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JALANSH

The Monthly Newsletter of Central Water Commission

S. K. Haldar
Chairman

Message

To say that the COVID pandemic has changed the world would be an understatement. In one year since the virus emerged it has triggered a wave of various issues. This included depression, social isolation, general stress and financial stress to masses in general. Many work hours were lost and pace of progress and development has slowed down. It is a matter of pride that Government of India has launched world's largest vaccination programme under aegis of our Hon'ble Prime Minister to curb its spread.

It is also a matter of pride that Hon'ble Union Minister of Water Resources, RD & GR, Hon'ble MoS, Secretary (DoWR, RD & GR) and other senior officers of the Ministry and CWC has converted troubled times into an opportunity. During lockdown and even afterwards various meetings taken place on virtual platforms and series of webinars were arranged to take important decisions and dissemination of information. I am thankful to the officers of CWC who have taken active part in all these exercises with enthusiasm and contributed immensely. I am glad to say that during such hard times works of CWC continued unabated both at its Headquarters in Delhi and in field offices as well. Our Flood Forecasting activities and HO activities continued as usual during 2020-2021 when pandemic was at its peak.

Now I believe that India has passed the peak of the pandemic and our working in CWC has become normal, of course, we all are following safety guidelines of GoI to stop further spreading of the Corona virus.

It was a great moment for CWC, when Shri Rattan Lal Kataria, Hon'ble Minister of State for Jal Shakti visited CWC, HQ on 19.01.2021 and he was apprised about the works done by CWC during the last one and a half year, which was very much appreciated by him.

The list of works done by CWC officers during these rough and dangerous times is endless. I thank the officers for their unabated work even in such difficult times. With combined efforts of all we were able to meet most of the objectives. I also thank our Hon'ble Minister Shekhawat ji and the then Secretary Shri U.P. Singh ji for providing unabated support to entire ministry especially CWC. In this volume of 'Jalansh' glimpses of some of the works and activities done by CWC in recent past is given.

I wish you all good health. Keep on following Corona virus Guidelines issued by the Government agencies from time to time and keep yourself safe.

Ongoing Construction of Polavaram Irrigation Project (A.P.)

CONTENTS

Review Meeting regarding irrigation projects of Maharashtra

Shri Nitin Gadkari, Hon'ble Minister (Road Transport & Highways and Micro, Small & Medium Enterprises) and Shri Gajendra Singh Shekhawat, Hon'ble Minister of Jal Shakti took a meeting on 27.01.2021 to assess the status of PMKSY-AIBP and Special Package irrigation projects of Maharashtra. It was attended by Shri S. K. Haldar, Chairman CWC; Shri Kushvinder Vohra, Member(WP&P), CWC and Shri Yogesh Paithankar, Chief Engineer(PMO), CWC. Twenty Six (26) Projects of Maharashtra were included under PMKSY-AIBP launched in 2015. Further, in July 2018, Government of India approved a Special Package to provide Central Assistance of Rs. 3831.41 crore to complete 83 Surface Minor Irrigation (SMI) projects and 8 Major/Medium Irrigation Projects in suicide prone districts of Vidarbha, Marathwada and rest of Maharashtra region of the State. These SMI Projects are scheduled to be completed, in phases, by 2022-23. Nine (9) Projects under PMKSY-AIBP have been reported to be completed till Dec, 2020. Similarly, nineteen (19) SMI schemes under Special Package of Maharashtra have been reported to be completed up to last year.

Visit of Hon'ble MoS (Jal Shakti) to CWC-HQ

Shri Rattan Lal Kataria, Hon'ble Minister of State for Jal Shakti visited CWC, HQ on 19.01.2021. A presentation was made on the progress made by CWC from May-2019 to Dec-2020. Hon'ble MoS was informed that during the last one and a half year, 10 projects out of 99 priority projects under PMKSY have been completed. He was also informed that the Cabinet Committee on Economic Affairs chaired by the Hon'ble PM has approved DRIP II & III scheme with an outlay of Rs. 10,211 crore out of which 7,000 crore will be funded by the World Bank and Asian Infrastructure Investment Bank. He was apprised about status of ongoing DRIP – I, which covered rehabilitation of 223 dams located in 7 States with an estimated cost of Rs. 3466 crore. Hon'ble MoS lauded the role of Central Water Commission in operating this programme.

Hon'ble MoS was further informed that there will be better water management after the formation of River Basin Organizations. He raised apprehensions about the increasing water conflicts in the country. CWC Officials informed that with the passage of ISRWD Amendment Bill, the water conflicts will be solved more quickly & amicably. CWC Officials also informed that the passage of ISRWD Bill and Dam Safety Bill is very much necessary for a holistic management of water resources in the country.

Hon'ble MoS was informed that 79 new Flood Forecasting stations have been made operational in the last one year. 11,721 forecasts were issued in the year

2020 from 328 forecasting stations set up across 19 River Basins. A newly upgraded Flood Forecasts Website and Flood Data entry utility has also been started with effect from May 2020.

During the discussion over flood forecasting and management, the issue pertaining to flooding caused by Brahmaputra River was discussed. CWC officials apprised the Hon'ble MOS about the need for setting up of a project in Upper Siang/Brahmaputra which shall be highly beneficial for the state of Assam. Regarding the alleged Plan of China to set up a super hydropower station at Brahmaputra at Medong, Tibet, the officials apprised that any attempt to divert water of Brahmaputra river shall act as an encroachment on the entitled rights of lower riparian states like India, Bangladesh and adversely affect the availability of water in the Brahmaputra basin during the lean season. However, there are official platforms - like the Expert Level Mechanism set up between India and China in the year 2006 to discuss various issues related to trans-border rivers.

Meeting with NWIC on WIMS

A meeting was held under the chairmanship of Shri S. K. Haldar, Chairman, CWC on 27.01.2021 on the issue of Water Information Management System (WIMS). Shri R. K. Sinha, Member(RM), CWC was also present during the meeting. The officials of CWC, NWIC, National Project Management Unit (NPMU) for National Hydrology Project (NHP), developers of WIMS also attended the above meeting. During the meeting, discussions on the following agenda points were held:

i. Proper functioning of WIMS software especially in view of upcoming Monsoon Season 2021

ii. Co-ordination among CWC and NWIC on any issues related to WIMS software

After deliberating the matters in detail, Chairman, CWC directed that various issues of WIMS and various issues related to flood related modules and Flood Website needs to be resolved on highest priority at the earliest before March by NWIC on one-to-one interaction basis with concerned officials of CWC.

Review meeting to discuss project under National Infrastructure Pipeline (NIP)

The Government of India had set up a Task Force to draw up the National Infrastructure Pipeline (NIP) for the period up to Financial Year (FY) 2025. As per the final report of Task force submitted in April, 2020, NIP envisaged investment of Rs.111 lakh crore from the Centre, States and the Private sector over the period from FY 2020-25. Number of projects and investment requirements are continuously growing and the requirements are being tracked through a web-based application. "Water and Sanitation" is one of the identified sectors under NIP covering various sub-sectors such as Irrigation, Water Treatment Plants, Storm Water Drainage etc. CWC is entrusted to compile the details of State Water Resources Projects. Activities in this regard are being monitored by WP&P Wing of CWC.

Meeting for finalizing the list of projects under National Infrastructure Pipeline (NIP)- (State Projects under PMKSY-AIBP) in Water Sector and the other issues connected with it was held under the chairmanship of Member(WP&P), CWC on 07.01.2021. It was decided that CE PMO, CWC will intimate the list of duplicate projects to Economic Advisor who will further take up the matter with DEA for deletion. Further EA may also take up the matter related to projects of TN and Kerala with DEA. CWC, HQ will forward the data received in respect of State Projects to DoWR, RD&GR immediately. Economic Advisor will get the information received from State Govts. edited/ updated immediately. CE, PMO will follow up with Field offices of CWC for obtaining the information for rest of the Projects and send the same to the Economic Advisor.

Third meeting of the Committee for planning BRICS Water Ministers meeting

Third meeting of the committee for planning BRICS Water Ministers meeting and BRICS Water Forum was held under the Chairmanship of Shri Kushvinder Vohra, Member (WP&P), CWC on 28.01.2021 with participants from NWDA, CGWB and Dept. of Drinking Water & Sanitation, Min. of Jal Shakti.

BRICS Water Ministers meeting and BRICS Water Forum is being planned to be held alongwith the 7th India Water Week 2021 during 16th-20th Nov 2021 with the theme "Water Security for Sustainable Development with Equity" at India Expo Centre, Greater Noida. During the meeting, detailed discussions were held and planning for Sub-Themes of BRICS Water Forum, event programme, no. of participants, invitees, action required for field visit during the event etc. were finalized. It was decided to prepare a draft minute to minute program of BRICS Water Ministers' meeting including time slot for opening remarks/speech by either Hon'ble Prime Minister of India or Hon'ble Minister for External Affairs. Further, MoJS may also take a final call regarding holding the technical sessions in sequence or parallel as well as allowing IWW-2021 delegates to attend these sessions. Nodal Officers for drafting short Concept Note (one to one and a half page) for each sub-theme have been identified as given in table.

Sub-Theme	Nodal Officer
Mitigating Climate Change Impacts – Challenges and Opportunities in Water Sector	Shri Sunil Kumar, Director, CWC, New Delhi
Technology Innovations in Water Management	Dr. M. Senthil Kumar Sr. Hydrologeologist Central Ground Water Authority
Addressing the Water, Food and Energy Security	Shri Yogesh Paithankar, Chief Engineer CWC, New Delhi

The Nodal Officers would finalize the concept note on respective sub-themes based upon the inputs received. It was decided that based upon discussions, draft programme for the event and study tour, draft of letters etc. may be prepared which could be shared with MoJS for taking up the matter with MEA. Further, secretariat for BRICS Ministers' meeting and Water Forum in NWDA would do the needful in respect of finalization of concept papers as decided.

91st Yamuna Standing Committee Meeting

The Yamuna Standing Committee headed by Member (RM), CWC is entrusted to safeguard the interests of Haryana, Uttar Pradesh and Delhi against the adverse effects of flood control works/any new structure and to ensure that adequate waterway is provided in the Yamuna River.

The 91st meeting of Yamuna Standing Committee was held on 27.01.2021 through video conferencing under the Chairmanship of Member(RM), CWC. In this meeting NOC was given to the crossing of river Yamuna in District North Delhi by Railway's in c/w provision of 3rd- 4th line between Tilak Bridge-Anand Vihar stations''.

Parbati-Kuno-Sindh (PKS) Link and Eastern Rajasthan Canal Project (ERCP)

A meeting was held under the Chairmanship of Shri Sriram Vedire, Chairman, Task Force for Interlinking of Rivers and Advisor, MoJS on 27.01.2021 in New Delhi regarding integration of Parbati Kalisindh Chambal Link and Eastern Rajasthan Canal Project, Rajasthan. The following decisions were taken after detailed deliberations to resolve the matter between Rajasthan and M.P. regarding interstate issues:

I. WAPCOS will prepare and present simulation studies based on data of past 40 years to show the success rate of the projects and impact on MP due to utilization of water of catchment in Rajasthan at lower dependability.
II. WAPCOS Ltd. will provide the components which can be covered under Phase-I for utilising about 2000 MCM water in ERCP.
III. CWC will recheck and confirm water availability and other figures as assessed in DPR and the outcome of the studies as above.
IV. NWDA will firm up the quantum of exchange of surplus water in Kalisindh in their plan for its utilization.
This meeting was held in the context of the ERCP submitted by Govt. of Rajasthan on 28.11.2017 for techno-economic appraisal. It envisages intra-basin transfer of water within the Chambal Basin by utilising surplus monsoon water available in Kalisindh, Parvati, Mej and Chakan sub-basins and diverting it into water deficit sub-basins of Banas, Gambhiri, Banganga and Parbati. The objective of the project is to provide drinking, irrigation and industrial water to 13 districts of Eastern Rajasthan and en-route towns, villages and tanks as well as nearby command area. Project components consist of six barrages namely Hanotiya, Ramgarh, Mahalpur, Navnera, Mej, Rathod Barrage and a Doongri Dam with about 1268 km long water conductor system consisting of gravity canals, gravity tunnels, pumping/delivery mains connecting all the proposed and existing structures of the project area. The CCA is about 2 lakh ha (new command area) besides stabilisation of about 0.8 lakh ha of en-route tanks and reservoirs.

The project is planned at 50% dependable yield. It has been suggested that either the project planning may be revised based on the 75% dependability figures or in case Rajasthan still wants to plan the project at 50% dependable yield, they should obtain "No Objection" from Govt. of Madhya Pradesh in this regard and submit the same to CWC.

Since there is no progress regarding NOC from Govt. of M.P. for allowing Rajasthan to plan the project on 50% dependability and since modified ERCP-PKC Project is being explored, Govt. of Rajasthan is requested to withdraw the DPR of ERCP submitted to CWC since further appraisal may not serve any useful purpose. However, as a follow up action on the 12th meeting of Task Force for ILR held on 16.07.2020, NWDA has submitted the Draft PFR of Parbati Kuno-Sindh link to CWC/MP/Rajasthan vide e-mail dated 17.07.2020 and the same is under examination in CWC/MP/Rajasthan. A Working Group to suggest water sharing between Madhya Pradesh and Rajasthan w.r.t. Parbati-Kuno-Sindh (PKS) Link and Eastern Rajasthan Canal Project (ERCP) was formed under Member(WP&P), CWC. Two Meetings of this group were held on 04.09.2020 & 25.09.2020 but consensus on the proposal is yet to be arrived at between the states.

5th Meeting of the Monitoring Committee for review of the implementation of Shahpurkandi Dam Project (National Project)

Shahpurkandi Dam Project is being constructed on River Ravi 11Km downstream of Ranjit Sagar Dam and 6 Km upstream of Madhopur headworks to provide a balancing reservoir to ensure optimum utilization both for Irrigation in the canal system taking off from Madhopur Headworks & Ravi Canal (J&K) and power generation at Ranjit Sagar Dam Power House. The project was declared a National Project by Govt. of India in Feb. 2008. On completion of the project, an area of 5000 ha in Punjab State and 32173 ha in J&K State would be benefitted. Further, 1.18 Lakh ha area under Upper Bari Doab Canal (UBDC) system shall also be stabilized. The project is regularly monitored by Monitoring Committee headed by Member(WP&P), CWC.

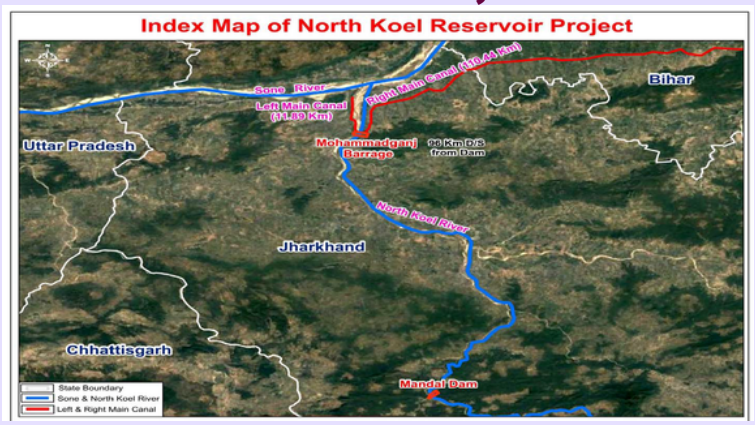
The 5th Meeting of the Monitoring Committee for review of the Project was held under the Chairmanship of Member(WP&P) on 29.01.2021 through Video

Conferencing to discuss the issues related to design of the components of Shahpurkandi Dam Project. Officials from Govt of Punjab, Union Territory of Jammu & Kashmir, Central Electricity Authority and Central Water Commission attended the meeting. Certain action points were emerged during the meeting to expedite the project and officials of Govt. of Punjab were requested to carry out the study on those issues further.

Review meeting for completing the balance works of North Koel Project

The North Koel Reservoir project is situated in the most backward tribal area in Palamau/Garhwa districts of Jharkhand State. The project was originally accepted by the Advisory Committee of MoWR in year 1980 for Rs. 113.17 crore subject to forest clearance by the Ministry of Environment & Forests (MoEF). Later on 11.89 km long Left Bank Canal (LBC) was added to the scope of the project. The construction works had started in the year 1972.The work continued till 1993 and was stopped in that year by the Forest Department, Govt. of Bihar. Since then, the work on dam was at a standstill. Further after considerable discussions, it was decided that the Full Reservoir Level (FRL) of the reservoir may be restricted to Elevation (EL) 341.0 m instead of 367.28 m for saving of core area of Palamau Tiger Reserve.

The approval of Cabinet for completion of the North Koel Reservoir Project for estimated cost of Rs. 1622.27 crore having central assistance amounting to Rs. 1378.61 crore was received in year 2017. The project is

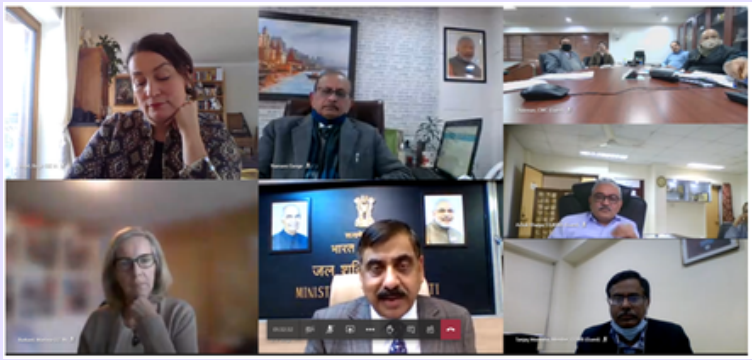


being actively monitored by Technical Evaluation Committee (TEC) headed by Member (WP&P), CWC. In addition to above, Member (WP&P) took a review meeting on status of North Koel Project on 15.01.2021. The meeting was attended by the officers of FM Wing of DoWR, RD&GR and officers from CWC and WAPCOS etc. Detailed Presentation showing the status of progress of various components of the balance works of the project was made by M/s WAPCOS Ltd.

Technical Virtual Meeting for India-EU Water Partnership

A meeting was convened online under the chairmanship of Sh. U.P. Singh, Secretary, DoWR, RD&GR on 20.01.2021 to take stock of the progress made in different activities falling under nine Priority Areas of Phase I of India-EU Water Partnership (IEWP) and way forward to implement Phase II of IEWP that started on 01.11.2020. Shri S. K. Haldar, Chairman, CWC, Shri Kushvinder Vohra, Member(WP&P), CWC, Shri Amrendra Kumar Singh, CE(EMO), CWC and Dr. Naresh Kumar, CE(BPMO), CWC participated in the meeting.

In the meeting, the overview on the status and achievements during the IEWP Phase I was presented that inter alia included Tapi River Basin Management Plan, Guidance document for e-flow assessment in India, Handbook to interpret isotope data for aquifer mapping, Protocol for estimating irrigation performance in small and medium irrigation schemes in India using Remote



Sensing data and draft National Policy on Safe Reuse of Treated Water, developed during phase-I of IEWP.
The detailed deliberations were held with the nodal officers of each priority area from various departments e.g. CWC, CGWB and NMCG so as to identify the activities needed to be continued in the second phase of IEWP (1st Nov 2020 to 30th Sept, 2023) under different thematic pillars (schemes).

EAC Recommendations for Ujh MPP

The Ujh Multi-Purpose Project, located in the District Kathua of UT of J&K, has been envisaged to utilize the water of River Ujh, a tributary of River Ravi, which is one of the three eastern Rivers of Indus Basin system. As per provisions of the Indus Water Treaty between India and Pakistan, India has the right to unrestricted use of all the waters of Eastern Rivers namely, Sutlej, Ravi and Beas. Hence, Ujh Multi-Purpose Project is crucial for optimal utilization of Ravi water and accordingly it was declared a National Project in the year 2008.

The project envisages construction of a concrete face rock-fill dam of 116 m. height, canal system, Main Power House of 186 MW capacity and Dam Toe Power House of 10 MW capacity. The estimated cost of the project is Rs. 9167 Cr. (at December, 2019 Price level). The project has a CCA of 40716 Ha. and Annual Irrigated area of 76929 Ha. The Detailed Project Report (DPR) of the Ujh MPP was initially prepared by CWC, Jammu.
In its meeting dated 30.12.2020, Expert Appraisal Committee (EAC) of MoEFCC for River Valley and Hydroelectric Projects has recommended for grant of Environmental Clearance for the project subject to certain conditions.

Concept Design of Barrage of Shongtong-Karcham to withstand Large Sliding Forces due to Creeping of Right Bank Slope.

Shri Narendra Singh Shekhawat, Director, CWC delivered a presentation to officers of D&R wing of CWC on 25.01.2021 regarding "Concept Design of Barrage of Shongtong-Karcham Hydro Electric Project (450 MW), HP" prepared in consultation of CWC.

SKHEP, envisaged as run-of-the river type hydro power project is located on River Satluj in Kinnaur district of the Himachal Pradesh. The right bank slope in the barrage area is found to be creeping with differential magnitude of movement. KfW (A German Bank) has apprehension regarding right bank slope stability which led to suspension of project financing by KfW. Department of Economic Affairs, MoF desired that HPPCL get the concept design vet by CWC and subsequently HPPCL requested CWC to vet the design. CWC has recently finalized the report submitted by M/s HPPCL. The concept design considers estimated creep movement and transfer of this load to foundation and left abutment by barrage structure itself along with provisions of compressible layer towards the right bank to absorb the residual forces during the design life of the project.

Signing of MoU with WAPCOS for consultancy work of Design and Drawings of Bhadbhut Barrage Project

A MoU had been signed between Central Water Commission and WAPCOS Limited on 15.01.2021 for design consultancy works of Badhbhut Barrage Project proposed across Narmada River 25 km upstream from the mouth of the river, where it flows into the Gulf of Khambhat in Gujarat.

Bhadbhut Barrage Project is a construction stage project, planned to be a 1.7 km causeway-cum-weir barrage with 90 gates. The project would control salinity ingress and deterioration of groundwater quality in the upper reaches of Narmada as due to the reduced flow of freshwater, saline seawater gushes into the Narmada estuary during high tide, thus increasing salinity along the banks. Also, the storage of fresh river water of approximately 600 MCM for meeting domestic and industrial needs in Bharuch is planned. The project also aims to prevent flooding in years when rainfall is higher than normal. About 400 sq km of the area is to be protected for flood protection. The barrage will also have a six-lane road that will connect the left and right banks of the river and shorten the land distance between two large industrial estates in Surat and Bharuch. Embankments of 22 km of length will be made and will extend upstream towards Bharuch, on either side of the river.

MoA with Govt. of Arunachal Pradesh for setting up RTDAS for HO Sites under NHP

Site Name	River	District
Basarnalo	Papum	Papumpare

Site Name	River	District
Dollungmukh	Subansiri	Lower Subansiri

North Eastern Investigation Division (NEID-III), CWC, Itanagar has been entrusted for the opening of 45 RTDAS based HO sites under the National Hydrology Project in Arunachal Pradesh on behalf of Govt. of India. The contract was awarded to M/s AMPL, Hyderabad and the Agreement was signed b/w CWC, Itanagar, and M/s AMPL, Hyderabad on 06.11.2020 at CWC (HQ), New Delhi. Further, a Memorandum of Agreement was signed b/w CE, BBO, Guwahati, and CE(P&D), WRD, Govt of Arunachal Pradesh for the aforesaid project. Accordingly, site visits for finalization of site locations were initiated on 20.01.2021 along with officials from the Water Resources Department, the Govt of Arunachal Pradesh, and M/s AMPL, Hyderabad. Out of 45 sites, site visits to 21 sites have been completed as of 01.02.2021.

Data Corner- Water Quality Monitoring Network in CWC at present

At present, Central Water Commission follows a three tier laboratory system for providing analytical facilities for the analysis of river water samples collected from 552 water quality monitoring stations belonging to the Water Quality Monitoring Network and covering all the major river basins of India. The three tier laboratory system consists of:

1. **Level-I Laboratories:** These are the field laboratories which are located at field water quality monitoring stations on various rivers of India where in-situ values of six: five physical parameters and one chemical parameter (Dissolved Oxygen) of river water are monitored. There are a total number of 295 level-I laboratories located at field water quality monitoring stations on various rivers of India.

2. **Level-II Laboratories:** There are 18 level-II laboratories located at division offices to analyse 25 physico-chemical and bacteriological parameters of river water.

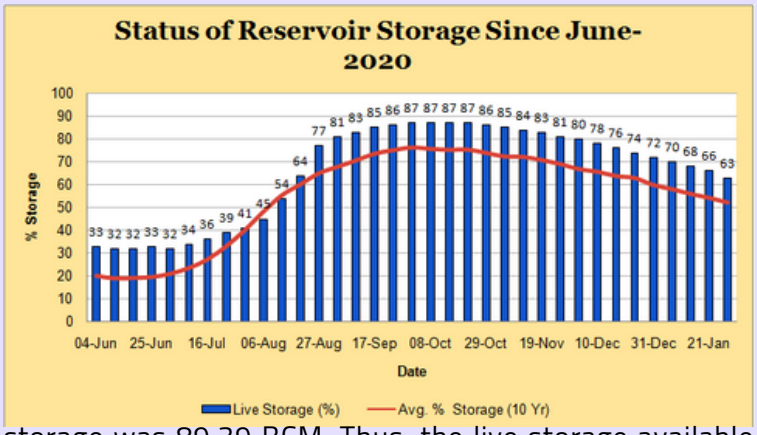
3. **Level-III Laboratories:** There are five regional level-III laboratories for analysis of 41 parameters including heavy metals / toxic parameters and pesticides.

4. National River Water Quality Laboratory (NRWQL), New Delhi: The level-III laboratory at New Delhi under Yamuna Basin Organisation is the National Laboratory named as "National River Water Quality Laboratory (NRWQL), New Delhi".

Sl. No.	Location of laboratory	Level of Laboratory	Organisational Jurisdiction	NABL Accredited
1	National River Water Quality Laboratory (NRWQL), New Delhi	III	YBO, New Delhi	YES
2	Lower Cauvery Water Quality Laboratory (LCWQL), Coimbatore	III	C&SRO, Coimbatore	YES
3	Upper and Middle Ganga Water Quality Laboratory, Varanasi	III	UGBO, Lucknow	YES
4	Krishna and Godavari River Water Quality, Hyderabad	III	K&GBO, Hyderabad	YES
5	Middle Brahmaputra Division, Guwahati	III	B&BBO, Shilong	NO
6	Upper Cauvery Water Quality Laboratory, Bengaluru	II	C&SRO, Coimbatore	YES
7	South Western Flowing Rivers Water Quality Laboratory (SWFRWQL), Kochi	II	C&SRO, Coimbatore	YES
8	Upper Krishna Division Water Quality Laboratory (UKDWQL), Pune	II	K&GBO, Hyderabad	YES
9	Mahi Division Water Quality Laboratory (MDWQL), Gandhinagar	II	MTBO, Gandhinagar	YES
10	Lower Yamuna Water Quality Laboratory (LYWQL), Agra	II	YBO, New Delhi	YES
11	Eastern Rivers Water Quality Laboratory (ERWQL), Bhubaneswar	II	M&ERO, Bhubaneswar	YES
12	Hydrology Division, Chennai	II	C&SRO, Coimbatore	YES
13	Wainganga Division, Nagpur	II	Nagpur	YES
14	Middle Ganga Division-I, Lucknow	II	UGBO, Lucknow	YES
15	Chenab Division, Jammu	II	IBO, Chandigarh	YES
16	Lower Brahmaputra Division, Jalpaiguri	II	T&BDBO, Kolkata	NO
17	U.B. Division (Naharlagun), Dibrugarh	II	B&BBO, Shilong	NO
18	Lower Ganga Division, Berhampore	II	LGBO, Patna	NO
19	Lower Ganga Division-II, Patna	II	LGBO, Patna	NO
20	Mahanadi Division, Raipur	II	M&ERO, Bhubaneswar	NO
21	Narmada Division, Bhopal	II	NBO, Bhopal	NO
22	Tapi Division, Surat	II	NTBO, Gandhinagar	NO
23	Himalayan Ganga Division, Dehradun	II	UGBO, Lucknow	NO

Reservoir Monitoring

CWC regularly monitors the live storage status of 128 reservoirs of the country on weekly basis and issues weekly bulletin every Thursday. Out of these 128 reservoirs, 44 reservoirs have hydropower benefit with an installed capacity of more than 60 MW. The total live storage capacity of these 128 reservoirs is 172.132 BCM which is about 66.77% of the live storage capacity of 257.812 BCM created in the country.



As per reservoir storage bulletin dated 28.01.2021, live storage available in these reservoirs is 109.245 BCM which is 63% of total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was 120.964 BCM and the average of last 10 years live storage was 89.39 BCM. Thus, the live storage available in 128 reservoirs as per the bulletin dated 28.01.2021 is 90% of the live storage of corresponding period of last year and 122% of average storage of last ten years.

Feasibility of Barrage as an alternative to Concrete Gravity Dam for Devsari HEP, Uttarakhand

A meeting was held on 04.01.2021 with the official of SJVN Limited under the chairmanship of Shri S. K. Sibal, Chief Engineer, Design(N&W), CWC to discuss the General Layout and feasibility of Barrage as an alternative to Dam of Devsari HEP.

TEC for Devsari was granted by CEA in 2012 for 252 MW but due to change in Environmental release, project's installed capacity considerably reduced from 252MW to 162MW. Now, SJVNL has optimized installed capacity from 162 MW to 172 MW and on the recommendations of HCD (N&W), Dam toe auxiliary PH has been introduced with an installed capacity of 22MW. The river is proposed to be diverted with a 65m high concrete gravity dam whose depth below river bed is about 30m

which is quite large for 65m high dam. Feasibility of Barrage as an alternative has been studied by SJVNL which seems to be practicable and economical but without any field data regarding barrage design.

A meeting was also held on 22.01.2021 with SJVNL officials and site geologist. It has been requested to carry out tests for input of design of Barrage.

DPR of Palemura & Pahantoli Irrigation Scheme, Jharkhand

A MOU for taking up the Survey & Investigation and preparation of DPR of 31 Nos. Irrigation Schemes was signed between CWC and Water Resources Department, Govt. of Jharkhand on 29.08.2017. Out of, 31 projects, 20 projects have been entrusted to Brahmaputra & Barak Basin Organization (B&BBO), CWC, Shillong, while 11 projects to Planning Circle, CWC, Faridabad under Yamuna Basin Organization (YBO), CWC, New Delhi. 10% of accepted estimated cost of the said work was released in Dec, 2017. Pre-Feasibility Report (PFR) of all the schemes were submitted to WRD, Govt. of Jharkhand in June, 2018.

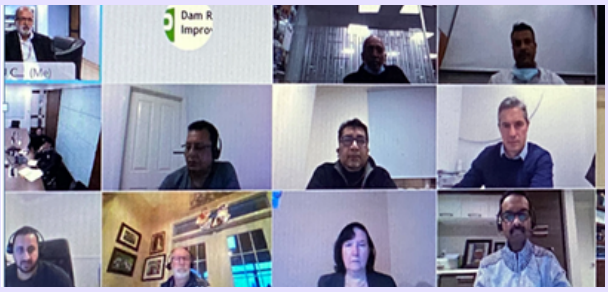
During the Month of January, 2021, Planning Circle, CWC, Faridabad under Yamuna Basin Organization (YBO), CWC has completed the DPR for Palemura Minor Irrigation scheme and Pahantoli Minor Irrigation scheme. The Palemura Minor Irrigation scheme is located on Dongajhor Nala near Palemura village, in Bolba Block of Simdega District, Jharkhand. It has a GCA of 2125 Ha and CCA of 1400 Ha. The annual irrigation of the project has been worked out as 1890 ha at 135% irrigation intensity.

The B.C. ratio of Palemura Irrigation Scheme works out is 1.54.

The Pahantoli Minor Irrigation scheme is located on West Deo Nala near Pahantoli village about 80 m upstream of the Ranchi Simdega National Highway in Kolebira Block of Simdega district, Jharkhand. It has a GCA of 1000 Ha and CCA of 600 Ha. The annual irrigation of the project has been worked out as 948 ha at 158% irrigation intensity. The Gross estimated cost of the project is around Rs. 57.31 Crore. The annual benefit to be derived from the scheme works out to be Rs. 7.13 Crore. The B.C. ratio of Pahantoli Irrigation Scheme works out is 1.24.

DRIP

Engineering and Management Consultancy (EMC) for CPMU under DRIP Phase II & Phase III



A Pre-Proposal Conference regarding Request for Proposal (RFP) for hiring of EMC for CPMU under DRIP Phase II & Phase III was held virtually on 05.01.2021. During the meeting, the Short Listed Agencies were clarified on various queries regarding published RFP document. The meeting was attended by CPMU officials and representatives of Shortlisted Agencies.

Meeting of Review Committee for draft "Guidelines for Selecting and Accommodating Inflow Design Flood' '

The first meeting of the Committee to review the draft "Guidelines for Selecting and Accommodating Inflow Design Flood" prepared under DRIP was held virtually on 13.01.2021. Deliberations were done to improve the quality and scope of the proposed Guidelines. The meeting was attended by members of Review Committee consisting of representatives from CWC, IIT Roorkee, IMD, NIH Roorkee, Karnataka Engineering Research Station and CPMU officials.

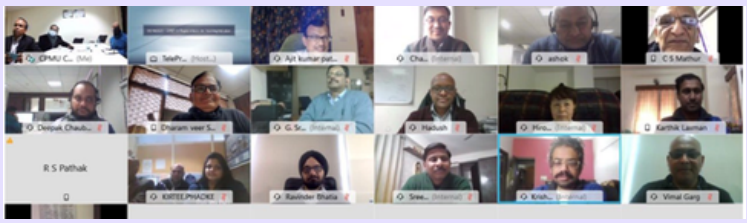
Joint Meeting of CPMU and Meghalaya Power Generation Corporation Limited(MePGCL)

A joint meeting of CPMU and MePGCL was held on 14.01.2021 in Shillong to expedite and complete various pending preparatory activities before signing of loan agreement of DRIP Phase II. Meeting was attended by officials of MePGCL led by Shri M. Shangpliang, Director (Generation), MePGCL and CPMU delegation led by Shri Gulshan Raj, Chief Engineer, CDSO and Project Director DRIP Phase II & Phase III, CWC.

Stakeholder Consultation Meeting for the implementation of published EAPs

Stakeholder Consultation Programs to disseminate the published Emergency Action Plans for 3 no. of dams of Kerala State Electricity Board (KSEB) and 13 no. of dams of Tamil Nadu WRD, as a part of implementation requirement were held virtually on 21.01.2021 and 29.01.2021 respectively. This program is a part of risk mitigation strategy to communicate the associated risks to all the stakeholders. The meeting was attended by officials of CWC, NDMA, SDMA, IMD, NRSC, GSI, All India Radio, District Authorities and villages in the downstream of the dam. Under DRIP, EAPs (Emergency Action Plans) have been published for 181 no. of dams and Stakeholder Consultation Meeting has been conducted for 75 no. of dams.

Rapid World Bank Mission



A Rapid World Bank Mission was held virtually on 25.01.2021 which was attended by the officials of World Bank and CPMU. Detailed discussions on pre-requisites for Scheme closure, finalization of Project Completion Report and Result framework were held during the meeting.

Inspection of ongoing rehabilitation activities of Asan Barrage, Ichari dam and Dakpathar Barrage

CPMU team lead by Project Director, DRIP undertook site visit of Ichari dam, Asan Barrage and Dakpathar Barrage during 27th -28th Jan 2021 to inspect the ongoing rehabilitation works being carried out under DRIP. A review meeting was also undertaken with UJVNL in Dehradun on 29.01.2021 regarding its preparedness to join the new DRIP Phase II. The Meeting was attended by UJVNL delegation led by Sh. Sandeep Singhal, Managing Director, UJVNL and CPMU delegation led by Sh. Gulshan Raj, Chief Engineer, CDSO and Project Director DRIP Phase II & Phase III, CWC.

Dam Safety Review Panel (DSRP) visit to Sekmai Barrage and Khuga dam of Manipur

Inspection visit of Sekmai Barrage and Khuga dam of Manipur WRD was undertaken by the DSRP during 27th – 30th Jan 2021. DSRP recommendation is pre-requisite for preparation of comprehensive rehabilitation proposal for a given dam. The members of the panel were Shri Harkesh Kumar, Director, Gates (NW&S), Shri Vivek Tripathi, Director, CMDD (E&NE), Shri S. K. Shukla, Director, BCD (E&NE), Shri Nitin Kumar Verma , Dy. Director, DSM and Shri Ajit Kataria, Dy. Director, DSR. The panel was accompanied by officials of Manipur WRD during the inspection visit.

India Australia Joint Agriculture Working Group Visit of Subarnarekha Irrigation Project

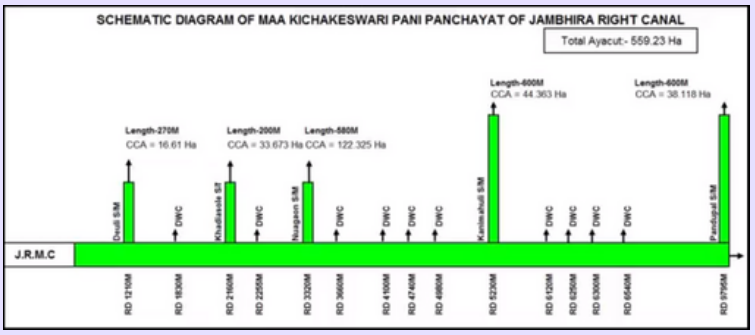
The 5th meeting of India-Australia Joint Working Group (JWG) on Agriculture held on 03.12.2020, included agenda item for visit by the Australian side to the Subarnarekha Irrigation Project to finalize the specific project area, methodology and appropriate technology to be adopted for the pilot project. Its objective is to investigate ways to improve irrigation water use efficiency in the region which may lead to greater efficiency in agricultural production and relieve water stress in other sectors.

Accordingly, as agreed by both the sides, a virtual visit of the Indian and Australian side to the Subarnarekha Irrigation Project (Odisha) was arranged by Shri P. Dorje Gyamba, Chief Engineer(POMIO), CWC on 13.01.2021. The command area of around 560 hectares located in the Kichakeswari Panipanchayat of the project in Mayurbhanj district of Odisha was shown to the Australian participants in order to inform what improvements and/or modernizations could be undertaken. Dr. Qinghong Pu, A/g Director, Urban Water and International Engagement, Water Division from Australia, Chief Engineer(POMIO), CWC and other members of Indian delegation attended the virtual visit of Project area.

Shri P. Dorje Gyamba, Chief Engineer(POMIO), CWC made a brief presentation on the Subarnarekha Irrigation Project which is an Inter-State project among three different States of India (Odisha, Jharkhand & West Bengal) and the proposed command area of about 560 Ha under Kichakeswari Panipanchayat showing irrigation infrastructure, present irrigation practices, water use efficiency and agriculture produce in the command. A video file on Kichakeswari Panipanchayat command area was shown to Australian side. Shri Pravat Ranjan Rout, Chief Engineer, Subarnarekha Irrigation Project, Govt. of Odisha and his officers showed a real time view of the dam, head works, three outlet points and command area.

Dr. Qinghong Pu presented on Australia's Rural Water Use and Infrastructure Program (SRWUIP) and Water Efficiency Program, outlining on-farm and off-farm irrigation efficiency program works in the Murray-darling Basin which have generated multiple benefits.Dr. Pu noted that there is potential for these water use efficiency technologies to be applied to the Indian context.

Dr Pu stressed that Australia approaches irrigation efficiency holistically, including both capital/infrastructure investment and management policies (e.g. water allocation, water planning, water pricing and trading, water information). Dr Pu noted that the AWP knowledge product 'Water Use Efficiency in



Irrigated Agriculture - An Australian Perspective' elaborates on Australia's concepts and practices 111 irrigation efficiency (https://waterpartnership.org.au/wp-content/uploads/2020/05/Water-Use-Efficiency-inIrrigated-Agriculture-web.pdf).

After the presentations and virtual visit to the command area, a joint discussion commenced which covered the following points:

- Indian side is looking forward to the holistic improvement of the command area which can result in increasing crop production by up to 4 times. This may include on-farm and off farm improvements including institutional development and other operation and management modernisation.
- Australian side would come up with a set of deliverables under this intervention and a scoping study to identify the specific project area, methodology, appropriate technology, as well as the potential for improvements to institutional and governance arrangements and capability development.
- Regarding the funding aspects for carrying out the scoping study and further implementation of the suggested interventions raised by Australian side, it was agreed that Australia will provide information outlining the technical collaboration and deliverables it can offer to the project for further discussions between the Indian and Australian sides on funding, noting a desire by both sides to report progress at the next meeting of the JWG on Agriculture.
- Indian side assured that all assistance regarding the data required for carrying out the study by Australian side would be provided.

Training

As a follow-up to the directions of Hon'ble Union Minster for Ministry of Jal Shakti , NWA conducted Mass Awareness program on Water Conservation and Management for the State of Tamil Nadu in collaboration with Irrigation Management Training Institute (IMTI), Trichy, Tamil Nadu. In the first phase, four training programmes were conducted at the following places jointly with IMTI in the vernacular language (Tamil). Programs in other States are being finalized and would be conducted in due course of time.

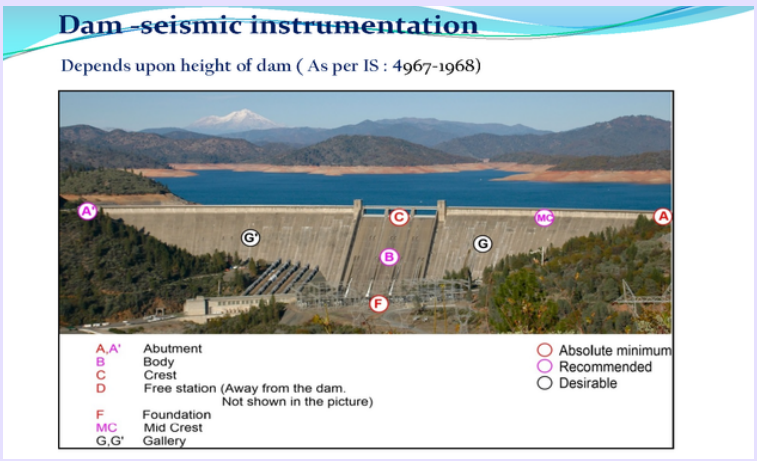
The topics covered in the training program included "Overview of Water Resources in India & Tamil Nadu, Region/District level water related issues", "Water Conservation & Management practices in Domestic and Agriculture sectors" etc. The officials of NWA, IMTI, WRO, Dept. of Agriculture delivered lectures. Shri R. Thangamani, Director, NWA participated in the training at Trichy on 30/12/2020 and delivered a lecture on "Overview of Water Resources in India" in vernacular language (Tamil). During the training, a booklet on "Water Conservation & Management" in vernacular language (Tamil) was also issued to all the trainees.

Sl. No.	Name of District in Tamil Nadu	Date of the training	No of Participant
1	Trichy	30-12-2020	63
2	Karur	05-01-2021	94
3	Krishnagiri	08-01-2021	68
4	Tiruvarur	18-01-2021	48

Dam Safety and Instrumentation

A series of lectures/presentation has been initiated as desired by Dr. R. K. Gupta, Member(D&R), CWC to have a useful and knowledge sharing interaction amongst the officers of CWC on various technical aspects of the water resources projects.

Accordingly, a presentation on "Dam Safety and Instrumentation" was made on 11.01.2021 by Shri O. P. Gupta, Director(Instrumentation Dte.), CWC. The Presentation was attended by the officers of CWC. In the presentation, purpose and need of instrumentation in dam safety, instrumentation system planning, desirable instrumentation in new Concrete Dam & Embankment Dam were highlighted. Further, the scope of instrumentation in the existing dams was also discussed. The importance of the requisite data collection, methods of data collection and its processing and meaningful interpretation was also emphasised for taking up timely remedial measures, if any.

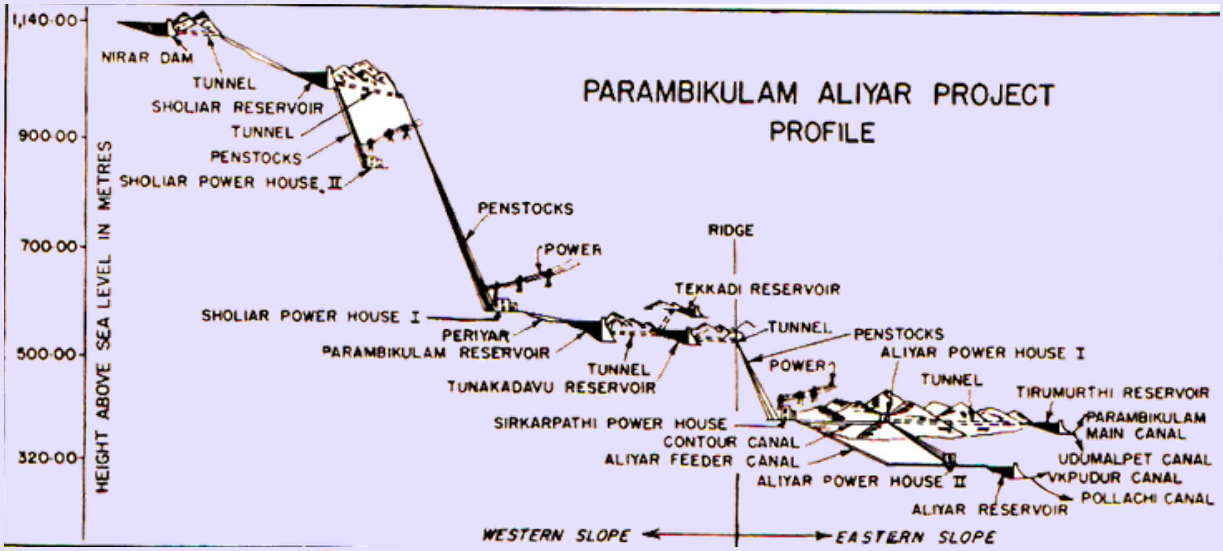


Financial Progress of Schemes/Components as on 31.01.2021

(Amount in Rs. Crore)

Sl. No.	Scheme/Component Name	RE (2020-21)	Expenditure	Expenditure (in %)
1.	Development of Water Resources information System (DWRIS)	130.00	95.757	73.66%
2.	Investigation of Water Resources Development Schemes (IWRD)	9.000	7.038	78.20%
3.	Flood Management & Border Areas Programme (FMBAP)	10.576	7.869	74.40%
4.	Infrastructure Development (ID) Schemes	5.750	5.553	96.57%
5.	National Hydrology Project	8.886	7.239	81.47%
6.	Dam Rehabilitation and Improvement Project	21.000	16.200	77.14%

History- Parambikulam-Aliyar Project



Irrigation in Tamilnadu State dates back to the second century A.D., when King Karikala Chola built a weir called the Grand Anicut, a solid mass of rough stones cemented with clay across the Cauvery for irrigation in Tanjore District. Canals were also excavated in some districts and paddy cultivation was encouraged. After the advent of the British regime, irrigation was put on a firm footing by the construction of several new irrigation works and improving the old ones. Almost all available water resources were tackled. With the fillip given by the Union Government after independence even the small residual resources were exploited during the First and Second Five Year Plans. Thus the State had come to the end of its tether as far as irrigation is concerned.

The Project

The Parambikulam-Aliyar Project derives its name from two major rivers, namely, the Parambikulam on the western slopes of the Anamalais Hills and the Aliyar on the eastern side.

Multi-purpose in nature, the Project envisaged a staircase of seven reservoirs by tapping rivers and tributaries. A weir, 19 km of tunnels, 48 km of lined main canal are other major features. The Project, estimated to cost Rs. 35.08 crore (initially) was designed to bring 97125 Ha under irrigation in addition to installing power stations of 180 MW capacity.

Agreement with Kerala

Any proposal to tap the waters of the rivers, common to Tamilnadu and Kerala, naturally needs the concurrence of the Kerala State. Another aspect that comes in the way was the location of reservoirs and diversion works intended for exploiting some of these rivers. An understanding between the two Governments regarding the quantity of water of the Parambikulam and Aliyar Valleys that was diverted for use in Madras State and the manner of diversion was arrived at in July 1960 with mutual benefits to both the States.

Construction

The first item of the Project on the construction program was Nirar Weir. This weir was intended to divert the flow of the river Nirar into the adjacent Sholayar basin through a 4420 m long tunnel with 45 cumec discharge capacity.

PARAMBIKULAM-ALIYAR PROJECT
Features at a Glance

LOCATION		An inter-connected system of storages, power houses and irrigation canals in Parambikulam and Aliyar river valleys in Kerala and Tamilnadu States.		
Dams		Eight		
	Type	Height (m)	Length (m)	Storage (million cum)
Nirar	Masonry	9	164	0.31
Sholayar	Masonry-cum-Earth	97	1417	188
Parambikulam	--do--	62	351	473
Tunacadavu	--do--	12	335	16
Peruvaripallam	Earth	--	945	19
Tekkadi	Masonry-cum-Earth	--	676	36
Aliyar	--do--	22	3063	109
Thirumurthi	--do--	23	2757	52
Power House		Five		

	Installed Capacity (MW) Proposed
Sholiar I	70
Sholiar II	20
Sirkarpathi	40
Aliyar I	40
Aliyar II	10
TOTAL INSTALLED CAPACITY	180

IRRIGATION CANALS		211 KM	
IRRIGATION POTENTIAL	Dry	77700 Ha	
	Wet	19425 Ha	

Sholayar reservoir was proposed across the Sholayar river for storing the surplus beyond Kerala's requirements as well as the flows diverted from the Nirar. Water from the river diverted to the adjacent basin of Parambikulam through a 3048 m long lined tunnel with a discharged capacity of 21 cum per sec. Advantage of a fall of about 396 m available at the end of the tunnel was utilised for generating power with two units each of 35 mw capacity.

The next structure of the system was another high dam across the Parambikulam river. This was a biggest

reservoir of the project. Its water was diverted into the adjacent Tanacadavu river through 2286 m long tunnel which can discharge 40 cum per sec.

Tunacadavu reservoir was only a balancing reservoir and was constructed mainly to minimise the length of costly tunnel in the hills. Its water was diverted to the east of Annamalai Hills by a tunnel. In addition to the water to be tapped from Parambikulam storage on the south, it was also intended to receive water from two reservoirs on small tributaries on the north-west, namely the Peruvaripallam and Tekkadi.

The first reservoir on the north-west of the Tunacadavu Reservoir was formed by a dam across the Peruvaripallam. Tekkadiar reservoir was another reservoir leading to the Peruvaripallam reservoir through a short tunnel. The Parambikulam, Tunacadavu, Peruvaripallam and Tekkadiar reservoirs are located in Kerala State.

Sirkarpathi Tunnel diverts the waters of the Tunacadavu reservoir to the eastern slope of the Annamalai Hills. It was a lined tunnel of 3962 m length. At the exit of the tunnel a drop of about 91 m was utilised for generating power with one unit of 30 MW.

The Parambikulam –Aliyar Project is the symbol of co-operation of two neighbouring States in diverting the surplus water of one State to irrigate the dry lands of another State. It successfully accomplishes the diversion and integration of eight west-flowing rivers, six in the Anamalai hills and two in the plains for the benefit of the drought prone areas in Tamilnadu.

Renovation & Modernisation (R&M) and Life Extension of Khandong Power Station, NEEPCO, Assam

DPR for Renovation & Modernisation of Khandong Power Station has been received at Designs (NW&S) in December, 2020. CWC has conveyed to NEEPCO that increase in design discharge beyond its original value of 85.5 cumec may not be considered a sound proposition as the higher flow velocity in concrete lined tunnel may result in accelerated damages to the lining due to ageing of concrete, acidic environment and earlier reported loss of concrete mass in lining. Comprehensive investigations to assess the structural soundness of the WCS and suitable rectification, if needed, to ensure its long-term safety and serviceability have also been advised. CWC's views on DPR regarding inadequacy of drawings, design of surge shaft for surge conditions and discrepancies have also been conveyed in Jan, 2021.

Water Sector News

- HP to set up water transport facility in Kol dam reservoir (The Statesman, 01.01.2021)
- Chembrambakkam reservoir bund wall razed to clear weed growth in lake (New Indian Express, 05.01.2021)
- Brahmaputra Aamantran Abhiyaan event held (Times of India, 07.01.2021)
- Govt. clears 8 hydropower projects on Indus in Ladakh (Millennium Post, 08.01.2021)
- Every hydel project under obligation to release min water downstream : NGT (Millennium Post, 12.01.2021)
- Pollution-free water fundamental right, state bound to ensure it : SC (Millennium Post, 14.01.2021)
- Dal Lake freezes after 30 years as mercury dips minus 8.40 Celsius (The Statesman, 15.01.2021)
- Officials lift 10.5 TMC water from Godavari River (Telangana Today, 18.01.2021)
- Centre nod for Chenab hydel project despite Pak objections (Indian Express, 21.01.2021)
- Cabinet approves Rs. 5,282 cr to revive J&K hydro project (Financial Express, 21.01.2021)
- Govt. move on Hesaraghatta conservation reserve shocks activists, villagers (Deccan Herald, 24.01.2021)
- Ageing dams in India a growing threat : UN report (Tribune, 24.01.2021)
- Budget may raise central aid to expedite Pakul Dul Project (Mint, 27.01.2021)
- TS wakes up to Centre's call, to submit DPRs for fund flow (The Hans, 31.01.2021)

Gallery



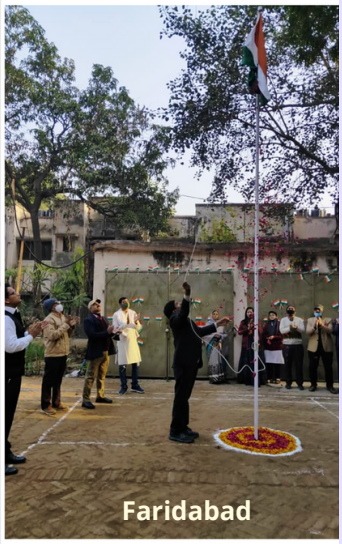
Tour of Member(RM), CWC to review the works of KGBO, CWC Hyderabad, Inspect HO sites of CWC there and to Review of 168 telemetry Stations & its conversion from PRBS to TDMA.

Shri ORK Reddy Director (App.), Shri M L Prakash, DO (App.), visited Karanja Irrigation Project (Karnataka) during 20th -21st January 2021 in order to ascertain the timely completion of the project.

Chief Engineer, Mahi & Tapi Basin Organisation, CWC, Gandhinagar inspected Harnav Weir and Ambaji Site under Mahi Division, CWC, Gandhinagar on 20.01.2021.

Shri L. Kodanda Ramaswamy, DD (Mon.), and Shri Pratap Shelke, AD (Mon.), visited Upper Tunga Project from 20.01.2021 to 21.01.2021 for 1st Monitoring visit during F .Y. 2020-21

Republic Day Celebration



Central Water Commission

An attached office of Dept. of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Govt. of India

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