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### Message

**S. Masood Husain**  
Chairman, CWC

During the month of September 2018, the Cabinet Committee on Economic Affairs (CCEA), chaired by Hon'ble Prime Minister approved the Revised Cost Estimate of the scheme Dam Rehabilitation and Improvement Project (DRIP) at the revised cost of Rs 3466 crore. The scheme is being implemented with financial assistance of the World Bank to improve safety and operational performance of 198 dams, along with institutional

strengthening with system-wide management approach. Central Project Management Unit (CPMU) for the project has been established in CWC.

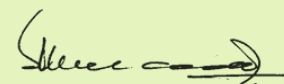
In addition to above, the Union Cabinet has approved the proposal for providing Central Assistance (CA) of Rs. 620.42 crore and Rs. 205.758 crore for relining of **Rajasthan Feeder Canal** and **Sirhind Feeder Canal** respectively over five years (2018-19 to 2022-23). These two projects would help in addressing the problem of water-logging in 84800 Ha of land in Muktsar, Faridkot and Ferozpur districts in South-West Punjab and enhancing the flows/ water availability. Farmers in the area would be benefited due to stabilization / improvement of irrigation in 98,739 Ha of land due to relining of Rajasthan Feeder and 69,086 Ha due to relining of Sirhind Feeder.

The States of Punjab and J&K have agreed to resume the implementation of **Shahpurkandi** Project which is a National Project.

Govt. of Sikkim celebrated State Disaster Reduction Day on 18th September 2018. On this occasion, Hon'ble Chief Minister of Sikkim Sh. Pawan Kumar Chamling **felicitated CWC** in recognition of the valuable contribution made in the mitigation of Glacial Lake Outburst Flood (GLOF) at South Lhonak Lake and other disaster management activities in the State.

During the month, all the offices of CWC actively participated in Hindi Pakhwada and '**Swachhata Hi Sewa**' Abhiyan.

An appeal was made to CWC officials to voluntarily contribute their one day's pay to Prime Minister's National Relief Fund (PMNRF) in wake of recent Kerala Flood. A contribution of about Rs. 26.55 lakh has been made so far by CWC officials for this purpose. I thank officials for their contribution for the noble cause.



India has been the pioneer in **Irrigation development** with an irrigated area of about **68.4 Mha** (2014-15) which is highest in the World, the 2nd is China and USA comes at 3rd place, as documented in the International Commission on Irrigation and Drainage (ICID) Report. Tremendous progress in irrigation development has been made by India since Independence. Indian Institutes such as IIT Roorkee (erstwhile University of Roorkee) were associated in verification/development of several laws/theories such as Darcy's Law, Lacey's theory etc. which are widely used in water resources development projects.

Meeting chaired by Hon'ble Minister Sh. Nitin Gadkari regarding Renukaji Dam project on Yamuna on 12.09.18 at New Delhi wherein Govt. of NCT Delhi agreed for sharing cost of Hydropower component of the project

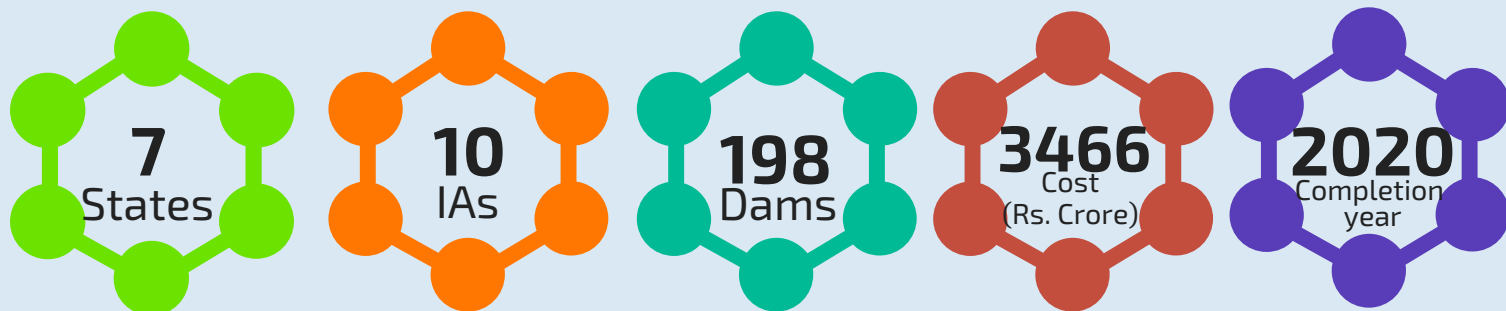


Hon'ble CM of Sikkim Sh. Pawan Kumar Chamling presenting the certificate of commendation to CWC representative at Gangtok in recognition of the valuable contribution made in the mitigation of GLOF at South Lhonak Lake



## Important Cabinet Decisions in water sector

### Dam Rehabilitation and Improvement Project (DRIP)



The Cabinet Committee on Economic Affairs, chaired by the Prime Minister has approved the Revised Cost Estimate of the scheme Dam Rehabilitation and Improvement Project (DRIP) at the revised cost of Rs 3466 crore with the financial assistance of the World Bank to improve safety and operational performance of 198 dams, along with institutional strengthening with system-wide management approach.

Out of Rs.3,466 crore, Rs.2,628 crore will be funded by the World Bank and Rs.747 crore will be funded by DRIP States / Implementing Agencies (IAs) and balance Rs.91 crore to be funded by Central Government. The CCEA also gave its approval for a two-year time extension from 1st July 2018 to 30th June 2020.

Originally, the total cost of DRIP was Rs. 2100 crore and it was a six-year Project which commenced on 18th April 2012 with a scheduled closing on 30th June 2018.

DRIP comprises of following components: -

- Component-I: - Rehabilitation of Dam and its Appurtenant Structures
- Component-II: - Institutional Strengthening
- Component-III: - Project Management

The Scheme envisages comprehensive rehabilitation of 198 existing dam projects located in seven States of India namely, Kerala, Madhya Pradesh, Odisha, Tamil Nadu, Karnataka, Jharkhand and Uttarakhand.

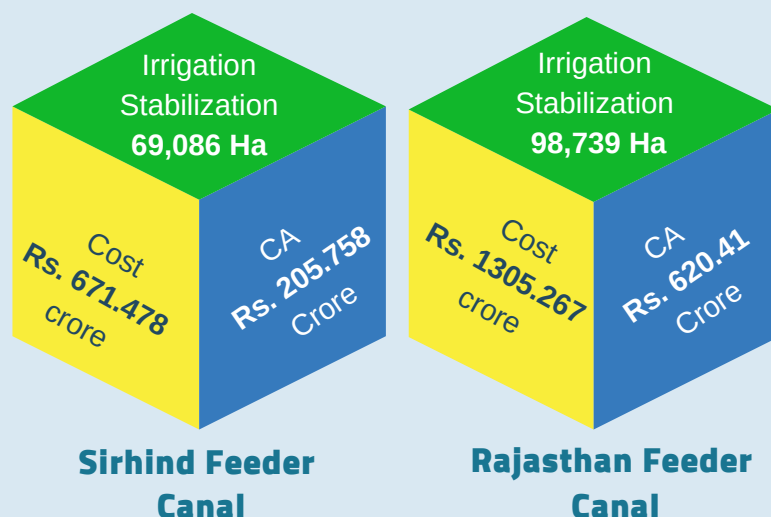
Implementing Agency(IA)	No. of Dams	Total Project Revised Cost ( Rs Crore)
CWC		270
Madhya Pradesh WRD	25	169
Odisha WRD	26	751
Tamil Nadu WRD	69	543
TANGEDCO	20	260
Kerala WRD	16	360
KSEB	12	154
Karnataka WRD	22	581
UJVNL	5	235
DVC	3	143
<b>Total</b>	<b>198</b>	<b>3466</b>

Currently, DRIP covers only 5% of large dams in India, Phase 2 of the DRIP is being contemplated to address the safety concerns at other dams, with larger financial outlay to cover more dams and States.

### Extension, Renovation and Modernisation (ERM) Projects

The Union Cabinet approved the proposal for providing Central Assistance(CA) of Rs. 620.42 Cr. and Rs. 205.758 Cr. for relining of Rajasthan Feeder Canal and Sirhind Feeder Canal respectively over five years (2018-19 to 2022-23). Under this, Sirhind Feeder from RD 119700 to 447927 and Rajasthan Feeder from RD 179000 to 496000 would be relined.

The projects during appraisal in CWC were visited by a team headed by Chairman, CWC in 2016 and by another team headed by Sh. A. B. Pandya, former Chairman, CWC in 2017. They recommended remedial works to be taken up. Implementation of these twin projects would help in addressing the problem of water-logging in 84800 Ha of land in Muktsar, Faridkot and Ferozpur districts in South-West Punjab and enhanced water availability.





## Dam Safety Inspection under DRIP



A team of Central Project Management Unit (CPMU), CWC officials and Kerala State Electricity Board (KSEB) officials inspected the Poringalkuthu dam in Kerala on 27th September 2018 to review the on-going rehabilitation works under DRIP as well as to assess the impact of the unprecedented flood in August 2018. Poringalkuthu dam is 36.90m high and 365.76m long masonry gravity dam, built across the Chalakudy River. Its construction was completed in 1957. The spillway and sluice openings are capable of



passing the design flood of 2265 cumec at FRL. The dam was overtopped during Kerala Flood of August 2018 on account of excessive precipitation in the catchment area resulting into heavy inflow of about 3000 cumec. The severity of the overtopping was very extreme as the water level rose approximately about 2-2.5m above dam top and lasted about 24-26 hours. Some of the damaged portions of the left training wall, dam top road near left bank portion and scoured dam toe can be seen in the above photographs.



CPMU Team along with World Bank team visited Hirakud dam in Odisha during 19-22nd September 2018. The team was accompanied by officers from GSI and Water Resources Department, Govt. of Odisha. Construction of additional



spillway of Hirakud dam to address the hydrological safety of dam is one of the important rehabilitation works under DRIP. The team inspected the dam and reviewed the preparedness for construction activities of additional Hirakud Spillway.

## Water Sector News



### Loan Agreement with ADB

Government of India and the Asian Development Bank (ADB) have signed a \$375 million loan agreement to develop 125,000 hectares of new, highly efficient and climate resilient irrigation networks and improve water use efficiency in more than 400 villages, benefiting over 800,000 people in Madhya Pradesh.

### National Water Awards

In view of the importance of water resources management in India, the Ministry of Water Resources, River Development and Ganga Rejuvenation has instituted **National Water Awards** with the objective to encourage all stakeholders to manage their water resources efficiently and create a water consciousness in the country. The entries for National Water Awards 2018 are now invited in 13 categories which are - Best State, Best District, Best Village Panchayat, Best Municipal Corporation, Best research/innovation/adaptation of new technology for water conservation, Best educative/mass awareness efforts, Best TV show for promoting water conservation, Best Newspaper, Best School, Best Institution for successful campus water usage, Best Resident Welfare Association (RWA), Organizations for Best Religious/Recreational & Tourism Water Uses and Best Industry for industrial water conservation. The last date for submission of entries is 30th November 2018. For further details and application form, the applicants may visit links- <http://mowr.gov.in/national-water-awards-2018>





## Meetings/Visits



A presentation was made on 5th September 2018 before the Secretary (WR, RD & GR) for Online Project Appraisal Monitoring System (e-PAMS). e-PAMS is being developed by CWC in association with NIC for efficient, user-friendly, and time-bound appraisal process for Irrigation, Multipurpose and Flood control projects.



Sh. U.P. Singh, Secretary (WR, RD & GR) chaired a meeting on 29.09.2018 at Shillong with officers of B&BBO, CWC, Shillong to review the progress of ongoing projects under PMKSY - AIBP/ SMI/ RRR of Water Bodies and FMP schemes in NER. Secretary also visited Bhomraguri, GDSQ Site of CWC on Brahmaputra River



Meeting of officers from Survey of India, MoWR, RD & GR, CWC and consultants for NHP for finalization of ToR for Early Flood Warning System including inundation forecast in Ganga Basin was held on 10th September 2018 under the chairmanship of Member(RM), CWC.



Chairman, CWC had meeting with Principal Secretary, WRD, Government of Karnataka and other officers at Bengaluru on 1st September 2018



Chairman, CWC, Member (Design & Research), CWC and other senior officials of CWC visited Punatsangchu Hydro Electric Project in Bhutan during 6-7th September, 2018



Sh Y.K. Sharma, Member (RM), CWC visited Bhomraguri GDSQ site on 28th September 2018 and inspected discharge measurement by ADCP



The 70th Indo-Bangladesh Joint Committee Meeting was held on 10.09.2018 in Dhaka, Bangladesh for finalization of Annual Report 2018 on sharing of Ganges waters as per the Ganges Water Treaty of 1996.



Shri U. P. Singh, Secretary, MoWR, RD & GR visited NWA, Pune on 08th September 2018 to review the activities of NWA. He also interacted with newly inducted CWES Officers



11th meeting of the committee to monitor and review the progress of the EIA studies of Par-Tapi-Narmada and Damanganga-Pinjal link projects was held under chairmanship of Chief Engineer (EMO), CWC at Gandhinagar on 19.09.18





Water Quality lab of CWC at Bengaluru received the NABL Accreditation in accordance with standard ISO/IEC 17025:2005. This is the 5th lab of CWC to achieve this accreditation after labs at New Delhi, Hyderabad, Varanasi and Coimbatore.

## Workshops/Events



The 6th Indian National Conference on Coastal, Harbour and Ocean Engineering (INCHOE) at CWPRS, Pune was inaugurated by Shri S. Masood Husain, Chairman, CWC on 26.09.2018



Chairman, CWC receiving recognition for conservation of water resources at Indian AgriBusiness Excellence Awards Function at Bangalore on 01.09.2018.



Workshop on "Health of Ramganga & Gomti Rivers-Issues and Ways Forward" was organised by UGBO, CWC, Lucknow on 28.09.2018. Various stakeholder organization participated in event



## Visit of Inter Ministerial Central Team(IMCT) for Flood in Karnataka



As per the direction of Ministry of Home Affairs, Sh. Jitendra Panwar, SE (HO&C Circle), Monitoring (South) Organization, CWC, Bengaluru was nominated as one of the members for IMCT to assess the damage due to flood in Kodagu and 7 other districts. The team visited affected areas

during the period from 12-09-2018 to 14-09-2018. Sh. Jitendra Panwar, SE, CWC also attended the debriefing meeting held under the chairmanship of Honorable Chief Minister of Karnataka Sh. H. D. Kumaraswamy on 14th September 2018.

### Appeal by the Chairman, CWC for contribution to PMNRF in wake of Kerala Flood

Dear Colleagues

As you all are aware that recently the state of Kerala had an unprecedented flood which has hit the state badly and caused not only loss of hundreds of human life but also have rendered many families homeless.

Apart from this, the infrastructure of the state including roads, residential buildings, offices, hospitals, schools, shops etc. has also been badly affected by the flood.

Though the Government of India, State Government of Kerala, other State Govts., Government & Non-Government Organizations and individuals are putting their best efforts to contribute for streamlining the life in flood hit areas, it is felt that as responsible citizen of the country, it is not only our moral responsibility but also a social obligation to come together and contribute to the relief efforts for flood affected areas and help in bringing the life of our brothers and sisters in Kerala back to normalcy.

I therefore appeal to all my colleagues in the Central Water Commission to voluntarily donate at least their one day's pay for the Prime Minister's Relief Fund so that the same may be utilized for overcoming the losses caused due to natural calamity in Kerala.

(S. Masood Husain)  
Chairman, CWC

So far CWC officials have contributed about  
Rs. 26.55 lakh to PMNRF

## Kerala Flood

CWC and National Hydrology Project (NHP) team visited Kerala during September and held a meeting with Secretary (WR), Kerala, and other senior officials for exploring the feasibility of flood forecasting in Kerala.

Further, CWC has prepared a study report for Kerala floods of August 2018. The report can be accessed from  
<http://cwc.gov.in/main/downloads/KeralaFloodReport/Rev-1.pdf>



## Flood Situation during September-18

### Legend

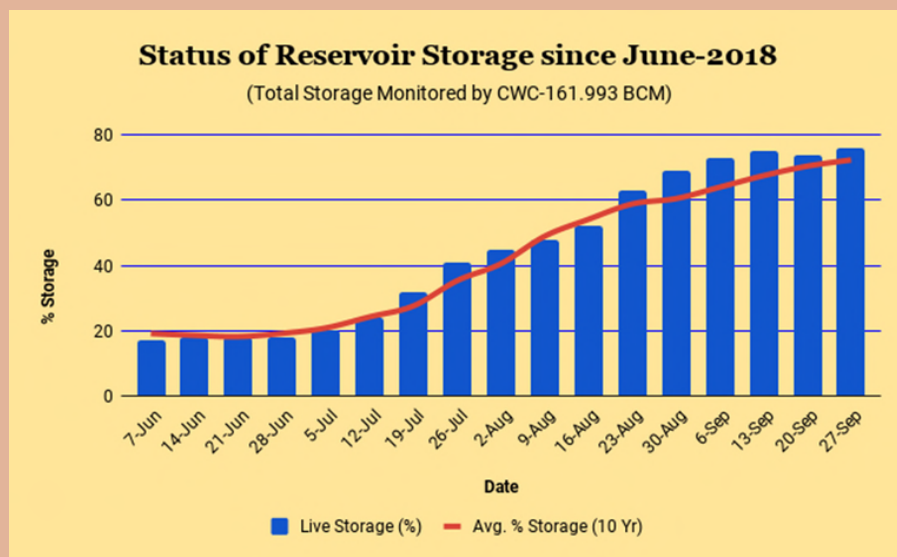
- Extreme Flood Situation
- Severe Flood Situation
- Above Normal Flood Situation
- Reservoirs with Inflow Forecast
- Barrages with Inflow Forecast



## Reservoir Storage 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.

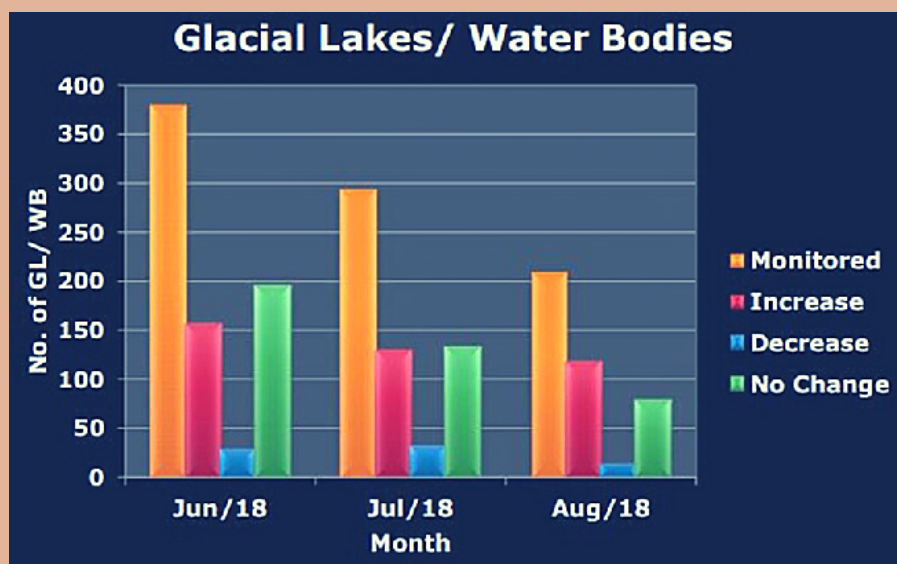
As per the reservoir storage bulletin, dated 27.09.2018, the live storage available in these reservoirs is 122.514 BCM, which is 76% of the total live storage capacity of these reservoirs. This is 117% of the live storage of the corresponding period during last year, and 105% of the average storage over the last ten years.



## Glacial Lake and Water Bodies Monitoring

Every year during June to October, CWC is monitoring the size of Glacial Lakes (GL) & Water Bodies (WB) that are larger than 50 ha in Himalayan region using satellite data. These were digitised in year 2009 and their current sizes are analyzed with respect to size in year 2009. The number of GL & WB monitored vary due to availability of cloud free data. Summary of their size variation has been highlighted in the adjacent chart. The detailed report for month of August-2018 covering methodology, finding etc. can be accessed from website at following URL.

[http://cwc.gov.in/main/downloads/CWC\\_lakes\\_monitor\\_report\\_August\\_2018.pdf](http://cwc.gov.in/main/downloads/CWC_lakes_monitor_report_August_2018.pdf)



## Project Monitoring

CWC through its HQ and field offices monitors the centrally funded water resources projects under execution. This helps in the identification of bottlenecks, ensures that the funds are being utilised properly and forms the basis for assessing further funding requirements. During 2018-19, as on date, a total of 40 monitoring visits have been carried out by CWC field units for on-going prioritised projects under Pradhan Mantri Krishi Sinchayee Yojana - Accelerated Irrigation Benefit Programme (PMKSY-AIBP). Further, CA proposals for release of Rs. 1027.78 crore. has been sent to the Ministry with due recommendation of CWC HQ.

During the year, Revised Cost Estimate of Wang Project and Khadakpurna Project from Maharashtra have been accorded Fast Track Proforma Clearance (FTPC).



Monitoring visit to SMI schemes of 60 & 64 cluster in Karbi Anglong Autonomous Council, Assam on 12.9.2018

Project	Total Cost (Rs. crore)	AIBP Comp. (Rs. crore)
Wang	209.79	111.92
Khadakpurna	1374.60	1052.01



## Awards and appreciations



Sh. Vasanthakumar Venkatesan, Deputy Director, CWC received Sontoku Award for being best participant during training programme on "Flood Disaster Risk Reduction" held in Japan from 01.10.2017 to 15.09.2018



CWC got the best stall award for awareness at Shining Maharashtra, 2018 at Sholapur, on 28.09.18

## Administrative News

- During the month, all the offices of CWC actively participated in Hindi Pakhwada and 'Swachhata Hi Sewa' Abhiyan.
- In order to achieve better coordination with State Govt., various office relocations within CWC have been approved.
- Three Higher Administrative Grade (HAG) officers of Central Water Engineering Services(CWES), Group-A were posted to various organizations in the Ministry.

### Office Relocation

Office	From	To
Chief Engineer TBO	Siliguri	Kolkata
Director(Monitoring)	Coimbatore	Chennai
One Directorate from HQ	New Delhi	Hyderabad

### Posting of HAG officers



Sh. A.S.P. Sinha

Chairman,  
Krishna River  
Management Board



Sh. R. K. Jain

Chairman,  
Godavari River  
Management Board



Sh. S. K. Haldar

Member(WP&P),  
Central Water  
Commission

## From the past



### Engineers' Day

Nation commemorates 15th September as Engineers' Day which is the birthday of Dr. Mokshagundam Visvesvaraya (1861-1962), India's pioneering engineer and administrator. He began his career as a civil engineer in Bombay Presidency in 1884. But it was his engineering feat at Sukur in Sindh Province (then part of Bombay Presidency) in 1893-1895 that brought him fame. He devised an ingenious method to filter the muddy and discoloured water of Indus by digging a well on the riverbed and creating a tunnel below the river to bring drinking water for the city to the pumping station. His engineering accomplishments include Krishna Raja Sagara Dam in Mysore, flood protection system for the city of Hyderabad after the great Musi floods of 1908, conceptualization of Hirakud Dam for flood moderation in Odisha, invention and patent for automatic gates and numerous such examples.

Apart from being a profound civil engineer, served as Dewan of Mysore, he played a great role in establishing various institutions belonging to different sectors such as Mysore University, State Bank of Mysore, Hindustan Aeronautical Limited and several industries. Due to his outstanding contribution to the society & country, Government of India conferred 'Bharat Ratna' on him in the year 1955.

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