

No. 16/27/2019-PA (N)/ 307-336
Government of India
Central Water Commission
Project Appraisal Organization

Telefax: 011-29583512
Email: cepriap@nic.in


7th Floor (S), Sewa Bhawan,
R.K. Puram, New Delhi.
Dated: 13 /05/2020

Minutes of Meeting

A copy of the Summary Record of Discussion of the 144th Meeting of Advisory Committee of DoWR, RD & GR on Irrigation, Multipurpose and Flood Control Projects, held under the Chairmanship of the Secretary, DoWR, RD & GR on 08.05.2020 through video conferencing, is enclosed herewith for information and further necessary action, please.

Comments, if any, may kindly be forwarded to this office within 15 days.

Encl: As above.


(G.K. Agarwal)
Member Secretary of the Advisory Committee &
Chief Engineer (PAO)

To,

Members of Committee:

1. Chairman, CWC, Sewa Bhawan, R. K. Puram, New Delhi.
2. Secretary (Expenditure), Ministry of Finance, 1st Floor, North Block, New Delhi.
3. Secretary, Department of Power, Room No. 205, S.S. Bhawan, II Floor, New Delhi.
4. Secretary, Ministry of Environment & Forests & CC, 4th Floor, Prithvi Block, Indira Paryavaran, Jor Bagh, New Delhi.
5. Secretary, Department of Agriculture, Cooperation & Farmers Welfare, R. No. 126, Krishi Bhawan, New Delhi.
6. Secretary, Ministry of Tribal Affairs, Room No. 738, A-Wing, Shastri Bhawan, New Delhi.
7. Director General, ICAR, Room No-108, Krishi Bhawan, New Delhi.
8. Chairman, CEA, Sewa Bhawan, R. K. Puram, New Delhi.
9. Chairman, Central Ground Water Board, Jam Nagar House, New Delhi.
10. Adviser (Power), NITI Aayog, Room No. 248, Yojana Bhawan, New Delhi.
11. Adviser (WR), NITI Aayog, Room No. 230, Yojana Bhawan, New Delhi.

12. Joint Secretary & Financial Adviser, DoWR, RD & GR, Room No-401, S.S. Bhawan, New Delhi.

Special Invitees:

1. Secretary, Irrigation & Flood Control Department, Govt. of Jammu and Kashmir, Civil Secretariat, Jammu -180 001
2. Managing Director, Jammu and Kashmir State Power Development Corporation, Govt. of Jammu and Kashmir, Ashok Nagar, Satwari, Jammu -180 004
3. Additional Secretary, DoWR, RD&GR.
4. Member (D&R), CWC, New Delhi.
5. Member (RM), CWC, New Delhi.
6. Member (WP&P), CWC, New Delhi.
7. Joint Secretary (RD&PP), DoWR, RD&GR.
8. Joint Secretary (IC&GW), DoWR, RD&GR.
9. Chief Advisor (Cost), Department of Expenditure, Ministry of Finance, 2nd Floor, Lok Nayak Bhawan, New Delhi.
10. Commissioner (State Projects), DoWR, RD & GR, Room No-411, S. S. Bhawan, New Delhi.
11. Commissioner (Indus), DoWR, RD & GR, CGO Complex Lodhi Road, New Delhi.
12. Commissioner (FM), DoWR, RD & GR, CGO Complex Lodhi Road, New Delhi.
13. Chief Engineer, (IBO), CWC, Chandigarh.
14. Chief Engineer (IMO), CWC, New Delhi.
15. Chief Engineer (PPO), CWC, New Delhi.
16. Chief Engineer, Rabi & Tawi, Irrigation complex, Canal Road, Jammu.

Copy for kind information to:

1. Sr. PPS to Secretary, DoWR, RD & GR, Room No. 407, Shram Shakti Bhawan, New Delhi.



Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development & Ganga Rejuvenation
Central Water Commission

**SUMMARY RECORD OF DISCUSSIONS OF THE 144th MEETING OF THE
ADVISORY COMMITTEE FOR CONSIDERATION OF TECHNO-ECONOMIC
VIABILITY OF MAJOR & MEDIUM IRRIGATION, FLOOD CONTROL AND
MULTIPURPOSE PROJECT PROPOSALS HELD ON FRIDAY, MAY 08TH, 2020**

The 144th meeting of the Advisory Committee of Department of Water Resources, River Development & Ganga Rejuvenation (DoWR, RD&GR) for consideration of techno-economic viability of Major & Medium Irrigation, Flood Control and Multipurpose Project proposals was held under the Chairmanship of Shri U. P. Singh, Secretary to the Government of India, DoWR, RD & GR, MoJS on Friday, May 08th, 2020 through video conferencing. The list of members of the Committee/their representatives/nominees/special invitees and officers from various Ministries/Organizations and representatives of State Governments who attended the meeting is at *Annexure-I*.

Following agenda items were taken up;

(i) Confirmation of the minutes of the 143rd Meeting of the Advisory Committee

Chief Engineer (PAO), CWC and Member Secretary of Advisory Committee stated that the 143rd meeting of the Advisory Committee was held on 9.12.2019 at CWC, New Delhi. The Summary Record of Discussions of the 143rd meeting was circulated vide letter No. 16/27/2018-PA(N)/1768-98, dated 18/11/2018. No comments on the Summary Record of discussion have been received so far. The Advisory Committee, therefore, confirmed the Summary Record of Discussion of its 143rd meeting.

(ii) Follow up action after the 143rd meeting of the Advisory Committee

NIL

(iii) Project proposal considered by the Advisory Committee



A. Irrigation and Multi-purpose Projects:

1. Modified Detailed Project Report of the Ujh Multipurpose Project, Jammu & Kashmir (National Project; Multipurpose; Estimated Cost Rs. 9167 Crore @ December, 2019 Price Level)

The Ujh multipurpose project has been declared as a National project in year 2008. The Detailed Project Report (DPR) of Ujh Multipurpose Project, J&K was initially prepared by Indus Basin Organisation of Central Water Commission in 2013. The DPR was considered in the 131st meeting of the Advisory Committee held on November, 16, 2016 wherein the project was 'In- Principle' agreed. Subsequently the DPR of the project was revised so as to address the concerns regarding submergence of land. The revised DPR of the project was accepted by the Advisory Committee in its 139th meeting held on 07.01.2019 for an estimated cost of Rs. 5850 crore at July, 2017 Price Level. The Culturable Command Area (CCA) to be irrigated under the project was proposed as 16743 Ha with proposed irrigation intensity of 187 %. While according approval to the project, the Committee directed that *"for ensuring consumptive utilization of water beyond already envisaged through Project, possibility of additional utilization should be explored at the earliest so that the water released to generate hydropower may not flow out of the country and such project should be implemented on priority"*.

Irrigation & Flood Control Deptt., J&K framed a modified proposal of Ujh Multipurpose project for inclusion of the additional CCA of 23973 Ha beyond scope of the Ujh MPP already approved in the 139th meeting of the Advisory Committee. A background note in this regard is at **Annexure-II**

The meeting started with the opening remarks of Secretary (DoWR, RD & GR) and subsequently a presentation on the modified project proposal was made by the Chief Engineer (IBO), CWC.

Indus Waters Treaty, 1960 was signed between India and Pakistan for sharing water of the Indus System of Rivers. India got the full rights for utilization of water of the three

Eastern Rivers namely Ravi, Beas and Sutlej as per the Indus Water Treaty, 1960. The river Ujh is a tributary of Ravi. The modified Ujh MPP has been envisaged to optimally utilise the water of the river Ujh. Further, water available at Makora Pattan, d/s of confluence of River Ujh with River Ravi, in post Ujh MPP scenario has also been assessed by CWC and being communicated to Govt. of Punjab. A diversion structure is being contemplated by Govt. of Punjab for diverting some of the water available at Makora Pattan for use in their Upper Bari Doab System (UBDC) system.

Project details

The Modified Ujh MPP on river Ujh consists of 116.00 m high dam with a dam toe power house (4 X 2.5 MW), Head Race Tunnel of 7.3 m dia & 2.49 km length and a surface power house of 186 MW at a distance of approximately 9.5 km downstream of dam. The project also includes a barrage at about 1.5 km downstream of the dam toe power house. Two main canals, Right Main Canal (RMC) and Left Main Canal (LMC) would be emanating from the barrage from each of the banks of the river to cater to the command area to the tune of 40716 Ha (23973 Ha additional area besides 16743 Ha envisaged earlier). The additional command area details are as under :

- A lift irrigation scheme drawing water from the pondage of Ujh MPP to provide irrigation (4369 Ha) to Bilwara block of Kathua District has been envisaged.
- Further, a new canal offtaking from the proposed RMC at RD 33.200 km for irrigating additional command in Samba District (7044 Ha) has also been envisaged. The canal will also cater to the drinking and industrial water supply for Samba district.
- Further, through the new canal emanating from RMC, it has been proposed to provide water in Tawi command (12560 Ha) which is presently being irrigated by lift. The water shall be delivered to the Tawi canal through the new canal as well as through linking Ravi canal with Tawi canal.

With the above mentioned command areas, total CCA of the project is 40716 Ha. The irrigation potential of the project works out as 76929 Ha with irrigation intensity of 189 percent.



The crop water requirement has been assessed as 557.19 MCM. In addition to this, drinking water and industrial water requirement has been assessed as 18.92 MCM and 20 MCM respectively. Evaporation losses have been tentatively assessed as 42 MCM. Thus, total consumptive water requirement works out to 638.11 MCM excluding the environmental flow to the tune of 97.66 MCM.

The estimated cost of the project is Rs.9167 crore at price level Dec., 2019. The cost has been apportioned between water (irrigation and drinking water) and power component as Rs.8153 crore (89.9%) and Rs.1014 crore (11.1%) respectively. The benefit cost ratio for the project comes out to 0.66:1 corresponding to cost of water component (Rs.8153 crore).

The Committee noted that by taking average tariff rate of Rs.3.5 per Kwh (furnished by Govt. of J&K), viable cost for power component works out as Rs. 415.45 crore. The remaining cost of power component i.e., Rs. 598.55 crore (1014-415.45) will be loaded with irrigation component. Therefore the cost of irrigation component will be Rs. 8751.55 crore.

Discussion

The Committee noted that the project has been planned as a storage project to store water which is flowing freely across the border. For the project to be economically viable, the B. C. ratio needs to be more than 1.0, in the hilly states like J&K. The proposal of this project does not fully satisfy economic viability as per the existing criteria. However, the project is important from the strategic point of view.

The representative from Ministry of Tribal Affairs (MoTA) mentioned that some information has been sought from the Project Authorities for conveying comments of MoTA on the proposal. Commissioner Secretary, (PHE), J&K replied that information is being collected / compiled and would be furnished soon.

Assistant Chief Advisor (Cost), Ministry of Finance made some observations regarding rate of GST to be taken in the estimates, escalation factor for civil works of lift



component, provision of audit and accounts charges and establishment charges etc. kept in the estimate. It was informed that these are estimates only and will be automatically taken care of at the tendering stage as per guidelines and prevailing rates of GST.

Keeping in view the strategic importance of the project from Indus Waters Treaty angle for utilisation and regulation of waters flowing across the border and also for potential future use of the stored water in an optimal manner, the Committee accepted the project proposal subject to the following conditions:

1. Relaxation of the B. C. Ratio criteria of 1.0 as the project is of strategic importance and is located in J&K.
2. Statutory clearance (Environment, Forest, wildlife, R&R) to be obtained.
3. Vetting of pre construction designs and drawings of all components of the project from CWC.
4. Compliance by the project authority to the conditions of specialized directorates of CWC/ CEA, put by them while accepting the DPR and obtaining clearance from other Central/State agencies.
5. Comprehensive EIA study by the specialized agency may be carried out and EMP may be prepared before execution of the project.
6. The proposal for utilization of waters of river Tawi which would be saved after implementation of Ujh project may be finalized by UT of J&K urgently and its implementation should be taken up in such a manner so as to complete it by the time, Ujh project is completed.

The meeting ended with a vote of thanks to the Chair.



**LIST OF OFFICERS PRESENT IN THE ADVISORY COMMITTEE FOR
CONSIDERATION OF TECHNO-ECONOMIC VIABILITY OF MAJOR &
MEDIUM IRRIGATION, FLOOD CONTROL AND MULTIPURPOSE
PROJECT PROPOSALS HELD ON FRIDAY, MAY 08TH, 2020
THROUGH VIDEO CONFERENCING**

Shri U.P. Singh, Secretary, MoWR, RD&GR

In Chair

**Members of the Advisory Committee or their
representatives/nominees**

S/Shri/Smt

- | | | |
|-----|--|------------------|
| 1. | R. K. Jain, Chairman, Central Water Commission | Member |
| 2. | Jagmohan Gupta, JS & FA, DoWR, RD& GR | Member |
| 3. | Vishal Pal Singh, Deputy Secretary, Ministry of Power | Member |
| 4. | P. C. Jiloha, Chief Engineer, HPA, CEA (Representing
Chairman, CEA) | Member |
| 5. | R. A. S. Patel, Deputy Commissioner, DAC&FW
(Representing Secretary, Department of Agriculture,
Cooperation & Farmers Welfare) | Member |
| 6. | M.R.Tshering, Joint Secretary, Ministry of Tribal Affairs | Member |
| 7. | Avinash Mishra, Adviser, WR, NITI Aayog | Member |
| 8. | Chairman, Central Ground Water Board
(Saidul Haq, Scientist – D, CGWB Representing) | Member |
| 9. | S Kerketta, Director, MoEF&CC (Representing Secretary,
Ministry of Environment & Forests & CC) | Member |
| 10. | G.K.Agarwal, Chief Engineer, PAO, CWC | Member Secretary |

Special Invitees:

DoWR, RD&GR/ MoEF/ ICAR/CGWB

S/Shri

1. K. Vohra, Commissioner (SPR)
2. Atul Jain, Commissioner (FM)
3. P.K.Saxena, Commissioner (Indus)
4. A K Shukla, Senior Joint Commissioner (SPR-II)
5. Adlul Islam, Pr. Scientist, ICAR, Pusa, New Delhi.
6. Prabir Kumar Naik, Scientist-D ,CGWB, New Delhi

O/o Chief Adviser (Cost)

S/Shri

1. Ms. Rachna Chopra, Additional chief Adviser (Cost), Department of
Expenditure

Central Water Commission
S/Shri

1. S.K. Halder, Member (WP&P)
2. R.K.Sinha, Member (RM)
3. R.K. Pachauri, Chief Engineer, PPO
4. Shiv Nandan, Chief Engineer, IBO
5. Vijay Saran, Chief Engineer, IMO
6. P. Dorjee Gyamba, Director, WP&P
7. Rajesh Kumar, Director, ISM-2 Dte.
8. Bhupinder Singh, Director, NP Dte
9. Kiran Pramanik, Director PA(N) Dte
10. Nagendra Kumar Singh, Deputy Director, NP Dte.
11. Mahesh Kumar Gupta, Deputy Director, NP Dte.
12. Pradeep Kumar, Deputy Director, Cost Appraisal (HWF) Dte.
13. Sachichidanand Singh, AD-II, NP Dte.

Officers from the State Government of Jammu & Kashmir

S/Shri

1. Ajeet Kumar Sahu, Commissioner Secretary, Jal Shakti, Jammu & Kashmir
2. Ashok Sharma, Chief Engineer, RTIC, Jammu, J&K
3. Hamesh Manchanda, S. E., RTIC, Jammu, J&K
4. Vivek Kohli, E.E, RTIC, Jammu, J&K
5. Anil Sharma, General Manager (C), JKSPDC, Jammu & Kashmir
6. Harjeet Singh, Executive Engineer, CCD, Ujh Multipurpose Project.



Background Note

1.0 Ujh Multipurpose Project

The Detailed Project Report (DPR) of Ujh Multipurpose Project (MPP), J&K was initially prepared by Indus Basin Organisation of Central Water Commission in 2013. In the DPR, the height of the dam was envisaged as 116 m (with Dam top level as 619m) with FRL as 614 m. The DPR was considered in 131st meeting of the Advisory Committee for consideration of techno-economic viability of Major/Medium Irrigation, Flood Control and Multipurpose project proposals on 16th November, 2016 wherein the project was '**In- Principle**' agreed. However, due to the issue of large submergence of land measuring about 41 sq Km, the Advisory Committee decided that a team comprising of concerned officers from CWC and other experts shall visit the project site / area and explore the alternative options with reduced submergence.

The Expert Committee constituted under the chairmanship of Chief Engineer (IBO), CWC, Chandigarh visited the project site on 16th March, 2017 and submitted its Report during May, 2017 and recommended to construct the dam and other appurtenant structures with reduced FRL of 608 m. Subsequently, MoWR, RD & GR vide its communication dated 14th July, 2017 desired to explore the possibility of retaining the dam height as originally envisaged so as to cater for future requirement if need arises. After consideration, it was decided that the DPR should be modified by keeping the dam height same, as envisaged in the original DPR, however, as recommended by Expert Committee, the Full Reservoir Level (FRL) may be brought down to 608 m to reduce submergence from 41 sq Km to around 34.50 sq Km.

Accordingly, the earlier DPR, which was submitted in September, 2013, was revised so as to address the concerns regarding submergence of land as well as to leave scope for future expansion of capacity. In the revised proposal, a 116.00 m high dam was proposed at River with FRL at 608 m and the MDDL at 564 m elevation. The project was meant to provide hydro power, irrigation and drinking water.

The cost of Irrigation component was worked out as Rs.4919.94 Crore (84.10%) and of Power



component as Rs.930.06 crore (15.90%). The B.C. ratio of the project was worked out as 0.62. Therefore proposal of this project did not fulfil economic viability criteria of B.C. ratio of 1.0 for projects in these areas. For BC ratio to be 1.0, the bearable cost of irrigation & drinking water component was worked out as Rs. 2970 crore and similarly, the bearable cost of the power component was worked out to be Rs. 415.43 crore for the tariff of Rs. 3.5/KWh (furnished by Govt. of J&K). Therefore, bearable cost of the project was worked out to be Rs.3385.43 crore. Balance amount of Rs. 2464.57 crore was needed to be provided as special grant.

DPR of the project was accepted by the Advisory Committee in its 139th meeting held on 07.01.2019 for an estimated cost of Rs.5850 crore at July, 2017 price level. While according approval to the project, the Committee directed that *"for ensuring consumptive utilization of water beyond already envisaged through Project, possibility of additional utilization should be explored at the earliest so that the water released to generate hydropower may not flow out of the country and such project should be implemented on priority"*.

Modified Ujh Multipurpose Project

The Modified Ujh MPP is located on river Ujh, one of the main tributaries of river Ravi, in district Kathua of Jammu and Kashmir. A 116.00 m high dam is proposed at River with FRL at 608 m. The proposed dam site is in the village Barbari about 1.6 km downstream of Panchtirthi. The powerhouse site is approximately 9.5 km downstream of dam site near a village called Deoli. A barrage has been proposed 1.5 km d/s of powerhouse which also lies in Tehsil and district Kathua.

Two main canals, Right Main Canal (RMC) and Left Main Canal (LMC) would be emanating from barrage along both the banks of the River. The RMC would be passing through tehsil Kathua, Hiranagar and Samba district, while the LMC would be passing through district Kathua.

CCA under LMC in the original proposal was proposed as 3053 Ha. In the modified proposal, it remains unchanged.



A new lift irrigation scheme is proposed to draw water from the pondage of Ujh MPP to provide irrigation to CCA of 4369 Ha of Bilwara block of Kathua District, situated in the upstream of the reservoir. It envisaged creation of 5 intake points from reservoirs to carry water through 5 no. pipe distribution systems to convey water to 21 delivery tanks and one common tank which would supply water to 21 villages of Kathua district.

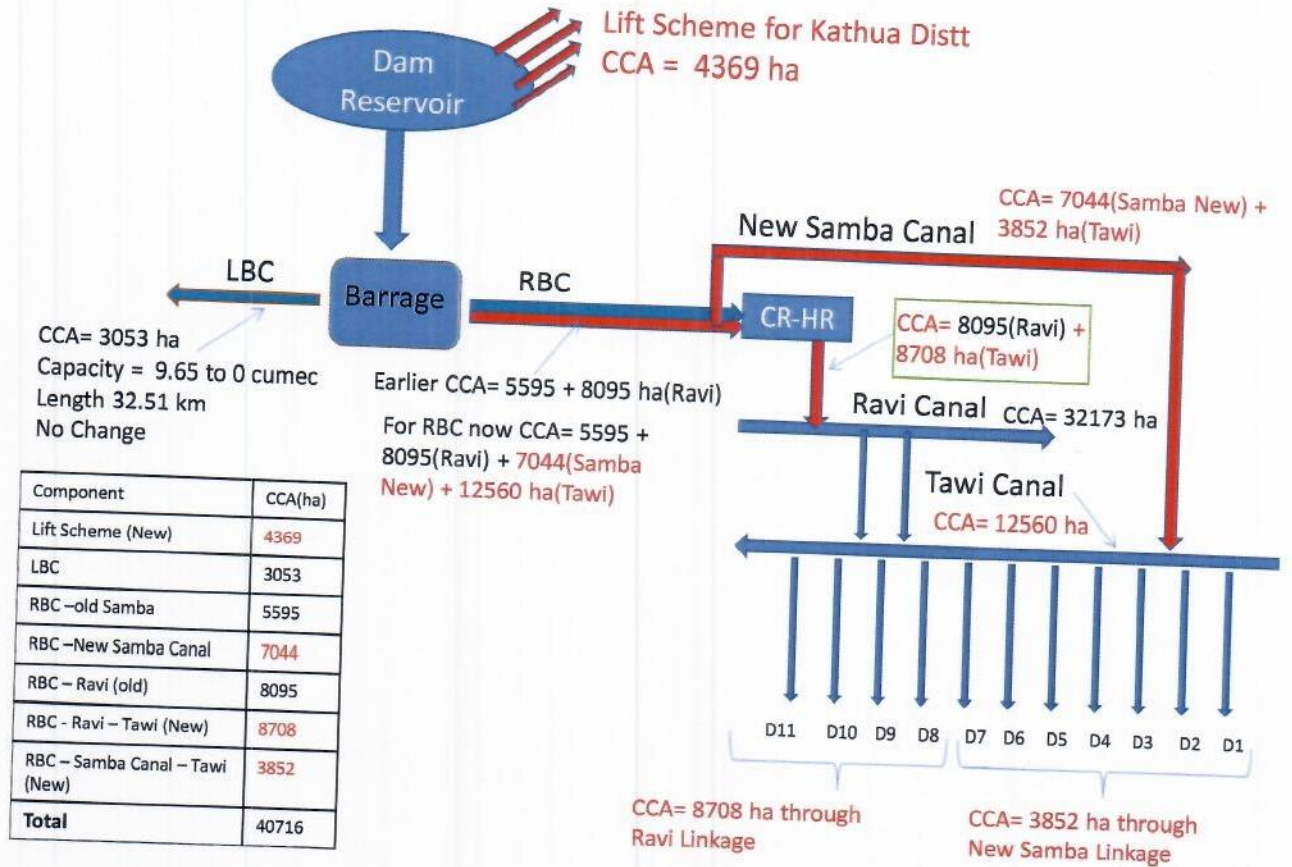
CCA under RMC in the original proposal was proposed as 13690 Ha. Now in the modified proposal, a new canal is proposed to tap water from the proposed RMC at RD 33.200 km for irrigating additional command is 7044 Ha in Samba District comprising of 121 villages spread over seven blocks namely Nud, Sumb, Vijaypur, Gaghwai, Samba, Parmandal and Bari Brahmana. The canal will also cater to the drinking purposes and industrial purpose for Samba District. Further, through this new canal emanating from RMC, it has proposed to provide water in Tawi command (CCA of 12560 Ha) which is presently being irrigated by lift. The water shall be delivered to the Tawi canal through the new canal as well as through linking Ravi canal with Tawi canal. Thus, under modified proposal, total CCA under RMC has increased from 13690 Ha. to 33294 Ha. It was also informed that the water saved in Tawi Lift Irrigation scheme shall be used for an alternate unirrigated command located in Udhampur District for which a project proposal is presently under finalization.

With the above mentioned additional areas, total CCA has changed from 16743 Ha. to 40716 Ha, with the proposed irrigation intensity of 189 percent, the irrigation potential of the project works out as 76929 Ha. The crop water requirement has been assessed as 557.19 MCM. In addition to this, drinking water and industrial water requirement has been assessed as 18.92 MCM and 20 MCM respectively. Evaporation losses have tentatively been assessed as 42 MCM. Thus total consumptive water requirement work out to be 638.11 MCM excluding the environmental flow to the tune of 97.66 MCM.

The Installed capacity of the main powerhouse of the Multipurpose Project has been envisaged as 186 MW. In addition to that, a dam toe powerhouse comprising four units of 2.5 MW each has been proposed to harness the hydro-electric potential of the water meant for environmental releases. The total installed capacity is 196 MW.



Schematic Diagram of CCA



The estimated cost of the project is Rs. 9167 crore at price level Dec., 2019. The cost has been apportioned between water (irrigation and drinking water) and power component as Rs. 8153 crore (89.9%) and Rs. 1014 crore (11.1%) respectively. The benefit cost ratio for the project comes out to 0.66:1. Corresponding to water component (Rs. 8153 crore).

The Committee noted that by taking average tariff rate of Rs. 3.5 per Kwh (furnished by Govt. of J&K), viable cost for power component works out as Rs. 415.45 crore. The remaining cost of power component i.e., 598.55 crore (1014-415.45) will be loaded with irrigation component. Therefore the cost of irrigation component will be Rs. 8751.55 crore.

[Signature]

**Modified Project parameters vis-à-vis parameters approved in 139th meeting of
Advisory Committee**

Particulars	Proposal Approved in 139th TAC dated 07.01.2019	Modified Proposal (with Additional Command Areas)
Estimated Cost	Rs 5850.00 crore (Price Level - July 2017)	Rs 9167 crore (PL – December, 2019)
CCA	16743 Ha	40716 Ha
Annual Irrigated Area	31380 Ha	76929
Intensity of Irrigation (%)	187	189
Power Generation	196 MW Main Power House : 186 MW (3X62MW) + Dam Toe Power House : 10 MW (4 X 2.5 MW)	196 MW Main Power House : 186 MW (3X62MW) + Dam Toe Power House : 10 MW (4 X 2.5 MW)
B. C. Ratio	0.62	0.66

