



JALANSH

The Monthly Newsletter of Central Water Commission



Message

R. K. Jain
Chairman, CWC

Water Sector is a complex sector involving various stakeholder organizations/institutes implementing various mandates which have bearing on the overall water sector. In such a situation proper coordination and handholding are needed among the various organizations. CWC being the lead organization of the Water sector in India, always strives in this direction. Recently, the 1st meeting of the reconstituted Indian Council of Agricultural Research (ICAR)-CWC Joint Panel was held under the Chairmanship of Dr. Trilochan Mohapatra, Secretary, Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare & DG, ICAR and my co-chairmanship.

I also chaired the 5th meeting of the Expert Committee for Scientific Assessment of Flood Prone Areas in India on 19.03.2020 at CWC, New Delhi. Various stakeholder organizations viz. IMD, SoI, GFCC, MHA, NDMA, NRSC, CWC, NITI Aayog and IITs were represented in this meeting.

Water Sector proposals submitted by State Governments for External Assistance are examined by various specialized Directorates of Central Water Commission (CWC) being a technical wing of the DoWR,

RD&GR, Ministry of Jal Shakti. One such project namely "West Bengal Major Irrigation and Flood Management Project(WBMIFMP)" posed for External Assistance with the World Bank & Asian Infrastructure Investment Bank (AIIB) was discussed during a review meeting taken by me on 04.03.2020 with officials of CWC and GFCC.

CWC has considerably increased the number of HO sites under DWRI Scheme. Increased number of sites need to be suitably manned/equipped with adequate manpower and equipments. Various efforts are underway to strengthen the Divisions of CWC and recently proposals for hiring of support staff for 17 divisions were approved.

Field units of CWC are actively engaged in the monitoring of centrally aided water resources projects which forms the basis for timely release of funds and removal of bottlenecks in the implementation of these projects. DoWR, RD&GR has sanctioned about Rs 688 crore during the month of March for the various ongoing projects included under AIBP component of PMKSY. About 40 projects have been reported to be completed out of 99 prioritized AIBP funded projects. These priority projects have cumulatively created Irrigation potential of about 1.8 Mha during 2016-19.

Subsequent phase of DRIP is about to start shortly and hence preparatory activities in this regard are in full swing so that it can be started as per schedule.

The World is facing an unprecedented threat in the form of COVID-19 which has resulted in nation-wide lockdown since 24.03.2020. Officers/staff of CWC have been encouraged to donate their one day salary to the Prime Minister Citizens Assistance and Relief in Emergency

Situation (PM CARES) fund to aid the Government's effort to fight the COVID-19 pandemic. CWC officer/staffs are using E-office and video-conferencing platforms to continue the functions of the Commission. Several important meetings were taken by Hon'ble Minister during the lockdown period which were attended by senior officers of Ministry and its organizations including CWC through video-conferencing.

In this challenging time, I would urge everyone to follow the directions of Government and healthcare professionals towards containment of pandemic related to COVID-19 and support the people requiring assistance in the best possible way.

R. K. Jain



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Review meeting to discuss the feasibility study report of WBMIFMP

Shri R. K. Jain, Chairman, CWC held a review meeting on 04.03.2020 to discuss the issue of clearance of the "West Bengal Major Irrigation and Flood Management Project (WBMIFMP)" posed for External Assistance with World Bank & Asian Infrastructure Investment Bank (AIIB). Officials from CWC and Ganga Flood Control Commission (GFCC) attended the review meeting. From GFCC side, Shri M. S. Dhillon Chairman (GFCC), Shri Sher Singh, Member (P) & Shri Ritesh Khattar, Director and from CWC side, Shri S. K. Haldar, Member (WP&P), Chief Engineer (PPO), Director (Hydrology – North) & Director (External Assistance) attended the aforesaid meeting. Water Sector proposals submitted by State Governments for External Assistance are examined by various specialized Directorates of Central Water Commission (CWC) being a technical wing of the DoWR, RD&GR, Ministry of Jal Shakti. Director (External Assistance), CWC is the nodal officer for the matter.

WBMIFMP aims to focus on rehabilitation and modernization of canals off-taking from the Durgapur barrage, conjunctive use of surface water and groundwater as well as flood management of the lower Damodar river

The proposed project is located in four districts of West Bengal state namely Bankura, Bardhaman (Purba and Paschim) Hooghly & Howrah. The improvement of the irrigation system envisages an increase in canal water supply by 125311 ha-m (from 152377 ha-m to 277688 ha-m) registering a growth of 82.2%. The intervention of Flood Management mainly comprises of dredging of Mundeswari river with the pilot channel, de-siltation of 41 other smaller rivers and drainage channels, construction of flood walls over embankments, improvement and strengthening of existing embankments, river training works at the selected locations, remodelling and reconstruction of sluices.

Estimated Cost		Rs. 2931.67 Crore (413 US \$ Million)
Cost	Sharing	35% (World Bank), 35% (AIIB), 30% (Govt. of West Bengal)

During the meeting, various decisions were taken so as to complete appraisal of the project both by CWC and GFCC at the earliest.

ICAR-CWC Joint Panel Meeting

The 1st meeting of the reconstituted Indian Council of Agricultural Research (ICAR)-CWC Joint Panel was held under the Chairmanship of Dr. Trilochan Mohapatra, Secretary, Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare & DG, ICAR and Co-Chairmanship of Shri R. K. Jain, Chairman, CWC at National Agricultural Science Complex (NASC), Pusa, New Delhi on 13.03.2020.

For achieving the objectives of the Panel, participants highlighted various issues viz. land degradation and water resources availability at basin scale under present and future climate change scenarios, performance evaluation of irrigation projects, studies on irrigation water pricing and influencing factors, water audit and water conservation, conjunctive use of canal water, saline water, and waste/poor quality water, assessment of flood and flood prone areas, reclamation of waterlogged and saline lands, application of mole drainage and sub-surface drainage technology etc. Meeting was followed by a visit to the wastewater treatment facility and precision irrigation system facility of Indian Agricultural Research Institute (IARI), New Delhi and all the participants visited these facilities.



It was also decided to hold meetings of the Joint Panel more frequently so that implementation of the decisions taken during meetings may be monitored and ensured.

Nabarangpur Irrigation Project, Odisha

Nabarangpur Major Irrigation project is located on the downstream of Indravati Reservoir in the Godavari Basin at Tentulikhunti block of Nabarangpur district of Odisha. The Indravati river is a tributary of river Godavari. The Project envisages construction of a 300 m long tunnel on the right side of Indravati dam crossing the Khatiguda-Mahulpatna road and canals network consisting of 23 nos. distributaries. The main canal is proposed to take off from head regulator and run for a length of 52.35 km. This project is proposed to be constructed to benefit 15,000 ha CCA during Kharif period and drinking water facilities to nearby tribal areas of

Nabarangpur district (Tentulikhunti, Nandahandi and Nabarangpur block) by utilizing the storage of Indravati reservoir. Annual Irrigation will benefit 43,047 ha of land and proposed cost of the project is Rs. 278.99 Cr. This project was received in CWC for appraisal and the inter-State aspects of the project are currently under examination. As per CWC guidelines, utilization of waters of an inter-State basin should strictly conform to inter-State Water Dispute Tribunal award or valid inter-State agreement wherever available.

National Hydrology Project

Proposal for Consultancy services of Basin-wise Extended Hydrologic Prediction (Multi week forecast) in Cauvery, Narmada & Yamuna basins under National Hydrology Project has been forwarded to DoWR, RD & GR for approval after getting NOC from World Bank.

Technical bid of tender invited by Central Water Commission for the procurement of Real Time Data Acquisition System (RTDAS) on behalf of North Eastern States of Meghalaya, Manipur, Mizoram, Tripura, Sikkim, Arunachal Pradesh & Nagaland except Assam and in Narmada for Narmada Control Authority under National Hydrology Project was evaluated. Financial bid in respect of RTDAS tender of RTDAS tender of Narmada basin was opened.

Technical bid of Request for Proposal (RFP) received from two bidders in

respect of consultancy services of Physical based mathematical modelling for estimation of Sediment Rate and Sediment Transport in Seven River Basins viz Ramganga, Barak, Narmada, Cauvery, and Three West Flowing rivers in western Ghats viz Kuttiyadi, Peechi & Mangalam Basin is under process of evaluation.

Expression of Interest (EoI) of Early Flood Warning System with inundation forecast has been invited by CWC under NHP. 5 EoI's have been received and under evaluation.

Tender of procurement of 14 nos. of ADCP and 7 nos. of Advanced Water Quality Equipment (4 GCMS and 3 ICPMS) under National Hydrology Project for CWC Regional Offices was invited by CWC.

Hiring of support services for hydrological observation

Administrative approval, expenditure sanction and technical sanction for inviting tender of hiring of support services for hydrological observation on

on various rivers for F.Y 2020-21 for 17 Divisions have been granted by Chairman, CWC. Further action in the matter is being taken.

5th meeting of the Expert Committee for Scientific Assessment of Flood Prone Areas

The 5th meeting of the Expert Committee for Scientific Assessment of Flood Prone Areas in India was held under the Chairmanship of Shri R.K. Jain, Chairman, CWC on 19.03.2020 at CWC, New Delhi. The meeting was attended by officers from IMD, Sol, GFCC, MHA, NDMA, NRSC, NITI Aayog and CWC. Prof. Nayan Sharma- IIT Roorkee, Prof. Arup K Sharma- IIT Guwahati and Member Secretaries of Regional Committees attended the meeting through video conferencing.

CWC presented the study on the inundated area of India delineated by analyzing the satellite data imageries using remote sensing techniques viz. delineating flood inundated maps using satellite imageries of Landsat

(1984-2019), Sentinel-1 & 2 (microwave & multispectral from 2015-2019) on Google Earth Engine Application Programme Interface.

Members of the Expert Committee had a thorough discussion regarding the methodology, criteria & resources adopted by CWC & NRSC. Since NRSC is already in the process of making Flood Hazard atlases of various States, the Expert Committee felt that NRSC may present their study as early as possible to Chairman, CWC/Expert Committee so that a common outcome emerges before the commencement of next Expert Committee meeting to take up necessary decision.

Review of progress of preparation of DPRs of Ujh and 2nd Ravi-Beas Link Project

A meeting was held under the chairmanship of Chairman, CWC on 05.03.2020 to review the progress of preparation of DPRs of Ujh and 2nd Ravi-Beas Link Project and decide future course of action. The meeting was attended by the officers from the Ministry of Jal Shakti, CWC, Govt. of Punjab and Govt. of J&K. In the meeting, progress of preparation of DPR of additional command of Ujh project was apprised by the officials from J&K and timelines for various activities for preparation of DPR and its appraisal were decided. These two projects are among the 16 Projects, declared as National Projects by Ministry.

Progress of National Projects

Out of 16 Projects, declared as National Projects by Ministry, five projects namely Polavaram Irrigation Project (Andhra Pradesh), Saryu Nahar Pariyojana (Uttar Pradesh), Gosikhurd Irrigation Project (Maharashtra), Teesta Barrage Project (West Bengal) & Shahpurkandi Dam Project (Punjab) have been taken up for execution after the concerned State Governments obtained the necessary approvals as per the Guidelines for Implementation of National Projects. Details of potential created and utilized in these five national projects as per the latest information received are detailed in adjacent table.

(*cropped area under Saryu Nahar Project as per the study conducted by Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG).)

Hydro-power Generation

CEA is monitoring the generation from hydro-electric projects (above 25 MW). During year 2019-20, hydro-power generation has increased considerably. As per data available up to Feb, 2020, Hydro-power generation has shown growth of 8.73% over the previous year.

Owing to better growth, percentage of hydro-power generated has also increased in overall power generation during this year.

Geo-Physical investigation of Barinium HEP, District Kishtwar, J&K

Geo-Physical investigation of foundation is an important technique and extensively used for Water Resources Projects. Barinium Hydroelectric Project (HEP) is proposed on river Chenab in Paddar Valley, District Kishtwar, J&K which is being investigated by Chenab Division, CWC, Jammu under Indus Basin Organization, CWC, Chandigarh. Geo Physical investigation was an important milestone to be achieved in 2019-20 for investigation and DPR preparation of Barinium HEP.

Accordingly, a team of officers from CSMRS, New Delhi lead by Dr D. V. Sarwade, Scientist-D visited the project site from 26.02.2020 to 07.03.2020 and conducted the Geo-Physical investigation along with officers of CWC, Jammu.

The investigation comprising seismic refraction survey was done for 8 spreads of 115 m length each at various locations on left and right bank of river Chenab. Since the investigation was done on RBM (River Borne Material), explosives were used for producing the Shock Waves. The challenges expected were remote location of project site, inaccessible left bank of river as well as safety & security in Kishtwar District of J&K. However, these were overcome by the Officers of CWC, Jammu in association with local administration and Police Department.

Review of PMKSY-AIBP Projects

After the lockdown in the Country, Chairman, CWC took a review meeting (through Video Conferencing) on 31.3.2020 for 99 Priority PMKSY-AIBP Projects under construction in the state of Maharashtra and MP. Shri S. K. Halder, Member (WP&P), Chief Engineer (PMO), Director (WP&P-Coordination), Director (Monitoring-Central) attended VC from Delhi. From CWC field offices, Chief Engineer (MCO), Nagpur and Chief Engineer (MTBO), Gandhinagar along with Directors dealing with Monitoring and Appraisal attended the VC. Each project issues like present status, bottlenecks, CWC's efforts to remove these bottlenecks and further advise to project authorities, potential targeted and created as on date and tentative date of completion was discussed in the meeting.

Project	Ultimate Potential (Th. Ha.)	Potential Created (Th. Ha.)	Utilization (Th. Ha.)
Saryu Nahar	1404	1096	615.84*
Gosikhurd	250.8	103.203	58.224
Polavaram	291	121	118
Shahpurkandi	37.17	-	-
Teesta	527	197	104

Financial Year	2019-20 (upto- Feb. 20)	2018-19	2017-18	2016-17
Unit Generated (in Billion)	146.67	134.89	126.12	122.38
Yearly Growth	8.73%	6.95%	3.06%	0.83%



Project Monitoring

Construction work in progress at VRB 15.400 km Arjun Feeder



Monitoring visit to Arjun Sahayak Pariyojna

A team of Monitoring and Appraisal Directorate, CWC, Agra comprising of Shri G. L. Bansal, Director and Shri Mayank Suhirid, Deputy Director carried out 2nd Monitoring visit of the Arjun Sahayak Pariyojna during 3rd- 4th March, 2020, along with the officials of Irrigation & Water Resources Department, Govt. of Uttar Pradesh.

Arjun Sahayak Pariyojna is included in 99 priority PMKSY projects with an estimated cost of Rs. 2465.68 crore for AIBP component. The construction works of Arjun Feeder (Feeder from Lahchura Dam to Arjun Dam), Kabrai Feeder (Arjun Dam to Kabrai Dam), rising of Kabrai dam and of main canal are in progress. The target for completion of the project is March, 2021.

The Project envisages the use of surplus water of river Dhasan during rainy season to fill Arjun, Chandrawal and Kabrai Dams through feeder channels from existing Lahchhura Dam. The project has a GCA of 1.713 lakh ha, out of which, 1.497 lakh ha is CCA. The ultimate irrigation potential is 44,381 ha., out of which, 18,963 ha for Kharif irrigation and 25,418 ha for Rabi irrigation. On completion of project, 44,381 ha Irrigation potential shall be created and 15,104 ha Irrigation potential shall be restored. In addition, 20 MCM water shall be made available for drinking purpose to Mahoba, Hamirpur and Banda districts. 1,49,755 farmers from 168 Villages shall be benefitted by this project.

Monitoring visit of the Madhya Ganga Canal Stage – II project

A team of Monitoring and Appraisal Directorate, CWC, Agra comprising of Shri G. L. Bansal, Director and Shri Mayank Suhirid, Deputy Director carried out 2nd Monitoring visit of the Madhya Ganga Canal Stage – II project during 18-20th March, 2020 along with the officials of Irrigation & Water Resources Department, Govt. of Uttar Pradesh.

Madhya Ganga Canal Stage – II project is included in 99 priority PMKSY projects with the estimated cost of Rs. 4284.46 crore for AIBP component.

The Projects envisages the utilization of 1943 MCM surplus waters of river Ganga during monsoon by diverting it through Left Regulator of existing barrage of Madhya Ganga Pariyojna Stage-I at Bijnor, for Kharif irrigation in the districts of Amroha, Sambhal and Moradabad in Uttar Pradesh. The project has a GCA of 2.55 lakh ha, out of which, 2.25 lakh ha is CCA. The ultimate irrigation potential is 1,46,532 ha, out of which, areas under paddy and other Kharif crops are 78,902 ha and 67,630 ha respectively.

The project includes 66.2 km long main canal which takes off at the left bank of MGC Barrage at Bijnor, two branch canals viz. Bahjoi and Chandausi and distribution system having a total length of 1,321 km.

Construction work remained halted during 2015-18. It was resumed after the release of funds during the financial year 2018-19 and is now in full swing. Target completion of the project is March, 2021.

Fund Sanction for schemes under PMKSY-AIBP

During the Month of March, 2020, Central Assistance amounting to Rs. 68,886.47 Lakh was sanctioned under AIBP-PMKSY as detailed below.

SI No.	Scheme Name	State/UT	Amount (In Lakhs)
1	Durgawati	Bihar	1412
2	Restoration and Mod. of Main Ravi Canal	Jammu and Kashmir	157.2
3	Bhima LIS	Karnataka	510
4	Bhima LIS	Karnataka	1027.5
5	Mahi Project	Madhya Pradesh	126.25
6	Waghur	Maharashtra	1468
7	Arjuna	Maharashtra	429.5
8	Bembla	Maharashtra	4096
9	DhomBalkawadi	Maharashtra	905.6
10	Lower Wardha	Maharashtra	3083
11	Tarali	Maharashtra	1058
12	Kudali Medium Irrigation Project	Maharashtra	174.8
13	Lower Indra(KBK)	Maharashtra	755
14	Integrated Anandpur Barrage	Maharashtra	530
15	Shahpurkandi Dam Project	Punjab	5952.9
16	Narmada Canal	Rajasthan	9361.72
17	Peddavagu Jagannathpur @	Telangana	229
18	SaryuNahar (NP)	Uttar Pradesh	35830
19	Madhya Ganga canal PH-II	Uttar Pradesh	1780
		Total	68886.47

Source: PMKSY-AIBP Website

Work in progress at 26.975Km Aqueduct of Main canal



Visit of CWC officials to district Chitrakoot (U.P) & river Mandakini

Secretary, DoWR, RD & GR, Ministry of Jal Shakti directed that CWC should take up study of rejuvenation & impact of desilting work of smaller rivers primarily under MGNREGA done by State Government, so as to understand whether such works (like desiltation) may help in rejuvenating the river.

Accordingly, a team of Monitoring and Appraisal Directorate, CWC, Agra comprising of Shri G. L. Bansal, Director and Shri Mayank Suhirid, Deputy Director visited Chitrakoot district & river Mandakini with concerned officers of District Administration & UP Irrigation Dept. during 05-06th March, 2020 and submitted report to CWC(HQ), New Delhi.

The Paisuni (locally known as Mandakini) River originates from the hills of Khillora near Pindra village, Majhagawan block, Satna (MP) district at an elevation of 156 m above mean sea level and joins river Yamuna near Rajapur (UP) after flowing about 59 km in MP and about 71 km in Chitrakoot district of Uttar Pradesh. Total catchment area of the river is about 1956 km².

The river becomes perennial in Chitrakoot after Sati Anusuiya temple where it receives groundwater along the fault zone from both the sides. Due to the cavernous nature of limestone, it feeds the river at many places from Sati Anusuiya temple onwards.

Visit of design team to Hathnikund Barrage

Design team led by Shri S. K. Sibal, Chief Engineer, Designs (N&W), CWC visited Hathnikund Barrage on 12-13th March 2020, which has issues related to damaged glacis and downstream apron as well as issues related to seals, track & maintenance of Gates.



Stakeholders Consultation meeting for implementing Emergency Action Plans (EAP) under DRIP

EAP helps in improving the emergency preparedness of all the stakeholders which include people likely to be affected, dam operation and maintenance personnel, organizations engaged in providing rescue and relief as well as those maintaining law and order. EAPs are being prepared for all the dams covered under DRIP. In the month of March, One day EAP Stakeholders' Consultation meeting was organised by Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) at Port on 04.03.2020 for 5 dams namely Avalanche Dam, Emerald Dam, Kundah Palam Dam, Pegumbahallah dam and Porthimund Dam in Kundah Basin, Nilgiri District. Kerala Water Resources Department (KWRD) also organised EAP Stakeholders' Consultation meeting on 05.03.2020 at Palakkad for 6 dams namely Malampuzha Dam, Kanhirapuzha Dam, Walayar Dam, Pothundy Dam, Meenkara Dam and Chulliar Dam. Officials of CWC, World Bank, NDMA, NDRF, GSI, IMD, District Authorities participated in these meetings.

Ganga Aamantran Abhiyan

Union Minister for Home Affairs, Shri Amit Shah presided over the Flag-in ceremony of the Ganga Aamantran Abhiyan, organized under the National Mission for Clean Ganga, in New Delhi on 13.03.2020. Shri Gajendra Singh Shekhawat, Union Minister for Jal Shakti and Shri Rattan Lal Kataria, Minister of State for Jal Shakti, Social Justice and Empowerment, were also present on the occasion, along with other senior officers of the Government of India.

It was observed during the visit that water was flowing continuously in the river up to its confluence with river Yamuna. Farmers are taking this water for irrigation by pumping directly to their farms. Water is also being taken for drinking purposes. De-silting and deep digging work done along the stretch of river Mandakini has resulted in cleaning of pores and opening of drainage path. The groundwater appeared in the form of continuous flow in the river.



Bandhoi Weir, Chitrakoot

DRIP-Inspection of Dams in Uttar Pradesh

As per direction of DRIP, a Dam Safety Review Panel of Uttar Pradesh (UP) inspected various dams namely Matatila Dam on Betwa River in Lalitpur District, Govind Sagar Dam on Shazad river in Lalitpur District, and Maihada Dam on Birma River (Tributary of Betwa river) situated in Hamirpur district from 17th-21st March 2020. The panel was chaired by Shri S. M. Husain, Ex-Chairman, CWC and was attended by Shri Vivek Tripathi, Director, Embankment Directorate(E&NE) as Member (Design) of the panel along with Officers from UP Irrigation Department.



Miscellaneous events in IBO

- Shri Shiv Nandan Kumar, Chief Engineer (IBO), CWC attended the "Laddakh Sustainable Summit-2020" organised by G.B. Pant National Institute of Himalayan Environment & Sustainable Development and the Administration of UT of Laddakh at Leh during 3rd-5th March, 2020.
- Hindi Karyashala was organized by M&A Dte., CWC, Jammu on 17.03.2020 at Jammu. The officials from the o/o Chief Engineer(IBO), Chandigarh, M&A Dte., Jammu, Monitoring Dte., Srinagar and Chenab Division, Jammu participated in the above Karyashala.

MCTP

Twenty five STS officers of CWES Group A attended the Mandatory Cadre Training Programme (MCTP) during March, 2020. Three week programme was held at NWA, Pune, IISc Bengaluru and IIM Bengaluru during 2nd -20th March, 2020. The 4th week of Programme at AIT, Bangkok was postponed in the view of COVID-19 pandemic.



भारतीय प्रबंध संस्थान बेंगलूर
INDIAN INSTITUTE OF MANAGEMENT
BANGALORE

Executive Education Programmes
Leadership and Governance Programme for Senior Time-Scale Officers of CWES (Group-A)
March 16 – 20, 2020



Data Corner- Top 10 States in Irrigation Development

S. No.	States/UTs	Net Irrigated Area (Mha)
1	Uttar Pradesh	13.70
2	Madhya Pradesh	8.42
3	Rajasthan	7.76
4	Gujarat	5.32
5	Punjab	3.94
6	West Bengal	3.53
7	Haryana	3.49
8	Karnataka	3.41
9	Bihar	3.29
10	Andhra Pradesh	3.16

(Source: Agriculture Census, 2015-16)

Visit to Irrigation Projects in Jharkhand

A MoU was signed between Water Resources Department (WRD), Jharkhand and Central Water Commission (CWC) on 29.08.2017 for preparation of Detailed Project Reports (DPRs) of 31 Irrigation Projects in Jharkhand. The S&I activities for these projects were entrusted to CWC field organizations B&BBO & YBO and Design Directorates at CWC (HQ) are assisting the field units in preparation of the DPRs.

The four schemes out of schemes under investigation were jointly visited during 17-20th March 2020 by the Director & Deputy Director of BCD (NW&S) Dte. with the Planning Circle, CWC, Faridabad Officers. Proposed dam site, spillway site, reservoir area, command area - right and left bank main canals, tentative locations of canal structures etc. were visited.



Reservoir Monitoring

Central Water Commission is monitoring live storage status of 123 reservoirs of the country on a weekly basis and is issuing a bulletin on every Thursday. The total live storage capacity of these 123 reservoirs is 171.090 BCM which is about 66.36% of the live storage capacity of 257.812 BCM which is estimated to have been created in the country.

As per reservoir storage bulletin dated 26.03.2020, live storage available in these reservoirs is 88.119 BCM, which is 52% of the total live storage capacity of these reservoirs. However, last year the live storage available in these reservoirs for the corresponding period was 55.333 BCM and the average of the last 10 years live storage was 58.021 BCM. Thus, the live storage available in these reservoirs is 159% of the live storage of corresponding period of last year and 152% of storage of average of the last ten years.

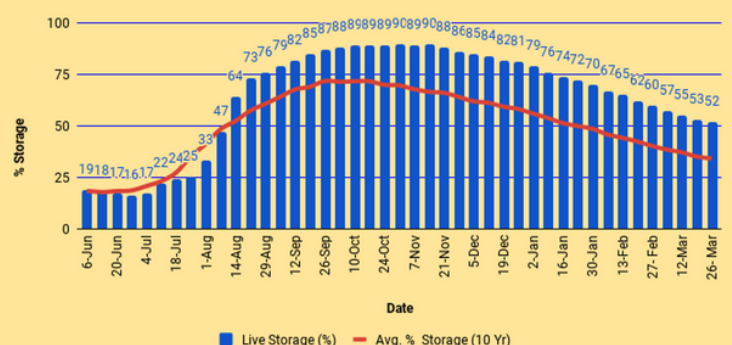
News Around the States

The Government of India, Government of Himachal Pradesh and the World Bank signed a US\$80 million loan agreement to improve water management practices and increase agricultural productivity in selected Gram Panchayats (Village Councils) in Himachal Pradesh, a mountain state richly endowed with natural resources on 11.03.2020.

The Integrated Project for Source Sustainability and Climate Resilient Rain-Fed Agriculture in Himachal Pradesh will be implemented in 428 Gram Panchayats in 10 districts benefiting over 400,000 smallholder farmers, women and pastoral communities. The project will improve upstream water sources in forests, pastures and grasslands and ensure sufficient water is available for sustainable agriculture both in Himachal Pradesh and in downstream states.

Status of Reservoir Storage Since June-2019

(Total Storage Monitored by CWC as on 28.02.2020 : 171.090 BCM)



Enhancing the climate resilience of agriculture and its allied activities is a key component of the project for which efficient use of water is the focal point. The project will set up hydrological monitoring stations to monitor the water quality and quantity. This will not only help lay the foundation for future water budgeting through better land use and agricultural investments, but also ensure more holistic catchment area treatment (CAT) plans that are based on source sustainability, carbon sequestration, and water quality. Such efforts are also expected to generate carbon benefits for the state.

The net GHG benefit per hectare for the project area is estimated to be 0.6 tCO₂/ha/year. The US\$80 million loan from the International Bank for Reconstruction and Development (IBRD) has a final maturity of 14.5 years including a grace period of five years.

Water Sector- News

- Water insecurity rising in Hindu Kush Himalayan region: Study (The Statesman, 02.03.2020)
- Groundwater polluted beyond BIS limit (The Tribune, 03.03.2020)
- Centre working on exclusive body for river-linking projects (The Hindu, 04.03.2020)
- A water crisis of Himalayan proportions (Pioneer, 05.03.2020)
- BBMP council unites over water shortage this summer (Deccan Herald, 08.03.2020)
- MP's committee seeks robust system for packed water (The Tribune, 09.03.2020)
- Greenland, Antarctica losing times more ice than during 90s (Hindustan Times 13.03.2020)
- Shah Flaps-in Water Conservation Project (The Indian Express, 14.03.2020)
- Tried to mediate on SYL, but Hry, Pb unyielding: Centre (The Tribune, 17.03.2020)
- Amid focus on hygiene, govt. to ensure sufficient water supply (The Hindustan Times, 19.03.2020)

World Water Day

World Water Day, held on 22 March every year since 1993, focuses on the importance of freshwater. World Water Day celebrates water and raises awareness to tackle the global water crisis. A core focus of World Water Day is to support the achievement of Sustainable Development Goal 6: water and sanitation for all by 2030.

World Water Day 2020 was about water and climate change – and how the two are inextricably linked. The 2020 edition of the World Water Development Report (WWDR 2020) entitled 'Water and Climate Change' aims at helping the water community to tackle the challenges of climate change and informing the climate change community about the opportunities that improved water management offers in terms of adaptation and mitigation. It can be accessed from following URL:

<https://unesdoc.unesco.org/ark:/48223/pf0000372985.locale=en>

Gallery



Shri R. K. Gupta, Member (D&R), CWC chairing 1st meeting of committee for framing rules in context of Dam Safety bill at CWC New Delhi on 2nd March 2020.



The construction of Garudeshwar Weir, 12 kilometres d/s of Narmada Dam will store one Million Acre Feet (MAF) water, 1/4th of the Narmada Dam's capacity. The water from the weir will be pumped back to generate power.



Polavaram Irrigation Project in Andhra Pradesh was visited by a Team of CWC officer on 06.03.2020. This is one of 16 National Projects as declared by DoWR, RD&GR, Ministry of Jal Shakti

Glimpses of S&I Activity in Jharkhand



Core logging by GSI at Ranchi office for Bhuswa and Barkattha Reservoir Schemes



Diamond Core Drilling in River Bed at Proposed Dam Axis at Kharswati Irrigation Scheme Jharkhand



Geotechnical investigation at Barkattha Reservoir Scheme, Hazaribaag, Jharkhand

New Publication by CWC

The Flood damage data upto year 2018 has been finalized in CWC duly confirmed by States. The publication now contains data from 1953 to 2018. It can be accessed from following link.

<http://cwc.gov.in/sites/default/files/final-flood-damage-data-2018.pdf>

Committee for amending ISRWD Rules

The Inter-State River Water Disputes (Amendment) Bill, 2019 was passed by the Lok Sabha on 31.07.2019 and will be taken up for consideration in the Rajya Sabha in due course. Pursuant to enactment of the ISRWD (Amendment) Bill, Rules would be required to be framed to give effect to its provisions. In this regard, DoWR, RD&GR, MoJS constituted a Committee on 15.10.2019 under the Chairmanship of Member (WP&P), CWC for framing the Draft Rules by amending the existing Inter-State River Water Disputes Rules, 1959 (last amended in January 2011). Accordingly, the Committee held four meetings during which detailed discussions were held on various Sections & Sub-Sections of the ISRWD (Amendment) Bill, 2019 as well as of the existing ISRWD Rules. Based on the decisions taken during the four meetings of the Committee and suggestions / views of Committee Members, a draft of the amended rules has been finalized on 18.03.2020 and submitted to DoWR, RD&GR for further needful action.



Obituary

1. Dr. K. C. Thomas



Dr. K. C. Thomas former Chairman, CWC left for heavenly abode on 20.03.2020. He was born on 29.06.1922 in Vallomkollam, Thiruvella District in Kerala. He belonged to the first batch of graduates at Trivandrum Engineering College. He was fortunate to be awarded a scholarship in 1945 to do an M.Sc. in Civil Engineering at Carnegie Mellon University, USA. He stayed on to complete his doctorate before returning to India in 1948.

Dr. Thomas, an officer of the CWES Class-I, joined the erstwhile CWPC in May 1949. After having worked in various capacities, he was elevated as Member (D&R), CWPC and Ex-Officio Joint Secretary to the Govt. of India on 20-07-1974. In September 1975, he was deputed to head the Chukha Hydroelectric Project in Bhutan. Later he joined as Chairman, CWC which spanned from 01-11-1978 to 30-06-1980. After retirement, he worked for the UN and then as a consultant on dams.

He had wide experience in planning, design, execution and administration of water resources development projects and also represented India on many International conferences projecting India's achievements in the field of water resources development.

From History- Flood Forecasting in India Journey from 1958 to 2020 and Beyond

Flood causes considerable damage to human lives and property almost every year. About 50% of total area liable to flood (40 mHa assessed by the Rashtriya Barh Ayog) in the country has been provided with reasonable protection against flood of a low to moderate magnitude due to technological and economic constraints. It is not possible to provide protection against all magnitude of flood. Flood Forecasting & warning has been recognized as the most important, reliable and cost effective non-structural measures for flood mitigation.

Disastrous floods of 1954 and 1956 necessitated paradigm shift from using only structural measures for flood control to the starting of non-structural measure for mitigating floods. "High Level Committee on Floods" was constituted by the Government of India in April 1957 under the Chairmanship of Shri A. C. Mitra, Chief Engineer, Irrigation, Uttar Pradesh. One of the important recommendations of the Committee was:

"Absolute or permanent immunity from flood damage is not physically attainable by known methods of flood control. Flood Plain Zoning and Flood Forecasting & Warning and like measures should therefore be given due importance, particularly, as they don't require large capital investments".

Based on the above recommendations of the committee, flood forecasting as non-structural was initiated and erstwhile Central Water & Power Commission started Flood Forecasting & Warning service in India in November 1958 by setting one forecasting station at Old Delhi Bridge, for the national capital, on the river Yamuna.

Floods of 1968 in many parts of the country causing considerable loss of life hastened the process of decision making. In 1969, CWC was charged with the responsibility of issuing flood forecasting services in flood prone basins of Ganga, Brahmaputra, Narmada, Teesta, Mahanadi and Coastal rivers of Orissa.

In pursuance of the recommendations made by 5th Conference of State Minister's of Irrigation and Power held at Ooty in September 1970, the flood forecasting setup was reviewed. Based on these recommendations,

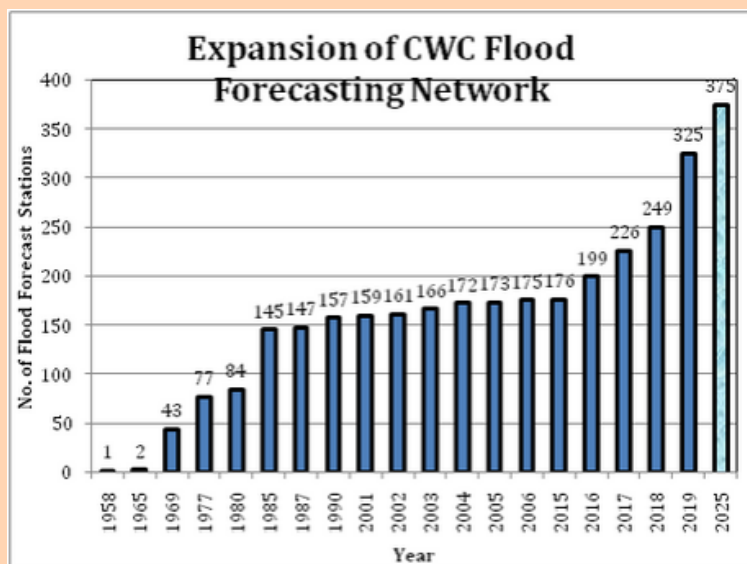
2. Shri Gujju Rambabu



Shri Gujju Rambabu, Superintending Engineer, Krishna & Co-ordination Circle, CWC, Hyderabad passed away on 19.03.2020 after prolonged illness. He was born on 30.08.1969. He did his BE in Civil Engineering from College of Engineering, Osmania University in 1993 and joined Central Water Commission as an Assistant Director in 1999. Initially, he worked in Power House Design of Sardar Sarovar Dam. Later, he worked in field

formation of CWC in the capacity of Sub-Divisional Engineer and Executive Engineer.

He was promoted as Deputy Director in 2004 and later became Director in 2012. Based on the requirements of NMCG, he also worked as Director (Technical) for more than one year. Afterwards he was working in CWC, Hyderabad office in various capacities till his unfortunate demise. He is survived by his wife and two sons. A condolence meeting was organized on 23.03.2020 at CWC, HQ to pay respect to the departed soul.



in 1974, the flood forecasting activity was extended to Godavari and in 1978 to Krishna river systems. After the disastrous floods of 2001, the activity was extended to Pennar basin in South India.

At the end of XI Plan, CWC was operating 175 flood forecasting stations in different basins of the country. During the XII Plan, CWC proposed to increase the flood forecasting network by 100 more locations as well as to include more dams and barrages for inflow forecasting. Accordingly, a proposal was made to increase the number of level forecast stations from 147 to 183 and inflow forecast stations from 27 to 92 covering most of the dams. Accordingly, State Governments were requested to identify the locations for expanding the network of Flood Forecasting Stations. Further during the 14th Finance Commission period between 2017 to 2020 additional 50 flood forecasting stations were operationalized taking the total number of flood forecasting stations to 325 consisting of 197 Level and 128 Inflow Forecast Stations.



Central Water Commission

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