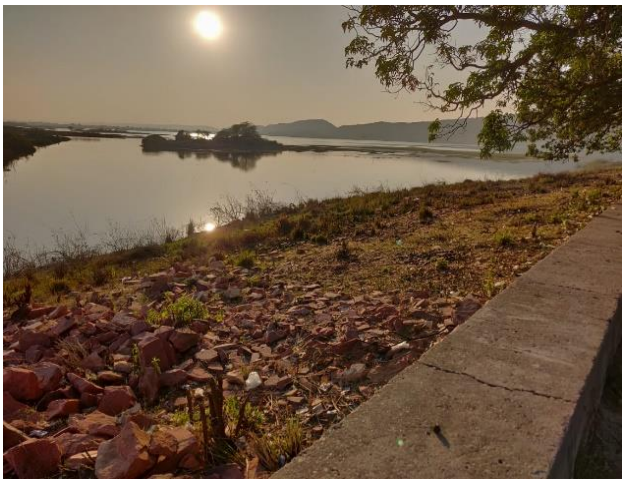
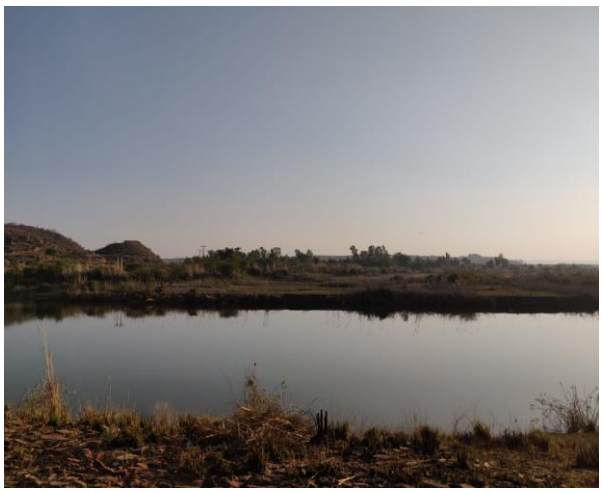
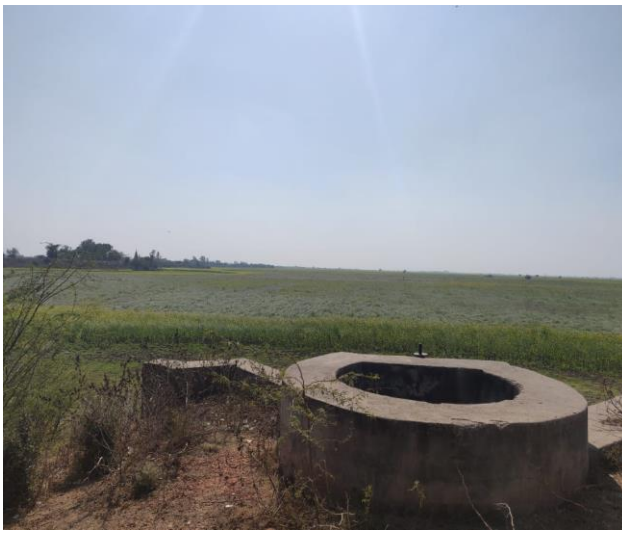
PHOTOGRAPHS OF SITE VISIT

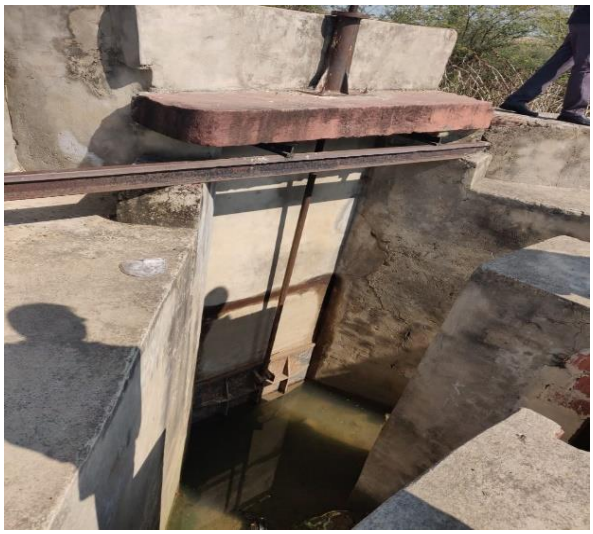




View of Dam Band Beratha

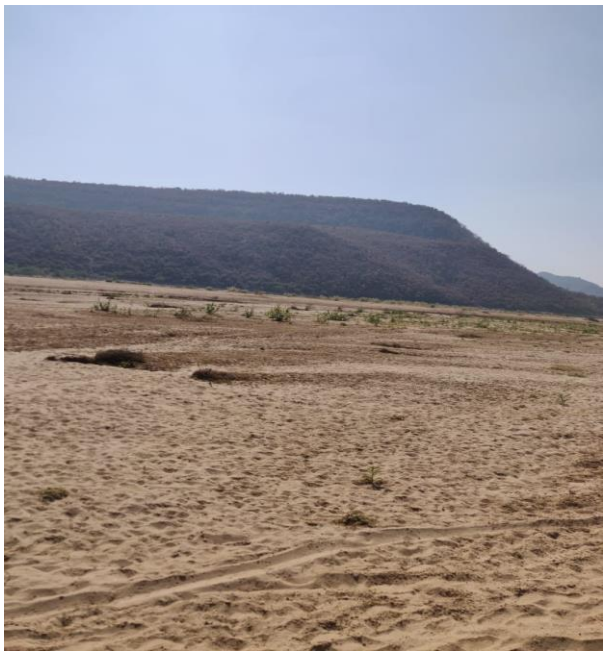


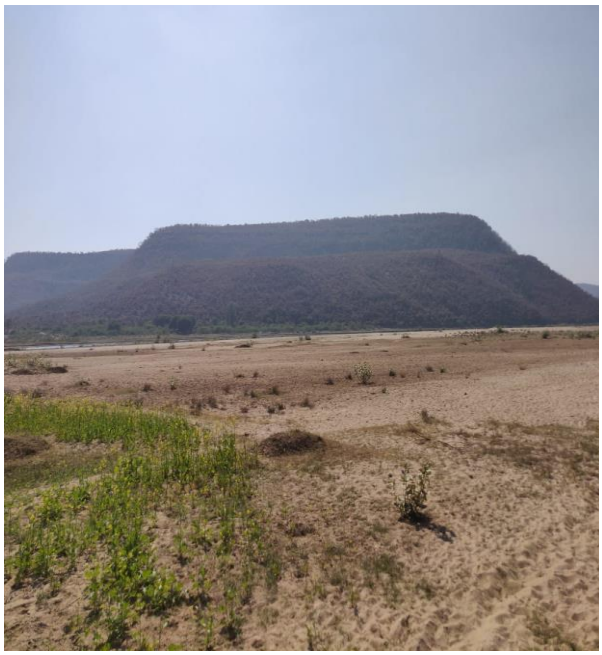
View of agriculture field (upstream of Asan band)



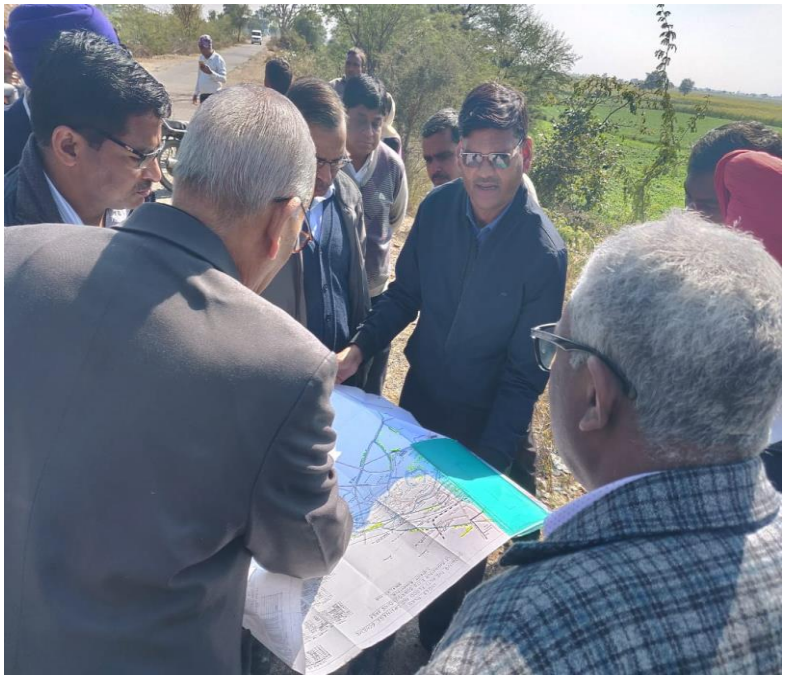
Gate outlet of Asan band

On field Discussions of EAC members & WRD Officers

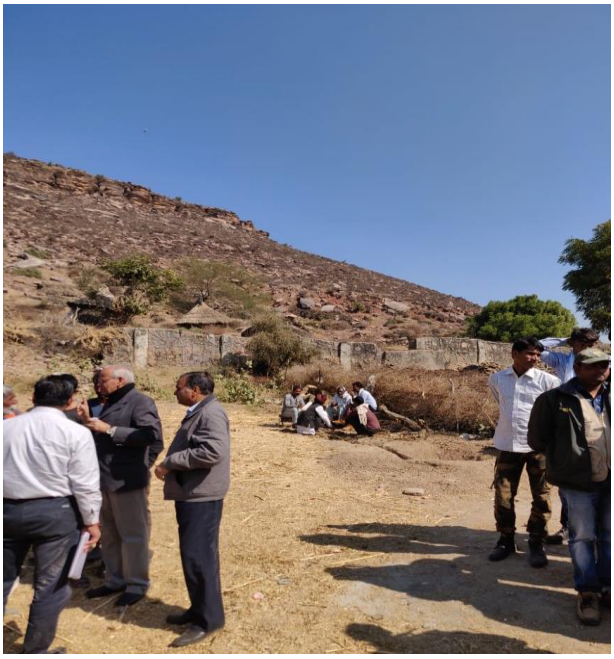


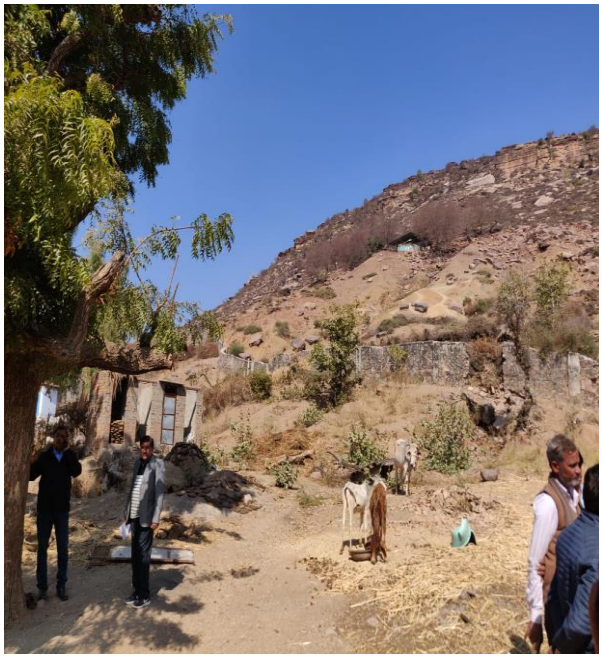


View of the flood plan of Banas River (proposed Dongri dam

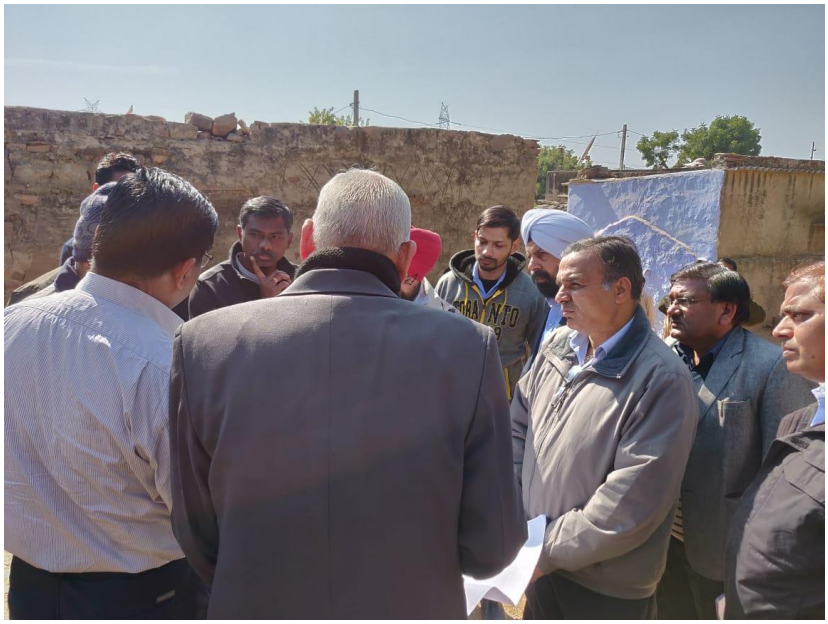


On field Discussion





View of the proposed Dam axis



Discussions with the villagers at the proposed Dam axis site

Attendance Sheet of EAC members

LIST OF MEMBERS

22nd MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) FOR RIVER VALLEY & HYDROELECTRIC PROJECTS

DATE : 27th February 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	AP
3.	Shri. Sharvan Kumar, Member	
4.	Shri N. N. Rai, Member	
5.	Dr. J.A.Johnson, Member	
6.	Dr. AK Sahoo, Member	27.2.19
7.	Dr. Vijay Kumar, Member	AP
8.	Prof. Govind Chakrapani, Member	
9.	Dr. Chetan Pandit, Member	
10.	Dr. Dinkar Madhavrao More, Member	
11.	Prof. R.K. Kohli, Member	
12.	Prof. S.R. Yadav, Member	
13.	Dr. Jai Prakash Shukla, Member	AP
14.	Dr. Poonam Kumria, Member	
15.	Dr. Kerketta, Member Secretary Director (IA-1)	27.2.2019

Approval of Minutes of the 22nd Meeting of the Re-constituted Expert Appraisal Committee (EAC) of Hydro River Valley Projects by the Chairman.

Subject: **Re: Draft MoM of 22nd EAC meeting for RVP - regarding**
To: Dr S Kerketta <s.kerketta66@gov.in>
Cc: S Kerketta <suna1466@rediffmail.com>

Date: 03/11/19 09:29 AM
From: Sharad Jain <s_k_jain@yahoo.com>
Reply-To: Sharad Jain <s_k_jain@yahoo.com>

22 MoM RVP_27.02.2019_Final.docx (88kB) 22 MoM RVP_27.02.2019_Final.pdf (475kB)

Dear Kerketta,

I am sending the approved minutes of the 22nd meeting of EAC (RVH).

Regards,

Sharad Jain
Chairman EAC-RVH

On Monday, 11 March, 2019, 7:53:05 am IST, Dr S Kerketta <s.kerketta66@gov.in> wrote:

Sir,

Corrected the observation and attached again for approval please.

regards,

Kerketta

On 03/09/19 06:54 PM, **Sharad Jain** <s_k_jain@yahoo.com> wrote:

> Dear Kerketta,
> I have again gone through the minutes and a few more mistakes were detected. You may address these and to make sure that no more mistakes are in the minutes, pls do one more careful review.
>
> skj
>
> On Friday, 8 March, 2019, 5:27:53 pm IST, Dr S Kerketta <s.kerketta66@gov.in> wrote:
>
> Sir,
>
> Revised the MoM and resubmitted for kind approval please.
>
> On 03/08/19 12:49 PM, **Sharad Jain** <s_k_jain@yahoo.com> wrote: