

## The Monthly Newsletter of Central Water Commission



### Message

**S. Masood Husain**  
Chairman, CWC

In order to approach the issue of water management holistically and ensure better coordination of efforts in water sector, the Government of India has decided to form a unified Ministry namely "Ministry of Jal Shakti" by merging the existing Ministry of River Water Resources, River Development and Ganga Rejuvenation and Ministry of Drinking Water and Sanitation. On behalf of CWC, I welcome our Hon'ble Minister, Sh. Gajendra Singh Shekhawat and Hon'ble Minister for State Sh. Ratan Lal Kataria in reorganized Ministry of Jal Shakti and assure that CWC would provide its whole hearted support in realizing the vision set out by the Government.

During the current year, CWC has started the flood forecasting activity in the country w.e.f. 1st May 2019. All our Regional Offices and Flood Management Organization at headquarter have taken necessary steps to ensure preparedness for

delivering accurate and timely flood forecast to the nation. Under the aegis of National Hydrology Project (NHP) a National Conference on "Flood Early Warning for Disaster Risk Reduction" was jointly organized by Central Water Commission & National Remote Sensing Centre (NRSC), ISRO during 30-31 May 2019 at Hyderabad. As a premier agency for flood forecasting in the country, CWC apprised the participants about past contributions, latest initiatives and various other facets of flood management.

The 2nd Command Area Development & Water Management (CAD&WM) Conference was organized by the Ministry in Ahmedabad on 28th May, 2019 to deliberate on issues related to implementation of CAD works under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY). CWC is actively involved in the monitoring the progress of CAD works under PMKSY. A Brainstorming Session with former senior officers of CWC was organized on 11.05.2019 at CWC-HQ, New Delhi to discuss role and activities of CWC and to seek their advice for improvement of the same for better service to the nation.

At this moment, I urge all officials of CWC to whole heartedly contribute towards fulfilment of noble vision of Government for water sector. I also urge all to adopt water conservation measures so that we could address the situation of low availability of water during the current year.




Shri Gajendra Singh Shekhawat, Hon'ble Minister of Jal Shakti being welcomed by Chairman, Central Water Commission



Sh. Rattan Lal Katariya, Hon'ble Minister of State, Ministry of Jal Shakti being greeted by Chairman and Member(RM), CWC

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# National Conference on Flood Early Warning for Disaster Risk Reduction



National Conference on Flood Early Warning for Disaster Risk Reduction was jointly organized by & Central Water Commission, MoWR, RD&GR & National Remote Sensing Centre (NRSC), ISRO during 30-31 May 2019 at Hyderabad under the aegis of National Hydrology Project (NHP).

Floods are one of the natural disasters in India having devastating impacts on the vulnerable population, especially poor, who live along river side and are dependent on agriculture for their livelihood. In 2017 alone, floods had caused huge economic damage of more than INRs. 26500 Crore. Early warning is an important measure for disaster risk reduction. The National Conference was organized to bring synergy amongst expert scientists, engineers, managers, flood disaster management authorities, decision makers on the latest technological developments in the area of flood early warning at National level.

Following papers of CWC officers were included in the conference

- Kerala Floods 2018- Challenges & Initiatives for Flood Advisories
- Flood Estimate for Dam Break Scenario of Phutkal Land Slide Dam

## Flood Forecasting

Floods are largely a natural phenomenon for which complete immunity is not possible. However, its impact can be minimized through structural and non-structural measures. Flood Forecasting as a non-structural measure has been one of the key activities of CWC for about last 60 years.

The activity of flood forecasting comprises Level Forecasting and Inflow Forecasting. CWC does flood forecasting in various basins as per below schedule.

S No.	Basin	Period
1	Brahmaputra Basin, Jhelum Basin	1st May to 31st Oct
2	All other Basins upto Krishna Basin	1st June to 31st Oct
3	Basins South of Krishna Basin (Pennar, Cauvery and Southern Rivers)	1st June to 31st Dec

As per latest SoP for Flood Forecasting, Flood has been categorized into three categories based on water level of river with reference to Highest Flood Level(HFL), Danger Level and Warning Level.



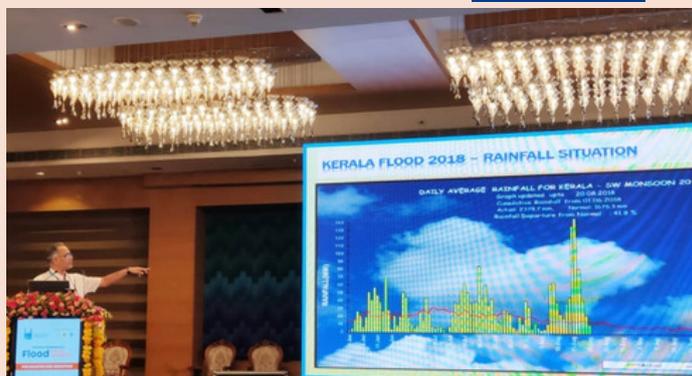
- Inter-Relationship between Timing Parameters Derived from Synthetic Unit Hydrograph
- Real-time Inundation Modelling of Yamuna River using 1-D & 2-D coupled models

Details of above papers can be found in the Proceedings of the conference which is available on following URL:

[http://nhp.mowr.gov.in/NRSC\\_conference/Proceedings\\_NHP\\_Flood\\_Early\\_Warning\\_Conference\\_Hyderabad.pdf](http://nhp.mowr.gov.in/NRSC_conference/Proceedings_NHP_Flood_Early_Warning_Conference_Hyderabad.pdf)

During the conference, a Manual on Rainfall Data Validation was released. This can be accessed from following URL.

[http://nhp.mowr.gov.in/docs/NHP/MANUAL/GUIDELINES/MISCELLANEOUS/3013/Manual\\_Rainfall\\_Data\\_Validation.pdf](http://nhp.mowr.gov.in/docs/NHP/MANUAL/GUIDELINES/MISCELLANEOUS/3013/Manual_Rainfall_Data_Validation.pdf)



Sh. Sharad Chandra, Director, CWC giving his presentation during the conference

The forecasts are issued once the water level in a river touches predefined Warning Level (usually one meter below the Danger Level but dependent on threat perception of the particular location). The level forecasts help the local administration and other agencies in deciding damage mitigation measures like evacuation of people and their movable property to safer locations. The Inflow Forecasting is used by various reservoir/dam authorities in optimum operation of reservoirs for safe passage of flood downstream as well as to ensure adequate storage in the reservoirs for meeting the demand during the non-monsoon period.

Annually, about 7,000 flood forecasts are being issued by CWC during floods. In order to monitor flood situation during every monsoon, CWC operates 29 Divisional Flood Control Rooms (DFCRs) located in various field Divisions of CWC and a Central Flood Control Room (CFRR) at CWC (HQ), New Delhi for providing flood related information.

CWC is also constantly expanding its flood forecasting network. In comparison to last year (275 sites), it has now network of 310 FF sites as detailed below.

State	No of Stage Forecast Station	No of Inflow Forecast Station
Andhra Pradesh	10	9
Arunachal Pradesh	3	0
Assam	30	0
Bihar	40	3
Chhattisgarh	1	2
Gujarat	6	7
Haryana	1	1
Himachal Pradesh	1	0
J&K	3	0
Jharkhand	2	15
Kerala	3	2
Karnataka	1	13
Madhya Pradesh	2	10
Maharashtra	8	13
Odisha	12	7
Rajasthan	2	11
Sikkim	3	5
Tamilnadu	4	11
Telangana	5	8
Tripura	2	0
Uttarakhand	4	2
Uttar Pradesh	40	4
West Bengal	12	4
Daman & Diu	1	0
NCT Delhi	2	0
<b>Total</b>	<b>190</b>	<b>120</b>

## Brainstorming Session on role and activities of CWC and its improvement

CWC organized a Brainstorming Session with former senior officers of CWC on 11.05.2019 at CWC-HQ, New Delhi to discuss various aspects related to role and activities of CWC and to seek their advice for improvement of the same. Officers of CWES Group-A Service posted in Ministry and other organisations also participated in the said meeting.



The former Chairmen / Members of CWC including Shri M. S. Reddy, Former Secretary (WR), Shri A. D. Mohile, Former Chairman, CWC, Dr. B. K. Mittal, Former Chairman, CWC, Shri A.B. Pandya, Former Chairman, CWC & Secretary General, ICID etc. deliberated for more than four hours on various aspects related to activities of CWC. Various suggestions made during the session include updation of guidelines/manuals, development of explanatory notes for BIS codes, formulation of

basin/sub-basin Water Accounts, Assessment of efficacy of estimated impact of climate change on water resources, persuasion for enactment of proposed legislations on Dam Safety, River Basin

## 2nd CAD&WM Conference

The 2nd Conference on Command Area Development and Water Management (CAD&WM) was organized by Ministry of Water Resources, River Development and Ganga Rejuvenation in association with Sardar Sarovar Narmada Nigam Ltd. (SSNNL) on 28th May, 2019 at Ahmedabad. The Conference was organized to promote awareness on CAD&WM amongst the officials of participating States in which projects are being implemented under Pradhan Mantri Krishi Sinchayi Yojana (PMKSY), concerned central agencies and non-governmental organisations.

Conference comprised of three Technical Sessions as below:

- CADWM Program Review – Success, Failure & Strategic Corrections
- Structural Intervention – Adaptation of New Technologies
- Non-structural Intervention – Sustaining PIM Initiative

Sh. S.K. Haldar, Member (WP&P), CWC presented the details of "Issues in adaptation of new technologies in Government Projects". Sh. Bhopal Singh, Chief Engineer (UGBO), CWC, Lucknow gave presentation on "Perspective on Issues & Challenges in Implementation of CADWM". During the Conference, topics like assessment of Underground Pipelines in Sardar Sarovar Project; CADWM Program in Durgawati Reservoir Project (Bihar);

## 5th Project Implementation Review Committee (PIRC) Meeting

Govt. of India is providing Central Assistance for CAD works of 99 AIBP Project in 18 States through CAD&WM programme under Har Khet Ko Pani (HKKP) component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY). Central Water Commission through its CAD Cells in the Regional Offices and Project Monitoring Organization (PMO) at HQ is providing overall monitoring and coordination support. The progress of works is reviewed by the Project Implementation Review Committee (PIRC) from time to time. The 5th meeting of PIRC for CAD&WM implementation was held on 30.05.19 under the chairmanship of Sh. S.K. Haldar, Member(WP&P), CWC. Senior Officials of MoWR, RD & GR & Central Water Commission and States Water Resources Departments participated in the meeting held at Mount Abu, Rajasthan.

During the meeting, it was informed that out of 99 projects, 87 projects having balance Culturable Command Area (CCA) of 43.51 lakh hectares have been included under CADWM programme with Central Assistance (CA) of Rs. 7,927 crore against estimated cost of Rs. 17,876 crore. Out of remaining 12 projects, three are yet to be included under programme whereas nine projects are not being proposed by State Governments for inclusion under CADWM program.



Management etc., focus on urban flooding, revamping of various publications. The participants welcomed the decision of CWC regarding celebration of 75 years of CWC and expressed their wholehearted support, wherever required.



and various issues and initiatives in implementation of CAD&WM were discussed. Sh. Sushil Kumar, Chief Engineer, Monitoring(S) Organization, CWC, Bangalore enumerated the Recommendations of the conference. The participants of the conference visited Narmada Canal Project command at Sanchore, Rajasthan on the next day of conference.



## Flood Plain Zoning for River Ganga (Haridwar to Unnao)

As per direction of National Green Tribunal, MOWR, RD&GR constituted a Special Committee under chairmanship of Member(WP&P), CWC in Aug, 2017 to identify and demarcate the flood plains of River Ganga in the stretch from Haridwar to Unnao appropriately. Committee is also entrusted to identify no development /construction zone, regulatory zone and the activities that can be /cannot be carried on in the regulatory zone of the floodplain.

The fourth meeting of the Committee was held on 22.04.2019 at CWC-HQ. In view of the decision taken in the meeting, ground truth verification of Flood Plain identified in the draft report of the Committee near important cities/ municipalities/ major habitations was carried out by a team consisting of officials from Central Water Commission, Ganga Flood Control Commission, National Institute of Hydrology and State Government of Uttar Pradesh and Uttarakhand during the month of May.



## CWMA and CWRC Meetings

After award of final verdict of Hon'ble Supreme Court in the matter of Cauvery Water Dispute, a Cauvery Water Management Authority (CWMA) was constituted last year. CWMA is assisted by Cauvery Water Regulation Committee (CWRC) in its functioning. During the month of May, both bodies held meetings at New Delhi.

The 3rd meeting of CWMA was held on 28 May 2019 under the Chairmanship of Sh. S. Masood Husain, Chairman, CWMA & CWC at CWC-HQ, New Delhi. Representatives from the party States i.e. Karnataka, Tamil Nadu, Kerala and UT of Puducherry were present in the meeting. The release of water by Karnataka for the month of June, 2019 was discussed and after detailed deliberations, the Authority resolved that Karnataka should release the prescribed quota for the month of June i.e. 9.19 TMC presuming the inflows to be normal as prescribed in the notification.

The Authority also decided that the existing arrangement between Puducherry and Tamil Nadu will continue in respect of water to be released to Puducherry for the month of June, The decision shall be reviewed by the Authority in its next meeting based on inflows.

Prior to above, the 7th meeting of CWRC was held on 23rd May, 2019 in CWC-HQ, New Delhi under the chairmanship of Sh. Navin Kumar, Chairman, CWRC. During the meeting, hydro-meteorological situation in Cauvery Basin during the water year 2018-19 was discussed and it was noted by the Committee that there was overall no sign of distress in any part of the basin till date during the current Water Year.

The importance of exchange of information/data amongst the members States as well as IMD was emphasized and all States were requested to share the data among the party States as well as with CWRC. Chairman, CWRC also requested the three States namely Karnataka, Tamil Nadu and Kerala to share the data for Water Year 2018-19 (up to 31st May, 2019) for preparation the Seasonal and Annual Report of the Water Account.



Sh. S. Masood Husain, Chairman, CWMA & CWC chairing the 3rd Meeting of CWMA on 28.05.2019 at CWC, HQ, New Delhi



Sh. Navin Kumar, Chairman, CWRC chairing the 7th Meeting of CWRC on 23.05.2019 at CWC, HQ, New Delhi

## Survey & Investigation of Katakhal Project

Survey and Investigation and preparation of DPR for the Katakhal Irrigation Project has been entrusted to CWC. In this regard, a CWC team conducted reconnaissance Survey of Dhuleshwari River (also called Katakhal) in District Hailakandi, Assam near Mizoram border during May, 2019

The team identified the best suited location for proposed barrage and access to the Project site. The also assessed the availability of hydrological data at existing G&D site namely Dhaleswari site as well as the availability of construction material in the region.



## Project Monitoring

CWC is closely monitoring the progress of 99 AIBP Projects under Pradhan Mantri Krishi Sinchayee Yojana. In this regard, CWC officials visited 14 projects in 6 states during the month of May, 2019 to ascertain the progress and to identify bottlenecks and fund requirements.

Sl. No.	State/Project Name	Sl. No.	State/Project Name
<b>Andhra Pradesh</b>		<b>Maharashtra</b>	
1	Tadipudi LIS	7	Arjuna
2	Thotapally	8	Morna (Gureghar)
3	Tarakaram Teerta sagaram	9	Kudali
<b>Jammu &amp; Kashmir</b>		<b>Telangana</b>	
4	Tral Lift	10	Sri Komaram Bheem Project
<b>Karnataka</b>		11	Gollavagu Project
5	Karanja	12	Rallivagu project
<b>Uttar Pradesh</b>		13	Peddavagu @ Nilwai project
6	Madhya Ganga Canal PH-II	14	Peddavagu @ Jagannathpur



CWC officers visiting the Arjun Feeder Canal under Madhya Ganga Canal Phase-II Project

## Isarda Major Dam Project

An MoU has been signed between CWC and Water Resources Department, Rajasthan for the vetting of design & drawings for construction of Isarda Major Dam Project. The dam is proposed to be constructed on the river Banas originating from the eastern slopes of hill ranges of Aravali Mountains and flowing mainly in the north-east direction through the districts of Udaipur, Chittorgarrh, Bhilwara, Tonk and Sawai Madhopur before joining river Chambal.

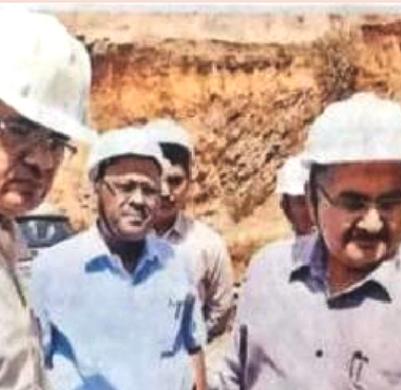
This project incorporates the provision to provide drinking water to 5 towns & 1065 villages in Dausa, 96 villages in Sawai Madhopur, 19 villages in Tonk, and 3 villages in Alwar Districts. A team of officers of CWC visited the dam project site on 03.05.2019.



A team of officers of CWC visiting the dam project site on 03.05.2019.

## Bargi Diversion Project

Narmada Valley Development Authority (NVDA), Bhopal is constructing about 11.9 km long Sleemnabad Carrier Tunnel as part of the Bargi Diversion Project. The excavation of the tunnel was started from down-stream side long back in April 2011 using Tunnel Boring Machine (TBM). Due to slow progress of work, another TBM was employed from the up-stream side in June, 2016. Lately it has been found that even after employment of two TBMs, the progress of work is very slow and only around 35% of the work could be completed till date. In order to expedite the progress of excavation of the tunnel, a high level multi-departmental Committee comprising of experts from CWC, GSI, NHPC and CSMRS has been constituted under chairmanship of Shri S. K. Sibal, Chief Engineer, Designs (N&W), CWC to provide expert advice. Accordingly, the Expert Team visited the project site from 27/05/2019 to 29/05/2019 and inspected the tunnel. The Team held discussions with NVDA officers and contractor's team to have an insight to move further. The Report of visit is awaited.



Expert Team at Project Sites



TBM at Sleemnabad Carrier Tunnel

## CPR-CWC Dialogue Forum

The CWC-CPR Dialogue Forum invited Dr. Scott Moore, a political scientist at the University of Pennsylvania to deliver a lecture on 28.05.2019 at CWC, HQ, New Delhi. Dr. Moore is presently working on water politics and policy, especially in China and South Asia. He is also the author of 'Subnational Hydropolitics: Conflict, Cooperation, and Institution-Building in Shared River Basins', published in 2018 by Oxford University Press.

During the lecture, Dr. Scott Moore made a presentation on the topic 'India's Water Wars – Causes, Consequences and Cures' wherein he enumerated some of the causes of India's inter-state water disputes such as rise of sectionalism, politicization of water related issues, non-utilization of legislative power by the Union Government etc. He touched upon the solutions in legal, judicial and institutional spheres and cited examples of cooperation in Australia, France and China.



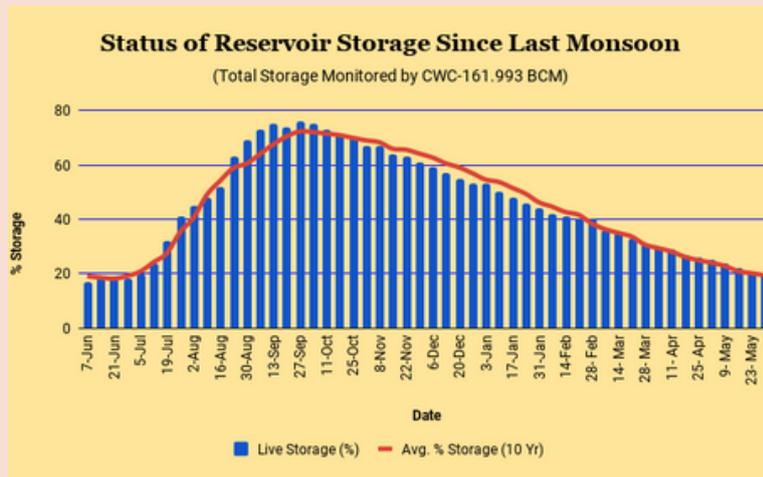
Dr. Scott Moore delivering the talk at CWC, HQ, New Delhi

## Reservoir Monitoring

CWC is monitoring live storage status of 91 reservoirs around the country on a weekly basis and is issuing a bulletin every Thursday. The total live storage capacity of these 91 reservoirs is 161.993 BCM, which is about 63% of the live storage capacity of 257.812 BCM which is estimated to have been created in the country.

As per the reservoir storage bulletin dated 30.5.19, the live storage available in these reservoirs is 31.65 BCM, which is 20% of the total live storage capacity of these reservoirs. This is 114% of the live storage of the corresponding period during last year, and 103% of the average storage over the last ten years.

Considering the demand from various stake holders, CWC has initiated action to include 58 additional reservoirs under monitoring. In this connection, a Video Conference was held under the Chairmanship of Member (WP & P) with all field Chief Engineers of CWC on 10.5.2019, during which it was decided to finalize the list of 58 additional reservoirs to be monitored by CWC in consultation with States. Further, keeping in view the deficit in live storage position of reservoirs monitored by CWC, advisories for judicious use of available



water have been issued to the States of Andhra Pradesh, Gujarat, Maharashtra, Uttar Pradesh, Telangana and Tamil Nadu in the month of May 2019.

## Rajya Sabha TV Panel Discussion on Water Scarcity

**यू पी सिंह**  
सचिव, जल संसाधन मंत्रालय

**डॉ एम महापात्रा**  
अतिरिक्त महानिदेशक, मौसम विज्ञान

**आर आर पवार**  
सचिव, जल संसाधन मंत्रालय, महाराष्ट्र सरकार

**एस के हलधर**  
सदस्य, केंद्रीय जल आयोग

**कर्वींद्र सचान**  
एंकर

01 May 20:39  
**RStv**

### पानी का संकट

Sh. U. P. Singh, Secretary, MoWR, RD and GR and Sh. S.K. Haldar, Member (WP&P), Central Water Commission participated in a Panel Discussion regarding Water Scarcity on Rajya Sabha TV Programme on 1st May, 2019.

Sh. U. P. Singh, Secretary, MoWR, RD and GR gave the details of current water availability in the country; increasing pressure of population on the finite water resources; need for demand side management, various Govt. schemes/programme viz. Pradhan Mantri Krishi Sinchayee Yojana and its various components such AIBP, More Crop Per Drop (MCPD), MNREGA; initiatives taken by State Govts.; and need for participation of general public in such initiatives. Talking on the occasion, Sh. S. K. Haldar gave the detail of current storage

available in major reservoirs being monitored by CWC. He mentioned that most of rainfall in the country is received in few months whereas water is to be used throughout year. Hence, there is need for better water management practices to utilize the available water. He also emphasized on the need for more storage; water demand management especially in the irrigation sector; and change in cropping pattern based on water availability.

Dr. M. Mahapatra, Additional DG, India Meteorological Department and Sh. R. R. Pawar, Secretary, CAD, Govt. of Maharashtra also participated in the discussion.

The programme can be accessed from following link  
<https://www.youtube.com/watch?v=djicTTPAdp8>

## Concept Note on Permissible Velocity in Water Conductor System

Sediment entering the water conductor system in HEP can abrade the concrete lining and may render it unfit to serve its purpose. A literature review suggests that permissible velocity in concrete lined Head Race Tunnel is also dependent on the sediment concentration. The provisions of permissible velocities in Indian Standard: 4880 (Part III) has been specified only on the basis of material of lining and not as

per characteristics and concentration of the sediment. This gap has led to subjectivity in implementation of this provision. In this context, to address the gap, a draft concept note was prepared after extensive deliberations in CWC. The draft has been put up on CWC website inviting comments/suggestions of experts.

[http://cwc.gov.in/sites/default/files/admin/Draft\\_Concept\\_Note\\_Permissible\\_Velocity.pdf](http://cwc.gov.in/sites/default/files/admin/Draft_Concept_Note_Permissible_Velocity.pdf)

## Gallery



Principal Scientific Adviser to the Government of India held a review meeting on 7-5-19 on mechanisms for collection and analysis of data on reservoir water levels for irrigation, power etc. which was participated by AS, MoWR, RD&GR and Member(WP&P), CWC



Middle Godavari Sub Division (MGSD) under Upper Godavari Division (UGD) of KGBO was inaugurated at Warangal on 01.05.19 by SE, Godavari Circle, KGBO, CWC, Hyderabad and SE, I&CAD Dept., Govt. of Telangana



Sh. N.K. Mathur, Member(D&R),CWC addressing during Portfolio Risk Assessment Framework Consultative meeting for Dam Rehabilitation Improvement Project -2(DRIP-2) held on 28.05.19 in New Delhi



Workshop on Operation & Maintenance manual for KWRD and KSEB officials from 07th-10th May, 2019 at Kottayam, Kerala



Dam Safety Workshop on "Latest Trends in Inspection and Investigation of Dams" organized by Aqua Foundation under the aegis of the Central Water Commission in association with the World Bank, CBIP and ICID on 30th May, 2019



The 23rd meeting of Technical Coordination Committee (TCC) on Punatsangchhu-1 HEP, Bhutan was held on 3rd May, 2019 at New Delhi. The TCC is chaired by Member (Hydro), CEA and co-chaired by Member (D&R), CWC



केंद्रीय जल आयोग (मुख्यालय) की राजभाषा टीम के द्वारा आईजोल तथा सिलचर स्थित केंद्रीय जल आयोग के कार्यालयों का राजभाषाई निरीक्षण किया



Joint Committee on Inundation and Flood Management (JCIFM) between India and Nepal led by Member(C), GFCC, Patna visited Nepal for the 13th Meeting of JCIFM and joint inspection visit for rivers originating in Nepal



Shri N.N. Rai, Director, Hydrology (South) and Ms. Isly Issac, Assistant Director, Hydrology (South) along with state officials at Anjunem Dam site, Goa in connection with Design flood review studies under DRIP Phase II

## Links to Follow

Position Paper on Water, Energy, Food and Ecosystems (WEFE) Nexus and Sustainable Development Goals (SDGs), European Commission

[https://www.water-energy-food.org/fileadmin/user\\_upload/files/documents/organisations/j/WEFE\\_NEXUS\\_and\\_SDGs\\_Position\\_Paper.pdf](https://www.water-energy-food.org/fileadmin/user_upload/files/documents/organisations/j/WEFE_NEXUS_and_SDGs_Position_Paper.pdf)

Manual on Constructed Wetland as an alternative technology for sewage management, Department of Biotechnology and Central Pollution Control Board

[http://dbtindia.gov.in/sites/default/files/Print\\_Version\\_of\\_CW\\_Manual-23\\_May-2019.pdf](http://dbtindia.gov.in/sites/default/files/Print_Version_of_CW_Manual-23_May-2019.pdf)

## Water Sector- News

- Fani is country's strongest April cyclone in 43 years: IMD Data(The Hindu, 01.05.19)
- Against the odds, Centre forging ahead with ambitious river interlinking project (Business Line, 02.05.19)
- Why is northeast India drying up rapidly (The Hindu, 05.05.19)
- Google's AI based flood detection & alert system to expand its coverage (Indian Express 12.05.19)
- Punjab well on way towards being a desert state in 25 yrs (The Tribune, 14.05.19)

- Centre issues drought advisory to southern and western states (Business Standard, 18.05.19)
- Water experts warn of desertification of Marathwada (The Hindu, 23.05.2019)
- Huge water reservoir found on Mars (The Times of India, 24.05.19)
- Nearly half of India on drought alert (Business Standard, 29.05.19)
- Maharashtra's drought free state plan by 2019 comes a cropper (Business Standard, 30.05.19)

## State Initiatives-Jal Hi Jeevan-Haryana



Department of Agriculture and Farmers Welfare, Govt. of Haryana has launched a pilot scheme Jal Hi Jeevan which is intended to preserve nature, soil & water and promote sustainable farming. It envisages replacement of Paddy by Maize and other crops in 7 dark zone blocks with a target to diversify around 50000 Hectare area from this season.

To promote this scheme, Govt. will provide following incentives to the Farmers

- Rs 2000/- per acre for the farmer.
- High quality and high yield hybrid seed will be provided to these selected farmers free of cost.
- The selected farmers will be covered by State Government under Pradhan Mantri Fasal Bima Yojana (PMFBY) by paying the farmer's premium share also for Maize Crop
- The produce of these farmers will be purchased by the State Government at MSP.

## News around the States

● A three day program namely "Jalasamgamam-Kerala Water Summit 2019" was organized by Haritha Kerala Mission, Govt. of Kerala during 29 to 31 May, 2019 at Thiruvananthapuram

● Maharashtra Water Resources Regulatory Authority (MWRRA), a

statutory authority has notified that water from reservoirs of the Water Resources Project shall not be made available to Lift Irrigation schemes drawing water from the reservoirs unless the cultivator adopts drip or sprinkler irrigation to irrigate perennial crops such as Sugarcane, Banana, Orchards etc. w.e.f. 31st October, 2020.

## From History-Trishuli Hydropower Station, Nepal

Trishuli Hydropower Station, one of the earliest hydropower projects in Nepal, was investigated, designed and executed by CWC (erstwhile Central Water & Power Commission). It was commissioned in 1967 with financial assistance from Government of India at a cost of Rs. 14 crore to meet the urgent and growing needs of electricity in and around Kathmandu. The project is constructed on the banks of Trishuli River at Trishuli Bazar, Nuwakot district which is about 75 km from Kathmandu. The river Trishuli is one of the seven main streams draining the Gandak Valley. Its initial installed capacity was 21 MW having 7 units of 3 MW each. It was later rehabilitated in 1995 and upgraded to 24 MW. The project is in operation till date.

This project was commissioned some 50 years back and is still the 4th largest hydropower plant in Nepal. The significance of this power project can also be understood by the fact that it increased the installed hydropower capacity of the country by eight times after its commissioning. The implementation of the project, from inception to completion, in foreign country having difficult topography, limited



logistic support and lack of skilled manpower is one of the landmark achievements of CWC within two decades of its establishment. The joint effort of India and Nepal for the project contributed in the growing bond of Indo-Nepal friendship.

On 28th July 2010, the United Nations General Assembly (UNGA) adopted a historical resolution recognizing "the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights;" (Para-1, Resolution No. 64/292, UNGA, 2010)



### Central Water Commission

An attached office of Ministry of Water Resources,  
River Development and Ganga Rejuvenation,  
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Water Systems Engineering Directorate  
Central Water Commission

2nd Floor(South), Sewa Bhawan, R K Puram, New Delhi-110 066  
E-mail: media-cwc@gov.in

