VOLUME 4 ISSUE NO. 8 MARCH 2022

JALANSH

The Monthly Newsletter of Central Water Commission

Dr. R.K. Gupta
Chairman, CWC

Message

Last year, the Dam Safety Act, 2021 was enacted by the Parliament and it has come into force with effect from 30.12.2021. The Act provides for surveillance, inspection, operation and maintenance of the specified dams for prevention of dam failure related disasters and to provide for an institutional mechanism to ensure their safe functioning and for matters connected therewith or incidental thereto. Further, moving ahead with the implementation of the Act, the Gazette notification of the constitution of the National Committee on Dam Safety (NCDS) & establishment of the National Dam Safety Authority (NDSA) and the rules for these have also been notified in the month of Feb-2022.

After the Union Cabinet's approval of the Ken Betwa Link Project, the budget amounting to Rs. 1400 crore has been allocated for the project during the year 2022-23. The project will be implemented as a National Project under National Perspective Plan (NPP), as a joint project of the Government of India and the State Governments of Madhya Pradesh (MP) and Uttar Pradesh (UP), based on the tripartite Memorandum of Agreement (MoA). A twenty member Steering Committee (SC) headed by Secretary, DoWR, RD&GR has also been constituted for monitoring and guiding the implementation of the Project. CWC would be represented in the SC by Chairman, Member(WP&P) & Member(D&R). The project will be implemented by the Ken-Betwa Link Project Authority (KBLPA) which has been constituted. This is a significant step towards the river interlinking programme in the country. Also, the consensus among party States for other projects for which the DPRs are ready is being pursued.

Based on the success of DRIP, the Govt. of India has approved the implementation of DRIP Phase II and Phase III. The Phase II of the Scheme is being co-financed by two multi-lateral funding Agencies - World Bank and Asian Infrastructure Investment Bank (AIIB), with funding of US$ 250 million each. Recently, a Loan Negotiation Meeting was held on 17.02.2022 for the loan from Asian Infrastructure Investment Bank (AIIB). The meeting was attended by representatives of the AIIB, World Bank, DEA, Ministry of Jal Shakti, CWC, and other implementing agencies. In addition, the Central Project Management Unit (CPMU) in CWC held important discussions during the month for the establishment of the Centre of Excellence (CoE) in IIT Roorkee and IISc Bengaluru.

During, the month of February 2022, three additional reservoirs were included under CWC's Reservoir Storage Monitoring System (RSMS). An increased number of reservoirs under monitoring would give a better representation of the water storage position in the country at the macro level. Now, the total live storage capacity of 140 reservoirs being monitored by CWC is 175.957 BCM which is about 68.25% of the live storage capacity of 257.812 BCM estimated to have been created in the country.

R K Gupta

Lower Wardha Dam

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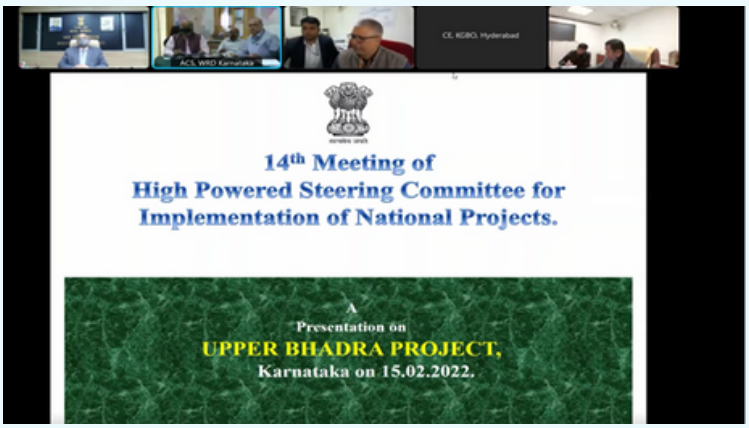
14th Meeting of the High Powered Steering Committee for Implementation of National Projects

The 14th meeting of High Powered Steering Committee (HPSC) for implementation of National Projects was held on 15.02.2022 under the Chairmanship of Shri Pankaj Kumar, Secretary, DoWR, RD&GR (MoJS), through video conferencing. Members of the HPSC along with officers from DoWR, RD&GR, CWC, Govt. of Karnataka had attended the meeting. The proposal of Upper Bhadra Project (Karnataka) for their inclusion in the scheme of National Project was discussed. The project was recommended by HPSC for inclusion of the project under the National Projects scheme of DoWR, RD&GR.



ADB Mission for Support for Irrigation Modernization Programme (SIMP)

A meeting to kick start the Asian Development Bank's (ADB's) Mission regarding the Support for Irrigation Modernization Programme (SIMP) was convened under the Chairmanship of Dr. R. K. Gupta, Chairman, CWC and ex-officio Secretary to the Govt. of India on 18.02.2022 through Video Conferencing. Member(WP&P), CWC, Chief Engineer, Performance Overview & Management Improvement Organisation (POMIO) and officers from POMIO, CWC attended the meeting along with officials from ADB and SIMP Consultant's Team. In his opening remarks, Dr. R. K. Gupta, Chairman, CWC expressed the growing need for modernization of MMI schemes in India and appreciated the efforts being made under SIMP in this regard. The irrigation projects need to be modernized to increase Water Use Efficiency (WUE) so

that water saved is made available for other sectors and the future water security of the Country is ensured. Chairman, CWC emphasized that the collaboration between ADB & CWC should continue to develop appropriate models for implementation and the success and sustainability of benefits of SIMP.

Discussion on Flood Management Schemes of Himachal Pradesh

In the meeting, Engineer-in-Chief, Jal Shakti Vibhag, Himachal Pradesh delivered a brief presentation regarding the revised BC ratio calculations of the Suketi-khad project. After the presentation, Shri Kushvinder Vohra, Member(RM), CWC and ex-officio Additional Secretary to Govt. of India, impressed upon the following issues:

i. Satellite imageries indicating annual bank lines for the last 3 to 5 years for project reaches on various khads may be arranged to see the damages.

ii. A map indicating the anticipated damage area for various khads may be prepared for working out various anticipated losses.

iii. In working out the assessment of losses to various water supply schemes & irrigation schemes, flat rates were considered for each type of scheme. These values should be based on the actual occurred damages.

iv. In working out annual anticipated annual losses, damages provided by various authorities were calculated at an annual increasing rate of 10% for 50 years. There seems to be no justification for such a high increasing rate so indicated. These values should be based upon an actual ground survey of the area which is likely to be eroded on the basis of past years' annual losses in the next 50 years in absence of the project.

v. Only past four nos. of annual Report of Revenue Department (Disaster Management Cell), Government of Himachal Pradesh has been utilized by the State Govt. for working out average annual damages to properties viz. electricity lines, roads, houses etc. It is suggested that these reports for past annual damages for each year (from the first year's damage) may be utilized in working out annual average damage data.

vi. Annual Report of Revenue Department (Disaster Management Cell) Government of Himachal Pradesh has damage figures for the district and damage to the particular project has been worked using on the basis of the ratio of the project area and area of the district, which is not correct. The damage figures may be assessed based upon data related to the area likely to be affected, in case the project is not implemented.

Further, Member(RM), CWC suggested that each project may also be reviewed and, if required, works on various critical reaches where damages are higher only may be considered for the viability of projects.

17th Visit of TAC-BB (virtual) to the Scheme "Protection of Majuli Island from Flood and Erosion of River Brahmaputra"

The Technical Advisory Committee, Brahmaputra Board (TAC-BB) under the chairmanship of Shri Kushvinder Vohra, Member(RM), CWC and ex-officio Additional Secretary to Govt. of India conducted a virtual visit to the project site "Protection of Majuli Island from flood and erosion of river Brahmaputra" on 08.02.2022 with special reference to problems encountered at Salmara area.

The present emergent issue of erosion at Salmara Reach was discussed by the TAC-BB and detailed deliberations were made on the measures proposed to be taken up to arrest the erosion in the affected reach upstream of Salmara on an emergent basis.

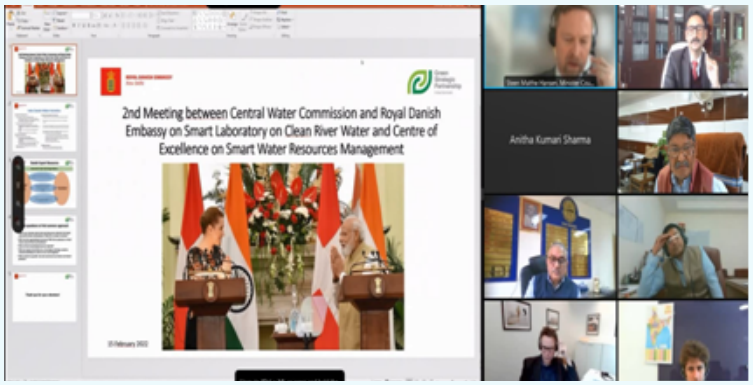
After detailed discussion and deliberation the TAC-BB suggested the following:

(i) A comprehensive study based on satellite imageries and other requisite data for an integrated solution to the erosion problem of Majuli Island for the entire reach may be expedited by CWPRS, Pune. Brahmaputra Board, CWPRS Pune & IIT Delhi should work in a cohesive manner so that study is completed at the earliest.

Meanwhile, Brahmaputra Board may take up emergent works as per site conditions and follow the guidelines of CWC handbook – 2012 to arrest ongoing erosion at critical reach.

India Denmark Meeting for Water Cooperation

Shri Kushvinder Vohra, Member (WP&P), CWC and ex-officio Additional Secretary to Govt. of India convened a meeting through video conferencing with experts from Denmark side on 15.02.2022 to discuss and develop a common approach for taking forward the decisions taken during the meeting between Hon'ble Prime Ministers of both the Countries on 09.10.2021. Two proposals from the Indian side namely (i) Setting up a Center of Excellence for Smart Water Resources Management (CoESWaRM) at the National Water Academy, Pune; and, (ii) Establishing a Smart Laboratory for Clean River Water (SLCRW) at Varanasi were



presented to the Danish side and discussions were held to finalize the way forward.

Meeting Regarding Erosion Protection Work at Mandakini River Bank in Chitrakoot, Satna, MP

A meeting for discussion on DPR for Erosion Protection Works at Chitrakoot Dham, District Satna (MP) was held on 02.02.2022 under the chairmanship of Shri Kushvinder Vohra, Member(RM), CWC and ex-officio Additional Secretary to Govt. of India. During the meeting, Executive Engineer, WRD, Satna delivered a brief presentation regarding the project. After the presentation, Member (RM), CWC had impressed upon various issues viz. past losses data in working out anticipated annual losses, submerged condition of the ghat, drainage condition at the right bank of the river.

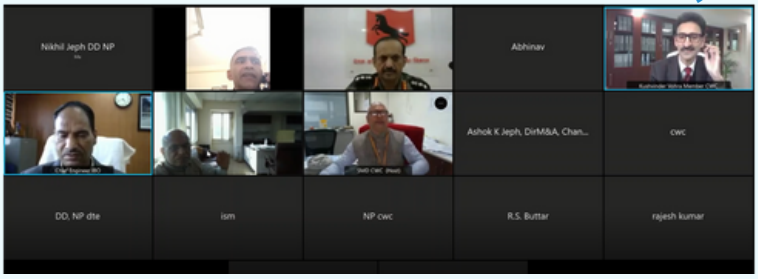
In response to the above observations, officials from WRD, MP stated all the issues including design aspects especially drainage congestion and damages will be addressed in the revised DPR/construction stage. Thereafter, Member(RM), CWC concluded the following points:

1. State Govt. will review the damage data as per actual ground conditions and the B/C ratio may be revised accordingly.
2. State Govt. will revisit the design/planning aspects to address the drainage congestion problem.
3. State Govt. will ensure appropriate design for the safety of ghat in submerged conditions.
4. Revised DPR after addressing all the issues will be submitted by State Govt. by 07.02.2022.

Discussion on the issues related to preparation of PFR of 2nd Ravi Beas Link Project

A meeting under the Chairmanship of Shri Kushvinder Vohra, Member(WP&P), CWC and ex-officio Additional Secretary to Govt. of India was held on 11.02.2022 to discuss the issues related to the preparation of PFR of 2nd Ravi Beas Link Project. Officials from DoWR, RD&GR, Central and State Government and other organizations attended the meeting.

During the meeting, various link routes were discussed regarding the transfer of water in the 2nd Ravi Beas Link Project for the preparation of PFR. It was also decided in



the meeting that a field visit will be scheduled shortly to assess the actual ground condition/ reality of the aforesaid discussed link routes.

Issue of Central Assistance for the implementation of Shahpurkandi Dam Project

A meeting to discuss issues related to Shahpurkandi Dam Project (SKDP) was taken by Shri Kushvinder Vohra, Member(WP&P), CWC and ex-officio Additional Secretary to Govt of India through video conferencing on 07.02.2022. The meeting was attended by officers of SKDP Authority, Govt. of Punjab, Govt. of J&K and CWC.

In the meeting, discussions were held on the progress, utilization of funds and revised cost estimates of the project for ensuring the optimal release and utilization of Central Assistance. Member (WP&P), CWC directed SKPD Authority to submit component-wise cost as per DPR, as per Tender / Revised Estimates, if any along with expenditure on the same up to 2018 as well as thereafter so as to work out cost/expenditure of power component and irrigation component for further processing of the Central Assistance.

Meeting With Nodal Officers of IEWP (Phase-2)

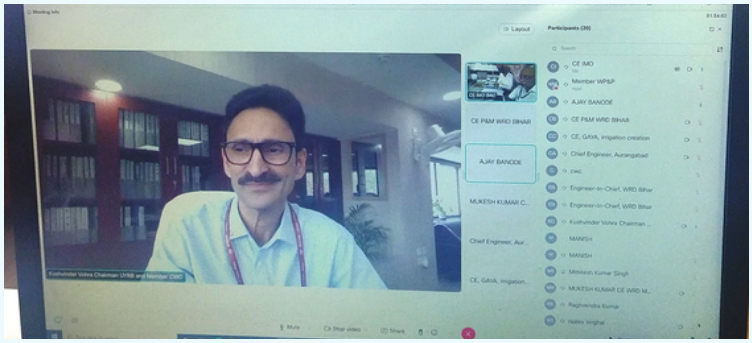
Shri Kushvinder Vohra, Member(WP&P), CWC and ex-officio Additional Secretary to Govt. of India held an online meeting with the nodal officers of IEWP (Phase-2) on 16.02.2022 to discuss the structure, sessions, and content details proposed to be included in the proposed India-EU Forum to be held in 2022 (The date is to be finalized in mutual consultations with EU Delegation to India). The meeting was attended by officers from CWC, NMCG, and CGWB. The India-EU Forum is proposed for 2 half-day sessions in view of the time difference between India and Europe.

During the meeting, the possible themes for the sessions were deliberated at length and each nodal officer was requested to send the proposal in this regard as discussed during the meeting. It was decided that activities undertaken by different departments under various water cooperation with EU countries other than those falling under four thematic areas may also be compiled. Further discussions regarding session detail, structure and dates of India EU Water Forum shall be deliberated with EU Delegation.

Nodal officers of IEWP (Phase-2) in discussion during the meeting

Revision of the Cost of Balance Work of North Koel

A meeting was held under the chairmanship of Shri Kushvinder Vohra, Member (WP&P), CWC and ex-officio Additional Secretary to Govt. of India to firm up the views regarding revision/updation required over 7th RCE of the cost of the balance works of North Koel Reservoir Project on 21.02.2022 through Video Conferencing. The officers from DoWR, RD&GR, CWC (HQ), State Governments of Bihar & Jharkhand and WAPCOS participated in the meeting through VC.



State Govt officials & Officials from WAPCOS informed that the 7th RCE (PL 2019) of the project was accepted by the Advisory Committee of DoWR, RD&GR during July 2019. Therefore the 7th RCE of the project need to be updated because of the prevailing schedule of rates for onward submission for the Cabinet approval. After the detailed discussions, Member (WP&P), CWC directed that the 7th RCE may be updated based on current schedule of rates and keeping the provisions in-line with the approved 7th RCE as far as possible. Inclusion of any additional provisions, if required may be kept to bare minimum with due justification. The field visit may also be carried out by WAPCOS along with the officials of WRD Jharkhand & Bihar and field officers from CWC. The whole exercise may be completed within three weeks for the submission of consolidated updated 7th RCE for examination in CWC and subsequent approval of TAC of DoWR, RD &GR.

Meeting for discussing share of Andhra Pradesh in Godavari Basin

A meeting under the chairmanship of Shri Kushvinder Vohra, Member (WP&P), CWC and ex-officio Additional Secretary to Govt. of India, was held on 22.02.2022 through Video Conferencing for considering the share of Andhra Pradesh in Godavari Basin and finalization of water availability series of Thupakulagudem Barrage (renamed as Samaakka Sagar Project) and Sita Rama Lift Irrigation scheme.

The meeting was attended by Special Chief Secretary, WRD, Govt. of Andhra Pradesh, Chief Engineer (IMO), CWC, Member Secretary (GRMB), Director (ISM-1 Dte.), CWC, Director (PA (S)), CWC and other officials of CWC. In the said meeting, Govt of Andhra Pradesh assured to furnish the desired information to CWC at the earliest.

Meeting for assessment of partial benefits and cost of Polavaram Irrigation Project

In pursuance of Ministry of Finance and DoWR, RD & GR, seeking comments on the assessment of partial benefits and cost as projected by Govt. of Andhra Pradesh (GoAP), a meeting for assessment of partial benefits as projected by GoAP for Polavaram Irrigation Project (PIP) at MDDL (+41.15 m) was taken by Shri Kushvinder Vohra, Member (WP&P), CWC and ex-officio Additional Secretary to Govt. of India through video conferencing on 22.02.2022. The meeting was attended by officers of Polavaram Project Authority (PPA), GoAP and CWC.

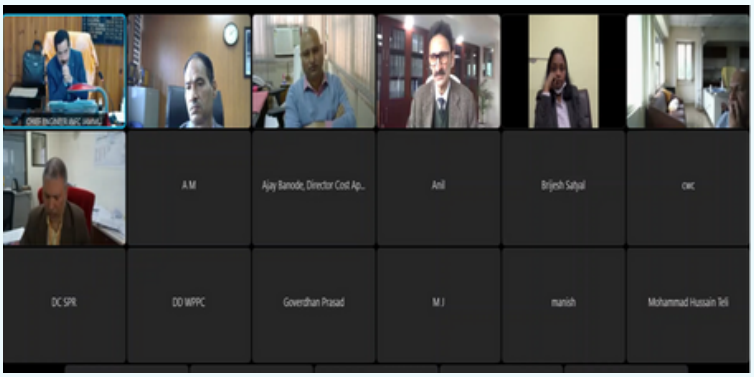
Officers from GoAP briefed about the compliance to point-wise observations raised by CWC, wherein, GoAP informed that partial irrigation benefit of 121.06 thousand hectares is envisaged at MDDL Level (+41.15 m), whereas optimum irrigation benefit of 291.32 thousand hectares is envisaged in PIP at FRL level (+45.72 m).

Detailed discussions were held on the CWC's observations in which the compliances of design aspects were found in order by Design Directorate of CWC. Further, Member (WP&P), CWC directed GoAP officers to submit requisite supporting documents concerned with working table & balance cost for examination of assessment by Specialized directorates of CWC regarding aforesaid balanced cost & partial benefits of PIP at MDDL (+41.15 m).

Meeting regarding Ujh Multi-Purpose Project

A meeting to discuss about the progress of matters related to Ujh Multi-Purpose Project was taken by Shri Kushvinder Vohra, Member(WP&P), CWC and ex-officio Additional Secretary to Govt of India through video conferencing on 23.02.2022. The meeting was attended by officers of WAPCOS, Govt. of J&K, Central Electricity Authority (CEA) and CWC. In the meeting, discussions were held on the issues related to Environmental Clearance, detailed survey for canal alignment and preparation of final DPR for ensuring the smooth initiation of the project.

During the meeting, Member (WP&P), CWC directed Govt. of J&K to fast-track approval of Environmental Clearance in coordination with WAPCOS and MoEF&CC. Further, detailed Survey for canal alignment may also be



initiated by Govt. of J&K Officials. Regarding, preparation of final DPR, Member (WP&P), CWC directed Chief Engineer (IBO), CWC to prepare final DPR at the earliest in coordination with all the relevant Directorates/ Divisions of CWC and CEA.

Review of Preparedness for Implementation of Renukaji Project

A meeting under the chairmanship of Shri Kushvinder Vohra, Member(WP&P), CWC and ex-officio Additional Secretary to Govt of India was held on 25.02.2022 to review the preparedness for implementation of Renukaji Project. Officials from Upper Yamuna River Board (UYRB), CWC and Himachal Pradesh Power Corporation Limited (HPPCL) attended the meeting.

During the meeting Member (WP&P), CWC suggested that total eligibility for Central Assistance (CA) may be calculated based on the total expenditure made by HPPCL including the amount spent from state share other than the power specific component. In the meeting

other issues including Land Acquisition and Rehabilitation and resettlement, physical and financial progress of project etc. were also discussed.

Implementation of Dam Safety Act, 2021

The Dam Safety Act, 2021 has been enacted by the Parliament and has come into force with effect from 30.12.2021. The Act provides for surveillance, inspection, operation and maintenance of the specified dams for prevention of dam failure related disasters and to provide for institutional mechanism to ensure their safe functioning and for matters connected therewith or incidental thereto.

Further, The Gazette notification of constitution of National Committee on Dam Safety (NCDS) & establishment of National Dam Safety Authority (NDSA) and the rules for National Committee on Dam Safety and National dam Safety Authority have been published on 17.02.2022. These may be accessed from the following links.

https://egazette.nic.in/WriteReadData/2022/233570.pdf

https://egazette.nic.in/WriteReadData/2022/233571.pdf

Visit to Subarnarekha Multipurpose Project, Jharkhand

A CWC monitoring team comprising Dr M. K. Sinha, Chief Engineer (Project Monitoring Organization), Shri Balram Kumar, Director and Shri Amitabh Tiwari, Deputy Director of Monitoring(East & West) Dte., CWC, New Delhi visited Subernarekha Multipurpose Project from 22.02.2022 to 25.02.2022. The team reviewed the progress of works at different project sites i.e. Chandil Dam, Icha Dam, Galudih Barrage, Kharkai Barrage and its Canal distribution network.

Subernarekha Multipurpose project is an inter-state project amongst the States of Jharkhand, Odisha and West Bengal. It aims at integrated development of the Subernarekha basin by harnessing the water resources potential of river Subernarekha and its tributary Kharkai. This Project was included under AIBP during 2011-12 and the likely date of completion is March-2025 as reported by Project Authorities.

The Overall project envisages to provide irrigation benefits to Jharkhand (CCA of 151,323 ha), Odisha (CCA of 109627 ha) and West Bengal (CCA of 5000 ha).

As of the date of visit, out of 236846 ha, Ultimate Irrigation Potential (UIP) (Jharkhand portion), 107938 ha Irrigation Potential (IP) has been created and 52896 ha of created IP has been utilized. Central Assistance of Rs. 1889.6131 crore has been released and the expenditure incurred has been reported as Rs. 4246.409 crore as on January 2022.

The 19th Meeting of the DDRP cconstituted for Polavaram Irrigation Project

The Nineteenth (19th) meeting of Dam Design Review Panel (DDRP) of Polavaram Irrigation Project was on held on 23.02.2022 through Video Conference under chairmanship of Shri A. B. Pandya, Former Chairman, CWC. The Chief Engineer, Designs(NW&S), Director CMDD(NW&S), Deputy Director, CMDD(NW&S) & Embankment(NW&S) attended the above meeting for discussing the design issues of Polavaram Irrigation Project, Andhra Pradesh.

Sub-Committee for Assessment of Water Logging and Salt/Alkaline Affected Soils in the commands of all Major & Medium Irrigation Projects

A meeting on reassessment of water logging and salt/alkaline affected soils in the commands of all major & medium irrigation projects was held under the chairmanship of Shri P. Dorje Gyamba, Chief Engineer(POMIO), CWC. Experts/officers from, CWC, NRSC, Hyderabad, NIH, Roorkee, ICAR, CSSRI attended the meeting. Methodology & mechanism to be adopted for conducting the new study under R&D scheme of DoWR, RD & GR was discussed. All the participants were requested to furnish a brief note on the issue for further deliberations.

Financial Progress of Schemes as on 28.02.2022

(Amount rounded-off in ₹ Crore & Specific to CWC's component)

Sl. No.	Scheme/Component Name	BE/RE (2021-22)	Expenditure	Expenditure (in %)
1.	Development of Water Resources information System (DWRIS)	160.00	133.916	83.70%
2.	Investigation of Water Resources Development Schemes (IWRD)	7.300	6.423	87.98%
3.	Flood Management & Border Areas Programme (FMBAP)	9.430	8.077	85.65%
4.	Infrastructure Development (ID) Scheme	Scheme shifted to Non-Scheme Direction & Administration(D&A)		
5.	National Hydrology Project (NHP)	23.905 (BE)	8.807	33.05%
6.	Dam Rehabilitation and Improvement Project (DRIP) Phase-II	25.00 (BE)	23.00	92.00%

National Hydrology Project (NHP)

Development of the Early Flood Warning System(EFWS) including Inundation Forecast(IF) in Ganga Basin under NHP

Development of the Early Flood Warning System (EFWS) including Inundation Forecast (IF) in Ganga Basin has been taken up by CWC through Consultancy under NHP. CWC has signed a contract with M/s AECOM Asia Company Ltd in Joint Venture with M/s URS Scott Wilson India Private Ltd & M/s AECOM India Private Ltd on 11.8.2021 for this consultancy work. The objective of the consultancy is to develop an EFWS including IF and its integration with WRIS/e-SWIS/WIMS with a customized GIS tool for the real-time dissemination of water level forecasts, inundation forecasts, development of dashboard for the query-based flood warning/flood inundation maps for all stakeholders. The scope of consultancy includes the development of the system in 2 years (Part A) and the Operation & maintenance of the system for 5 years after development (Part B). The physical progress up to February 2022 is as follows:

- Three meetings with stakeholders have been organised for their feedback.
- Inception report as submitted by the consultant has been accepted by CWC.
- Report on Licenses of models, Dashboards and other software components has been submitted by the consultant and accepted by CWC. The hydro-meteorological and hydrological data collection, compilation & analysis is in progress.
- The tentative plan for the survey of the River Cross-section/bathymetry for 500 locations has been finalised and the survey work is in progress as per plan. About 15% of survey work has been completed.

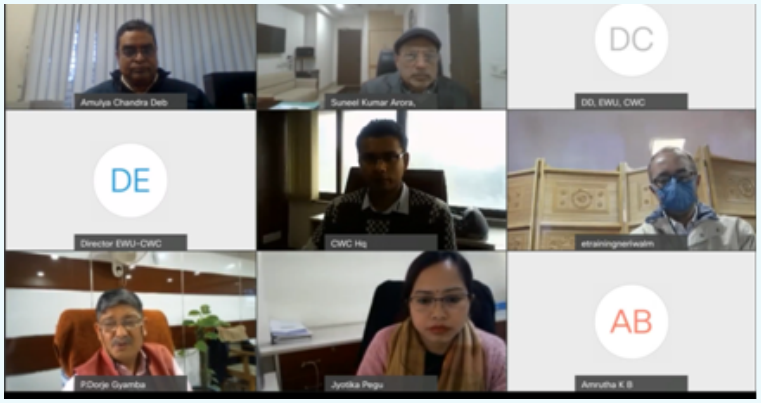
The first batch of High-Resolution Digital Elevation Model (1m*1m) covering an area of about 12000 sq. Km has been received from Survey of India. The same is being processed for inundation modelling.

Status of various activities under NHP is as under.

Sl. No.	Item	Current Status
1	Procurement of New Acoustic Doppler Current Profiler (ADCP)	• Supply Installation, Testing and Commissioning of 26 Nos. ADCP out of 29 have been completed. • Further, procurement for "Supply Installation, Testing and Commissioning of 50 Nos. ADCP is under process.
2	Velocity Radar	Procurement of 19 Nos. of Velocity Radar System is under process.
3	Out Board (OB) Engine	Tender for "Supply Installation, Testing and Commissioning of 45 Nos. of (OB) Engine is under process.
4	Total Station	Tender for "Supply Installation, Testing and Maintenance of 33 Nos. Total Station is under process.
5	Reservoir Sedimentation Studies Using Hydro Graphic Survey	Work for Phase-I (32 Nos. of reservoirs) has been awarded in Jan, 2021. Procurement for Non-consultancy work of Reservoir Sedimentation Studies using Hydro graphic survey of additional 87 Nos. reservoirs in India is under process.
6	Early Flood Warning System Including Inundation Forecast in Ganga Basin	Contract for the same was signed on 11.08.2021. Inception report has been submitted by the consultant and same is under scrutiny.
7	Consultancy work of Extended Hydrologic Prediction (EHP)	Consultancy work awarded. 2nd deliverable i.e., Data compilation Report has been submitted by the consultant and same is under scrutiny.
8	Study on the issue of Flood and Siltation in River Ganga and its Tributaries due to Farakka Barrage in the state of Bihar	Consultancy Services was awarded in March, 2021. Inception report (1st deliverable) and Data Compilation report (2nd deliverable) has been accepted and payment has been made for the same.
9	Supply of Water Quality Equipment's (GCMS and ICP-MS)	Delivery has been made and installation, testing and commissioning of all equipments has been completed. Another tender for the same for new lab is under process.
10	Real time Data Acquisition System in Narmada Basin	Contract Agreement signed in August, 2020. Installation at 16 Nos. ARG station and 16 Nos. AWLR has been completed.
11	Real time Data Acquisition System in Arunachal Pradesh	Contract Agreement signed in Nov, 2020. Data centre has been established. Installation at 20 Nos. Stations have been completed.

Baseline Studies to Assess WUE of MMI Projects in Assam and Manipur

A meeting was held under the chairmanship of Shri P. Dorje Gyamba, Chief Engineer(POMIO), CWC on 04.02.2022 with officials from the National Water Mission (NWM) and North Eastern Regional Institute for Water & Land Management (NERIWALM), Tezpur for discussion regarding Baseline Studies to assess Water Use Efficiency (WUE) of MMI projects in the States of Assam & Manipur. A presentation was made by Mrs. Jyotika Pegu, Director(IPO), CWC on the methodology to assess WUE as per CWC Guidelines. Based on the discussions held during the meeting, action points for the possible way ahead were proposed by POMIO, CWC to NWM.



Rehabilitation Dam Project under DRIP

After concurrence of the meeting held on 08.12.2021 between officials of CPMU-DRIP, CWC, Designs(NW&S), CWC & WRD Chhattisgarh on the rehabilitation of four existing dams of Chhattisgarh under DRIP, the officers from Design(NW&S) Unit of CWC visited the Ravishankar Sagar Dam and Murumsilli Dam on 08.02.2022, Dudhawa Dam on 09.02.2022 and Sondur Dam on 10.02.2022. The officers from WRD, the Government of Chhattisgarh also joined the CWC team. The joint team visited the damaged area of the Projects:

Ravishankar Sagar Dam

The dam is a multipurpose project located across the Mahanadi River in the Dhamtari district of Chhattisgarh. The project consists of an earthen cum gravity dam of length 2751 m and a maximum height of 30.50 m. With FRL 348.70 m, the gross storage capacity is 910 MCM. The dam consists of 14 nos. vertical gates of size 15 m X 10 m.

Murumsilli Dam

The dam is located across the Sillari River, a tributary of the Mahanadi River in the Dhamtari district of Chhattisgarh. The project consists of an earthen dam of length 2591 m and a maximum height of 25.53 m, with a gross storage capacity of 165 MCM. The dam consists of 34 nos. of syphon spillway in addition to 3 nos. of head regulators of size 3.0m X 2.7m each.

Dudhawa Dam

The dam is an irrigation project located across the Mahanadi River in the Dhamtari district of Chhattisgarh. The project consists of an earthen dam of length 2907 m and a maximum height of 30.53 m, with a gross storage capacity of 165 MCM. The dam consists of 4 nos. of head regulators designed for a total discharge of 2428 Cumec in addition to a waste weir having discharging capacity is 1132.67 Cumec.

Sondur Dam

The dam is an irrigation project located across the Sondur River in the Dhamtari district. The project consists of an earthen cum gravity dam of length 3368 m and of a maximum height of 38.20m, with a gross storage capacity of 198 MCM. The gated type of spillway with a capacity 5407 cumec consists of 5 nos. of radial gate size 15m X 10m. The PMF of the project has been revised to 5276 cumec.

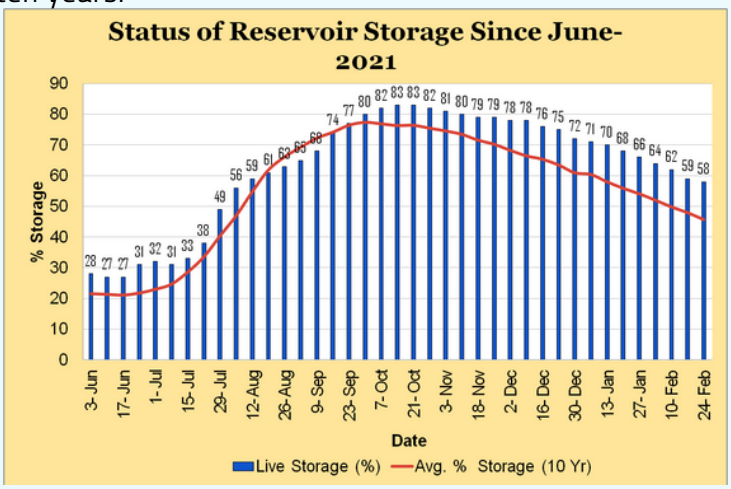
Reservoir Monitoring

CWC is monitoring live storage status of important reservoirs of the country on weekly basis and is issuing weekly bulletin on every Thursday. Three more reservoirs, named below have been added in the month of February 2022 in CWC's Reservoir Storage Monitoring System (RSMS).

Name of Reservoir	State	Live Storage Capacity
Chaskaman	Maharashtra	0.215 BCM
Priyadarshini Jurala	Telangana	0.168 BCM
Sathanur	Tamilnadu	0.207 BCM
	Total	**0.590 BCM**

The total live storage capacity of these 140 reservoirs is 175.957 BCM which is about 68.25% of the live storage capacity of 257.812 BCM which is estimated to have been created in the country. Out of these reservoirs, 45 reservoirs have hydropower benefit with installed capacity of more than 60 MW.

As per reservoir storage bulletin dated 24.02.2022, the total live storage available in these reservoirs is 101.209 BCM which is 58% of total live storage capacity of these reservoirs. However, last year the total live storage available in these reservoirs for the corresponding period was 91.368 BCM and the average of last 10 years live storage was 78.863 BCM. Thus, the live storage available in 140 reservoirs as per the bulletin dated 24.02.2022 is 111% of the live storage of corresponding period of last year and 128% of storage of average of last ten years.



Continuation of PMKSY-AIBP and formulation of Draft

The Government of India had launched Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) in 2015-16 with the objective of Integration of Water source and efficient and optimum utilization; enhance the physical access of water on the farm and expand cultivable area; and achieve convergence of investments in irrigation. Further, during 2016-17, ninety-nine (99) on-going Major/Medium irrigation projects under PMKSY-AIBP having ultimate irrigation potential of 76.03 lakh hectare were prioritized in consultation with States for completion in phases by December, 2019 along with their Command Area Development & Water Management (CADWM) works. Funding mechanism through NABARD was approved by the Government for both Central and State share. Thereafter, the scheme was further extended till March, 2021.

A proposal for the extension of the PMKSY-AIBP scheme for the period 2021-26 with enhanced, equitable and more inclusive coverage was recommended by the Expenditure Finance Committee (EFC), in its meeting held on 06.08.2021. Provision for inclusion of some new projects for funding under PMKSY-AIBP has also been approved during the extended period.

Further, the Cabinet Committee on Economic Affairs (CCEA) approved the continuation and implementation of PMKSY for 2021-26 with an outlay of ₹93,068 crore on 15.12.2021. Accelerated Irrigation Benefit Programme, Har Khet Ko Paani and Watershed Development components have been approved for continuation during 2021-26. Accelerated Irrigation Benefit Programme – a flagship programme of Government of India aims for financial support to irrigation projects.

In the aforementioned EFC Note, some changes were proposed for the guidelines of the scheme. Accordingly, Ministry of Jal Shakti had requested to CWC for the preparation of the draft of Detailed Guidelines for AIBP and National Projects, separately. The Guidelines for AIBP and National Projects have been revised accordingly on the basis of the changes proposed in the approved EFC Note and Cabinet Note and submitted to the MoJS. The main changes in the aforementioned guidelines are as follows:

PROPOSED REVISIONS/MODIFICATIONS IN PMKSY - AIBP

S. No.	Existing Provisions	Proposed Revisions
1	Projects under AIBP: 99 (and 7 phases). No new project can be included.	Inclusion of new Major / Medium Irrigation (MMI) projects as well as National Projects under AIBP
2	Criteria for inclusion: 50% physical progress and 50% financial progress	50% Financial progress requirement is proposed to be removed and only physical progress of 50% to be considered.
3	Criteria of 50% physical progress is applicable in all areas	Advanced stage (50% physical progress) criteria is proposed to be relaxed for projects having command area of 50% or more in Drought Prone Area Programme (DPAP), tribal, Desert Development Programme (DDP), flood prone, Tribal area, Flood prone area, left wing extremism affected area, Koraput, Balangir and Kalahandi (KBK) region of Odisha, Vidarbha & Marathwada regions of Maharashtra and Bundelkhand region of Madhya Pradesh & Uttar Pradesh, as also for Extension Renovation Modernisation (ERM) projects and also for States with net irrigation below national average.
4	No provision for reimbursement	Reimbursement is proposed to be allowed for due central assistance in subsequent years also.
5	Project shall be declared completed only on 100% completion of works	Project completion permitted with physical progress of 90% or more

First Meeting of Project Working Group for Subernarekha Irrigation Efficiency Pilot Project

The first meeting of the Project Working Group (PWG) constituted for Subernarekha Irrigation Efficiency Pilot Project - Scoping Study under India-Australia MoU on Water Resources Management was held under the chairmanship of Shri P. Dorje Gyamba, Chief Engineer(POMIO), CWC to discuss the data and information required for the Project.

Discussions were held with the PWG members comprising of officers from both the Indian & Australian sides regarding the availability of the dataset required for carrying out the study by the Irrigation Australia Limited (IAL) Team.

Project Monitoring

CWC has been entrusted with the responsibility of monitoring projects as recommended by the State Irrigation Ministers in the conferences of 1975 & 1976. CWC monitors inter-state/externally assisted/centrally sponsored projects with the objective of their timely completion.

Since Independence many new irrigation projects have been taken up to create water and food security in India. However, the completion of projects got delayed due to various reasons. Accelerated Irrigation Benefit Programme (AIBP) was launched by Government of India during 1996-97 to provide financial assistance to State Governments with an objective of expediting completion of ongoing Major/Medium including Extension, Renovation and Modernization (ERM) irrigation projects and Surface Minor Irrigation schemes with a special consideration to the regions lagging behind in development.

Since inception altogether 297 major and medium irrigation projects have been included under AIBP out of which 143 projects have been completed and five projects have been deferred, leaving 149 projects as ongoing as on March, 2015. During 2015-16, the AIBP was subsumed in the umbrella scheme of Pradhan Mantri Krishi Sinchayee Yojana(PMKSY). Under PMKSY-AIBP, 99 ongoing AIBP projects (and 7 phases) from different States and UTs were identified and prioritized for completion in phases in a Mission Mode with cost estimate of Rs. 775.95 billion.

The balance irrigation potential of these projects was 3.464 million hectare as on 01.04.2016.

Responsibility of Monitoring of these projects covered under the PMKSY-AIBP component lies with the CWC with the help of its regional offices situated all over the country as was case with AIBP Projects earlier. Extensive review & monitoring mechanism has been put in place to ensure that the bottlenecks encountered in the execution of these projects are timely addressed.

All major and medium projects where funds have been released in the previous year are to be monitored twice in a year and a monitoring report is to be prepared by concerned field office of CWC. CWC also highlights the bottlenecks in the projects and regular follow up is done with the State Government for their timely resolution.

CWC had also used the satellite data and web services through ISRO-Bhuvan for online monitoring of ongoing AIBP projects biannually (pre monsoon & post-monsoon). It facilitated in identifying the critical gaps and bottlenecks in the projects.

During 2016-2021, Central assistance of Rs 129.99 billion was recommended by CWC for the release to the prioritized AIBP Projects. Dedicated efforts resulted into the completion of forty-six (46) of these prioritized projects. Further, out of balance projects, 21 projects have progress of more than 90% and 14 projects have progress between 80 to 90%. During 2016-21, additional irrigation potential of 2.274 million hectare has been created through these projects.

Total Projects under AIBP	**297**
Completed as on 31.03.15	143
Deferred Project	5
Balance Project	149
Project taken up under PMKSY-AIBP	**99**
Completed	46
Progress More than 90%	21
Progress Between 80%-90%	14
Progress Less than 80%	18

Field units of CWC are also responsible for the monitoring of Command Area Development & Water Management (CADWM) Projects. CADWM Programme aims for bridging the gap between irrigation potential created and that utilized through micro level infrastructure development directed at bringing hydraulic connectivity to the tail-end farms through greater penetration of lined field channels. In addition, Structural intervention also envisages improvement in water use efficiency through creation of infrastructure for micro- irrigation in an area of about 10% of the canal irrigated command.

In addition, Surface Minor Irrigation (SMI) Schemes are also monitored periodically on sample basis (at least 20% of MI Schemes) by the concerned Regional Offices of Central Water Commission and assessed against predetermined targets set by the Ministry of Jal Shakti.

Restoration and Rectification works for Penstock/Pressure Shaft of Uhl III HEP

Himachal Pradesh State Electricity Board Ltd (HPSEBL), Shimla requested CWC for seeking advice of CWC on the hydraulic and structural design of penstock/pressure shaft as part of restoration/rectification works of Uhl III HE Project (100MW), Himachal Pradesh. It got ruptured during testing of 1st unit (running at 16MW) while commissioning in May 2020.

CWC has taken up the matter and accordingly a meeting between HPSEBL designers and CWC officials was convened under the chairmanship of Chief Engineer,

Designs (N&W) on 17.02.2022. During the meeting, Director (Civil), HPSEBL made a presentation on the issue and appraised CWC regarding studies/ investigations carried out so far in this regard.

DRIP

Loan Negotiation meeting with AIIB

A Loan Negotiation Meeting was held on 17.02.2022 for the loan of US $ 250 Million from Asian Infrastructure Investment Bank (AIIB) for co-financing DRIP Phase II. The meeting was attended by representatives of the AIIB, World Bank, DEA, Ministry of Jal Shakti, CWC, the State of Chhattisgarh, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Rajasthan, and Tamil Nadu. All important terms and conditions of the loan were deliberated and other documents were negotiated and finalised.

Meeting with IIT Roorkee regarding Centre of Excellence for Dams

A virtual meeting was held on 08.02.2022 to discuss the draft tripartite MoU between Irrigation Research Institute (IRI), Govt. of Uttarakhand, Roorkee, IIT Roorkee and CWC regarding the utilization of the physical modelling facilities of IRI Roorkee at Bahadrabad by IIT Roorkee under the aegis of Centre of Excellence for Dams proposed to be started at IIT Roorkee under DRIP-II. Team of IRI, Roorkee lead by Shri S.K.Saha, SE, IRI, the delegation of IIT Roorkee led by Shri N. K. Goel, Prof., IIT Roorkee and the delegation of CPMU led by Shri Gulshan Raj, CE, DSO participated in the meeting. CPMU clarified its viewpoint on various provisions of the draft MoU shared by IRI Roorkee. It was decided that IIT Roorkee and IRI Roorkee will jointly sit together and prepare a mutually agreed draft which then could be shared with CPMU for further discussion and finalization. A draft proposal on CoE by IIT Roorkee was also discussed in the meeting and it was requested that IIT Roorkee may revise the draft in line with the suggestions given in the meeting.

Meeting with IISc Bangalore regarding Centre of Excellence in Dam Engineering

CPMU, DRIP-II, CWC held a virtual meeting with IISc on 18.02.2022 to identify and discuss possible broad research areas for the "Centre of Excellence in Dam Engineering" proposed to be started under DRIP-II in IISc. IISc delegation led by Shri Ananth Ramaswami, Chair, Dept. of Civil Engg and CPMU delegation led by Shri Gulshan Raj, CE, DSO participated in the meeting. CPMU suggested certain emerging research areas related to seismic hazard analysis, sedimentation management, risk analysis etc. for consideration. IISc agreed to formulate a draft proposal of CoE based on the discussions held in the meeting.

Data Corner

As per the Reservoir Storage Monitoring System (RSMS) database of CWC, the details of river basins with variation in Yearly live storage compared to Normal live storage (Average storage of last 10 yrs) at the end of monsoon, since 2014.

Sl No	Basin	Live Capacity At FRL (in BCM)	% Variation of Storage with respect to average of last 10 years							
			2014	2015	2016	2017	2018	2019	2020	2021
1	GANGA	33.264	17.37	-1.96	33.92	5.94	-3.37	26.92	13.57	10.59
2	INDUS	14.819	-8.14	1.04	-17.8	0.25	17.23	7.42	-23.4	-25.54
3	NARMADA	22.344	26.95	5.31	19.7	-19.48	13.12	45.33	31.95	3.55
4	TAPI	7.394	-5.45	-20.08	17.83	-29.41	-48.2	38.22	29.61	25.88
5	MAHI	4.012	9.78	-9.24	9.01	11.35	10.87	11.75	3.76	-2.5
6	SABARMATI	1.042	2.54	8.53	24.47	28.25	-51.06	45.57	28.96	-47.77
7	RIVERS OF KUTCH & SUARASHTRA INCLUDING LUNI	1.378	-51.67	22.48	-25.81	46.81	-61.76	38.34	47.63	-2.42
8	GODAVARI	17.714	-7.12	-43.22	20.34	-2.96	-16.5	35.92	32.13	15.1
9	KRISHNA	31.918	-19.35	-57.25	-20.23	6.23	-15.34	24.36	23.23	16
10	MAHANADI & NEIGHBOURING E.F.R	14.369	6.63	-24.59	9.79	0.05	-13.32	11.43	7.28	3.43
11	CAUVERY & NEIGHBOURING E.F.R	10.151	11.59	-61.75	-55.73	-5.19	27.14	79.61	61.71	58.18
12	WEST FLOWING RIVERS OF SOUTH	16.961	4.2	-32.02	-26.59	-11.06	15.1	22.95	15.86	11.69

Board of Consultants visit the Bhakra Dam site in October 1952. L to R: Khungar, Nickel, Savage, Khosla, Banks, Meclellan, Hammand, Steel, Johnson, Rawhauser, Handa, Pathak, Gupta, Hazra, Bhatnagar, Barkat Ram, Chadha.

Water Sector News

- Jal Jeevan Mission : FM proposes Rs. 60,000 cr (Statesman, 02.02.2022)
- Bihar Nal Jal Scheme : HC hears PIL, asks petitioner to approach govt of redressal (The Indian Express, 05.02.2022)
- NHRC seeks report on Hirakud dam oustees from Odisha & Chhattisgarh governments (The Statesman, 06.02.2022)
- Patna to Pandu : Ship begins 25-day voyage to unlock N-E through water route (The Statesman, 06.02.2022)
- Grand river-linking plan : Whiff of fresh air or whirlpool in the making for state ? (Deccan Herald, 13.02.2022)
- Govt. forms Ken-Betwa Link Project Authority to execute first river interlinking project (Millennium Post, 16.02.2022)
- Kerala seeks review of 2014 SC verdict on Mullaperiyar dam (The Hindu, 18.02.2022)
- Indian team to visit Pak for Indus commission meet from March 1 (Hindustan Times, 21.02.2022)
- KCR dedicates Mallannasagar to people of State (Telangana Today, 24.02.2022)
- Dam issue : T.N. officials walk out of meeting (The Hindu, 26.02.2022)

Gallery/Azadi Ka Amrut Mahotsav

As part of Azadi Ka Amrit Mahotsav, Mass Awareness Program about CWC Activities , Single Use Plastic (A problem) and water conservation by using Micro Irrigation Techniques were organized by YBO, CWC on 28.02.2022 in Govt. School & Village of Mohna, District Faridabad.

दिनांक 21.02.2022 को विज्ञान भवन, नई दिल्ली में संसदीय राजभाषा समिति ने यमुना बेसिन संगठन, केन्द्रीय जल आयोग के साथ निरीक्षण बैठक की। इस दौरान समिति ने मंत्रालय एवं विभाग के वरिष्ठ अधिकारियों की उपस्थिति में हो रहे राजभाषा हिन्दी के कार्यों का अवलोकन किया।

Inauguration of newly constructed site office at HO site Gopiballavpur was done by CE, MERO, Bhubaneswar in the presence of SE, HOC and EE, ERD Bhubaneswar on 18.02.2022

History- Vamsadhara Project Stage-I

Vamsadhara the fourth biggest river in Andhra Pradesh, takes its origin in the eastern ghats near Lanjigarh village in Kalahanadi district and traverses a total distance of about 254 km before it joins the Bay of Bengal at Kalingapatnam. A number of tributaries join the river on both the sides. Most of its catchment area falls on the left. The basin is narrow and full of undulations. The total catchment area of this basin works out to 10830 Sq km. The river basin, though fairly wide in the upper reaches, narrows down gradually until it is about 24 km wide near a village called Hiramandalam where the project came up. The catchment area is influenced both by south-west and north-east monsoons mostly occurring in the period from June to November.

Inter-State Problem

After prolonged discussions, the Governments of Andhra Pradesh and Odisha came to an agreement for sharing the dependable yield of 115 TMC at 50:50 basis. Various sites at Singidi, Madanapuram, Gudari, Gotta and Hiramandalam were examined for the construction of a reservoir. The two Governments could not come to an agreement for a joint project in the upper reach. Andhra Pradesh Government therefore decided to go ahead with a suitable scheme in their own territory. This had necessitated the location of the reservoir in the plains situated in the lower reach so as to avoid any submersion in the Odisha State. Even the last site available at Gotta entailed some marginal submersion of 142 ha in Parlakimidi town of Odisha State. Apart from this, a reservoir at this place posed a problem of submerging vast valuable lands of nearly 9000 ha within the State and there was stout opposition. To get over this intractable problem, a novel idea of building a reservoir on the valley of a tributary to the river for impounding the river flows by diversion was thought about. In this alternative, not only the valuable lands in the river margin were saved but also the extent of submersion was reduced to 2830 ha without losing the storage capacity.

Features

The approved scheme contemplated:

(a) Construction of a reservoir across a minor valley near Hiramandalam village;

(b) Construction of a barrage across Vamsadhara near Neradi village and a right side canal from the barrage to irrigate an area of about 8100 ha on the right side of the river and finally supply the river water to the above reservoir;

(c) Construction of a barrage across Vamsadhara at Gotta and the excavation of the left side canal to irrigate about 60000 ha on the left side of the river;

(d) Construction of Hiramandalam canal taking off from the Hiramandalam reservoir to irrigate about 43000 ha of land lying on the right side of the river and;

(e) The link canal between Hiramandalam Reservoir and Gotta Barrage to take care of any shortfall in supply by diversion from the river to the left side canal and thereby intensify the cultivation on the left side of the river.

Stage I

In view of the limited finances available, the comprehensive scheme was proposed to be executed in stages, realizing the benefits stage by stage. To start with, the proposal was to build the barrage across Vamsadhara at Gotta site and the left bank canal taking off from it under Stage I, to irrigate about 20200 ha (49890 acre) of fresh ayacut and stabilise the supplies to an area of 39800 ha (98494 acre) having precarious irrigation supplies from the open head channels and tank supplies. These works were expected to cost about Rs. 8.70 crore. The remaining works were expected to cost about Rs. 13 crore and they were taken up, after the works under stage I were completed.

Gotta Barrage

The barrage on Vamsadhara is located about half a mile south-west of Gotta village. The barrage covers the entire river width of 492 m (1614 ft) and pass a maximum discharge of 8123 cum/sec flowing from the catchment area. To take care of the slight increase in the Maximum Flood Level of the river during the maximum flood discharge, flood banks on either side of the river upstream of the barrage for a length of 7.3 km is constructed. The barrage have 7.32 m wide road-way to provide an important communication between the two sides of the river, since the only existing bridge on this river at Narasannapet was far lower down.

Gotta Barrage footage of piers 20 and 21 and excavation of foundation for pier 22 are seen here under construction.

Gotta Left Canal

The Gotta Left Canal is aligned as a contour canal and runs for a length of 108 km to irrigate about 60000 ha of land. The estimated cost of the canal system was Rs. 5.40 crore out of the total cost of Rs. 8.64 crore for stage I.

The project was taken up in 1970 and water was first let out for irrigation in 1977. The updated estimated cost of the project is Rs. 109.00 crore(price level 1997-98). The benefit cost ratio of the scheme was 6.6 at 10% interest rate. It facilitated the diversion of available flows effectively and after State II was completed a large portion of the river water would be put to beneficial use. In order to reduce the financial burden on the State Govt. and also to inculcate a sense of participation among the beneficiaries, project contemplated to recover betterment levy of Rs. 250/ha for the existing wet area and Rs. 500/ha for newly proposed wet area.

Source: Bhagirath (Oct-1972)

Correction:

Jalansh Volume 4: Issue No. 7, Feb-2022- http://cwc.gov.in/sites/default/files/eng-feb-22.pdf

The meetings related to North Koel Reservoir Project, Gyspa Multipurpose Project & Support for Irrigation Modernization Programme and meetings with the Danish side, EU delegation & Australian side was chaired/co-chaired by Shri Kushvinder Vohra in the capacity of Member(WP&P), CWC instead of Member(RM), CWC as mentioned in the aforesaid issue of Jalansh. Inconvenience caused to the readers is regretted.

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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