

**AGENDA AND AGENDA NOTES
71st MEETING OF THE
TECHNICAL ADVISORY COMMITTEE (TAC)
OF NIH**

**APRIL 23, 2018
AT 1100 HRS
3rd Floor, Committee Room
CWC, New Delhi**



**NATIONAL INSTITUTE OF HYDROLOGY
ROORKEE-247667**

AGENDA AND AGENDA NOTES FOR THE 71st MEETING OF THE TAC OF NIH

AGENDA ITEMS

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ITEM # 71.1 Opening Remarks by the Chairman

ITEM # 71.2 Confirmation of the minutes of 70th meeting of the TAC

The 70th meeting of the TAC was held at New Delhi on September 1, 2017. The minutes of the meeting were circulated to all the members and invitees vide email dated 22.09.2018. A copy of the minutes of the 70th meeting of TAC is given in **Appendix-71.2.1[Page # (Vol.-II)]**. Since no comments were received from the members on the circulated minutes, the minutes may please be confirmed.

ITEM # 71.3: Action taken on the decisions/ recommendations in the previous meeting

The member-Secretary informed that the suggestions offered during the previous meeting have been noted for compliance.

ITEM # 71.4: Status and progress of the work programme for the year 2017-18

The approved Work Programme of the Divisions at the Headquarters and RC/CFMS of the Institute for the year 2017-18 is given in the tables below, and details are provided in **Appendix 71.4.1[Page # (Vol.-II)]**:

1. Environmental Hydrology Division
2. Ground Water Hydrology Division
3. Hydrological Investigation Division
4. Surface Water Hydrology Division
5. Water Resources System Division
6. Research Management & Outreach Division
7. Regional Centre, Belgaum
8. Regional Centre, Jammu
9. Regional Centre, Bhopal
10. Regional Centre, Kakinada
11. Centre for Flood Management Studies, Guwahati
12. Centre for Flood Management Studies, Patna

APPROVED WORK PROGRAMME FOR THE YEAR 2017-18

**ENVIRONMENTAL HYDROLOGY DIVISION
Work Programme 2017-18**

S.N.	Title of the Project	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1.	Development of Habitat Suitability Curves for the Aquatic Species of Western Himalayan Streams	Pradeep Kumar (PI) C. K. Jain	2 Years (04/16-03/18)	NIH
II. Sponsored Projects (Ongoing)				
1.	Ionic Enrichment Dynamics of Glacial Sediment and Melt water of Gangotri Glacier	M. K. Sharma (PI) C. K. Jain Renoj Thayyan Manohar Arora Naresh Saini Jatin Malhotra Rakesh Goyal Shyam Lal	3 Years (05/14-05/17)	DST (Rs 32.8 lakh)
2.	Environmental Assessment of Aquatic Ecosystem of Upper Ganga Basin	C. K. Jain (PI) Manohar Arora M. K. Sharma Pradeep Kumar D. S. Malik (GKU)	5 Years (04/16-03/21)	DST (Under NMSHE) (Rs 2.25 crore)

**GROUND WATER HYDROLOGY DIVISION
Work Programme 2017-18**

S. N.	Title of the project	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1.	Management of Water Resources for Quantity and Quality in Yamuna-Hindon Inter-basin	Anupma Sharma (PI), N.C. Ghosh (Coordinator), Deepak Kashyap, IITR (Technical Consultant) M K Sharma, R.P. Singh, Sumant Kumar, Shashi P. Indwar	3 years (12/14– 11/17)	NIH
2.	Groundwater fluctuations and conductivity monitoring in Punjab.	Gopal Krishan (PI), N.C. Ghosh, Surjeet Singh, C.P. Kumar Dan Lapworth (PI from UK) Alan MacDonald (Proj. Coord.)	2 year (01/16– 12/17)	NIH
3.	Web Enabled “Conjunctive Use Model for Management of Surface and Ground Water using concept of MAR and ASR”.	Suman Gurjar (PI), N.C. Ghosh, Sumant Kumar, Surjeet Singh, Anupma Sharma	1.5 Years (04/16– 09/17)	NIH
II. Internal Studies (New)				
1.	Feasibility of Managed Aquifer Recharge in NCT,	NIH-Roorkee (Lead) CGWB, New Delhi	6 months (2/17-7/17)	MoWR, RD & GR (under

	Delhi			Plan Fund)
III. Sponsored Projects (Ongoing)				
1.	Peya Jal Suraksha - Development of Six Pilot Riverbank Filtration Demonstrating Schemes in Different Hydrogeological Settings for Sustainable Drinking Water Supply.	N.C. Ghosh (Project Coord. & Leader) C.P. Kumar, B. Chakraborty, Y.R.S. Rao, Anupma Sharma, Surjeet Singh, Sumant Kumar, Suman Gurjar, S.P. Indwar, R.P. Singh, Anju Choudhury, Sanjay Mittal, Ram Chandar, Staff SW Lab	3 year (11/15 – 4/18)	MoWR, RD & GR (under Plan Fund) (Rs. 375 lakh)
2.	Study of river - aquifer interactions and groundwater potential in the upper Ganga basin up to Dabrani.	Surjeet Singh (PI), N.C. Ghosh, R. J. Thayyen, S. P. Rai, Manohar Arora, Gopal Krishan,	5 year (03/16– 02/21)	DST (under NMSHE) (Rs. 125 lakh)
3.	<i>Country-wide Capacity Building Program on “Bank Filtration for Sustainable Drinking Water Supply”</i>	N. C. Ghosh, Lead Other Scientists of the division	2 years (02/16– 03/18)	DST (Rs. 38.4 lakh)
IV. Sponsored Projects (New)				
1.	Grey Water to Blue Water – Natural Treatment Techniques for Transforming Wastewater into Sustainable Useable Water	N.C. Ghosh (Project Leader), Anupma Sharma, Surjeet Singh, Sumant Kumar, Suman Gurjar, Anju Choudhury, Sanjay Mittal, Ram Chandar, Staff SW Lab - IIT Bombay (Partner) -UJS (Partner)	3 years (11/16- 10/19)	MoWR, RD & GR (under NWM) (Rs. 160.785 lakh)

HYDROLOGICAL INVESTIGATIONS DIVISION
Work Programme 2017-2018

S.N.	Title of the Project	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1.	Interaction between groundwater and seawater along the northern part of east coast of India	M. S. Rao (PI), Sudhir Kumar Pankaj Garg	2 years (08/15 - 03/18)	NIH
2	Lake-Groundwater Interaction Studies for Sukhna Lake, Chandigarh	S.D Khobragade (PI); Sudhir Kumar; S. P. Rai, Senthil Kumar; Pankaj Garg	3 years (04/15 – 03/18)	NIH
3	Radiocarbon dating of deeper groundwater of Indo-Gangetic Basin	M. S. Rao (PI) Sudhir Kumar	3 years (04/16 – 03/19)	NIH
4	Isotopic Investigations in parts of Upper Yamuna River Basin	S. K. Verma (PI), Sudhir Kumar, S P Rai, Mohar Singh, Vishal Gupta	2 years (04/16 – 03/18)	NIH
II. Sponsored Projects (Ongoing)				
1.	Understanding of hydrological processes in Upper Ganga basin by using isotopic techniques	S. P. Rai (PI); Sudhir Kumar; Rajesh Singh; M. Arora; Dr. R. J. Thayyen; Er. S. K. Verma	5 Years <i>04/16-03/21</i>	DST (Subproject No. 9 under NMSHE, 191.08 lakh)
2.	Dating vary old groundwaters of deeper aquifers in Ganga Plains, India	MS Rao, Sudhir Kumar S. P. Rai Suhas Khobragade	3 years <i>10/16 to 09/20</i>	IAEA Vienna (€ 18,000/-)
3	Rejuvenation of Springs and Spring-fed Streams in Mid-Himalayan Basin using Spring Sanctuary concept	Sudhir Kumar SP Rai	3 Years (04/16 -03/19)	Project with GBPIHE (15 lakhs)

SURFACE WATER HYDROLOGY DIVISION
Work Programme 2017-2018

S. N.	Title of The Project	Team	Duration	Funding
I. Internal studies (Ongoing)				
1.	Generalization and parameter estimation of GEV distribution for flood analysis: Specific application on Indian data	Sushil K. Singh (PI)	1 year (04/16 - 09/17)	NIH
2.	Application and development of analytical models on data collected at NIH under Saph-Pani Project	Sushil K. Singh (PI)	3 years (04/16 - 03/19)	NIH
3.	Study of Rainfall Patterns and Comparison of Rainfall Data from different Sources for Uttarakhand State	Archana Sarkar (PI) Vaibhav Garg (IITR) Rakesh Kumar N.K. Bhatnagar	3 years (04/14 - 09/17)	NIH
4.	Snowmelt Runoff Modelling and Study of the Impact of Climate Change in Sharda River Basin	Achana Sarkar (PI) T. Thomas Vaibhav Garg (IITR)	3 years (04/15 - 03/18)	NIH
5.	Monitoring and modelling of streamflow for the Gangotri Glacier	Manohar Arora (PI) Rakesh Kumar	4years (05/14 - 03/18)	NIH
6.	Study on effect of climate change on sediment yield to Pong reservoir	A. R. Senthil Kumar (PI) J. V. Tyagi Avinash Agarwal Suhas Khobragade Manohar Arora	3 years (04/15 - 03/18)	NIH
7.	Effect of climate change on evaporation at point scale	Digambar Singh (PI) A. R. Senthil kumar Manohar Arora	3years (06/14 - 10/17)	NIH
8.	Flood and Sediment studies in Himalayan basin using MIKE-11 Model	A.K. Lohani (PI)	3 years (04/15 - 03/18)	NIH
9.	Snow cover variability in the Upper Yamnotri Basin	Naresh Kumar (PI) Manohar Arora Rakesh Kumar	2 years (04/16 - 06/18)	NIH
II. Internal studies (New)				
1.	Development and regionalization of unit hydrograph for runoff modeling on Indian catchments.	S.K. Singh (PI)	1 year (04/17 - 03/18)	NIH
2.	Development of regional relationships for water availability analysis and flood estimation for lower Godavari basin (3f).	Sanjay Kumar (PI) Rakesh Kumar J. P Patra Pankaj Mani	4 years (04/17 - 03/21)	NIH
3.	An integrated assessment of a middle Himalayan watershed for sustainability of its water resources.	A. R. Senthil Kumar (PI) Manohar Arora, Digambar Singh, M S Rao, R K Nema, Pradeep Kumar, S K Mishra (IITR)	3 years (04/17 - 03/20)	NIH

4.	Development of regional methods for design flood estimation in Uttarakhand.	J.P.Patra (PI) Rakesh Kumar Pankaj Mani Sanjay Kumar	3 years (04/17 - 03/20)	NIH
III. Sponsored Projects (Ongoing)				
1.	Hydrological modelling in Bhagirathi basin up to Tehri dam and assessment of climate change impact.	A. R. Senthil kumar (PI) J. V. Tyagi, M. K. Goel, S. D. Khobragade, P. C. Nayak, Manohar Arora, Digambar Singh.	5 Years 03/16 - 03/21	DST (under NMSHE) 58.256 Lakh
2.	Effect of Changing Global Tropospheric Temperature on Asia-Pacific Monsoon Circulation and Rainfall Fields across India.	Ashwini Ranade (PI)	3 years (04/14 - 11/17)	DST 12.6 Lakh
3.	WaterRain-Him: Change in water fluxes and adaptation options in the Indian-Himalayan fed basins.	<u>NIH Team:</u> Archana Sarkar (PI) Director, NIH Sanjay K. Jain <u>Other Collaborators:</u> 1. SMHI, Sweden (Lead) 2. SEI, Sweden 3. IIT Delhi, India	3 years (2015-17)	Swedish Research Council (VR), Sweden NIH budget: SEK 188,000
4.	Modeling of Gangotri Glacier Melt Runoff and Simulation of Streamflow Variation under different Climatic Scenarios.	Manohar Arora (PI)	4 years (04/14- 03/18)	DST 47 Lakh
5.	Hydrological modeling in Alaknanda basin and assessment of climate change impact.	A. K. Lohani (PI) S. K. Jain V. S. Jaikanthan L. N. Thakral	5 Years 03/16 - 03/21	DST (under NMSHE) 42.296 Lakh
IV. Sponsored Projects (New)				
1.	GLORIOUS Copernicus Climate Change Service (C3S). ITT Ref.: C3S_422, Lot 1	<u>NIH Team:</u> Archana Sarkar (PI) Surjeet Singh, T. Thomas <u>Other Collaborators:</u> (i) SMHI, Sweden (Lead) (ii) WU, The Netherlands (iii) CAS, The Netherlands (iv) HZG-GERICS, Germany (v) isardSAT Group, Spain (vi) AGRHYMET, Niger (vii) Australian Bureau of Meteorology (BOM) (viii) Meteodat, Switzerland (ix) MPI, Russia (x) NAWAPI, Vietnam (xi) NCWQR, USA	18 months 09/17 –02/18	European Centre for Medium Range Weather Forecast (ECMWF), UK NIH budget: Euros 24,920

WATER RESOURCES SYSTEM DIVISION
Work Programme 2017-18

S.N.	Title of the Project	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1.	NIH_Basin – A WINDOWS based model for water resources assessment in a river basin	M. K. Goel (PI) Sharad K. Jain Deepa Chalisgaonkar P. K. Mishra	3 years (04/13-12/17)	NIH (16 lakh)
2.	Catchment scale evaluation of cold-arid cryospheric system Hydrology, Ganglass catchment, Ladakh	Renoj J. Thayyen (PI) S. P. Rai, Sanjay K Jain, Sudhir Kumar	3 years (04/14-03/18)	NIH (48 lakh)
3.	Hydrologic Modelling of a part of Satluj Basin using SWAT Model	P. K. Agarwal(PI) Sharad K. Jain, M. K. Goel, Sanjay K. Jain, M. K. Nema	4 years (06/14-03/18)	NIH (23 lakh)
4.	Decision Support System for Water Resources Planning in Upper Bhima basin, Maharashtra	D. S. Rathore (PI) M. K. Goel, R.P. Pandey, Sanjay Kumar, Surjeet Singh	2 years (07/14-12/17)	NIH (34 lakh)
5.	Modeling of Narmada basin by using the GWAVA model	T. Thomas (RC-Bhopal)(PI) P. K. Mishra, M. K. Nema, Sanjay K. Jain, Sharad K. Jain, P. K. Agarwal	2.25 years (12/14-03/18)	NIH
6.	Runoff modeling of Shyok River, Karakorum Range	Renoj J.Thayyen(PI) Sanjay K.Jain	3 years (12/14-12/17)	NIH (38 lakh)
7.	Hydrological process and characterization of Lesser Himalayan Catchments	M. K. Nema (PI) Sharad K. Jain, Sanjay K. Jain, Renoj J.Thayyen, P. K. Mishra, P. K. Agarwal	5 Years (12/14-12/19)	NIH (90.55)
8.	Development of Ganga Information Portal	Deepa Chalisgaonkar (PI) Sharad K. Jain, D. S. Rathore, Sanjay K. Jain, Sudhir Kumar, P. K. Mishra, P. K. Agarwal, M. K. Nema	3 years (04/15-03/18)	MoWR (under NIH Plan funds) (65.55 lakh)
9.	Study of hydrological changes in selected watersheds in view of climate change in India.	L. N. Thakural(PI) D. S. Rathore, Surjeet Singh, Sanjay K. Jain, Sharad K. Jain	3 years (04/15-03/18)	MoWR (under NIH Plan funds) (44.30 lakh)
II. Sponsored Projects (Ongoing)				
1.	Mass and Energy balance of Phuiche and Khardung glaciers, Ladakh range	R.J. Thayyen(PI) Farooq Azam P.G. Jose A.P. Dimri (JNU)	3 years (03/16-02/19)	SERB (65.14 lakh)
2.	Development of a project	M. K. Goel (PI)	5 years	DST (under

	website and hydrological database in Upper Ganga Basin (Sub-project – 1)	M. Arora, A. K. Lohani, D. S. Rathore, Mrs. D. Chalisgaonkar, A. R. S. Kumar, Surjeet Singh, P. Mani, A. Sarkar, M. K. Nema, P. K. Mishra	(01/16-12/20)	NMSHE) (52.15 lakh)
3.	Real-time snow cover information system for Upper Ganga basin (Sub-project – 2)	D. S. Rathore (PI) Mrs. D. Chalisgaonkar V. S. Jeyakanthan L. N. Thakural	5 years (01/16-12/20)	DST (under NMSHE) (48.83 lakh)
4.	Glacial Lakes & Glacial Lake Outburst Flood (GLOF) in Western Himalayan Region (Sub-project – 3)	Sanjay K. Jain (PI) A. K. Lohani Sudhir Kumar P. Thakur (IIRS)	5 years (01/16-12/20)	DST (under NMSHE) (36.79 lakh)
5.	Assessment of downstream impact of Gangotri glacier system at Dabrani and future runoff variations under climate change scenarios (Sub-project – 4)	R. J.Thayyen (PI) Sanjay K. Jain, Sharad K. Jain, S. P. Rai, P. K. Mishra, M. Arora, AP Dimri(JNU)	5 years (01/16-12/20)	DST (under NMSHE) 51.43 (NIH) + 28.29 (JNU)
6.	Observation and modelling of various hydrological processes in a small watershed in Upper Ganga basin (Sub-project – 5)	Sharad K. Jain (PI) Renoj J.Thayyen, Sanjay K. Jain, S. P. Rai, Surjeet Singh, M. K. Nema,P. K. Mishra, P. K. Agarwal, AP Dimri (JNU)	5 years (01/16-12/20)	DST (under NMSHE) (54.07 lakh)
7.	Water Census and Hotspot analysis in selected villages in Upper Ganga basin (Sub-project – 11)	P. K. Mishra(PI) M. K. Nema, R. J. Thayyen, P. K. Sachan	5 years (01/16-12/20)	DST (under NMSHE) (90.99 lakh)
1.	Mass and Energy balance of Phuche and Khardung glaciers, Ladakh range	R.J. Thayyen(PI) Farooq Azam, P.G. Jose, A.P. Dimri (JNU)	3 years (03/16-02/19)	SERB (65.14 lakh)
III. Sponsored Projects (New)				
1.	Dynamics of Himalayan Ecosystem and its impact under changing climate scenario-Western Himalaya	R. J.Thayyen (PI) P. K. Mishra	3 years (03/17-03/20)	MoEF (58.76 lakh)
2.	Sustaining Himalayan Water Resources in a Changing Climate (SusHi-Wat)”	Sanjay K Jain (PI) Sharad K Jain Jointly with IITR	3 Years (01/17-01/20)	MoES (21.202 Lakhs)
3.	Design and development of generic Decision Support System-Hydrology platform for Neeranchal Project	D. S. Rathore (PI) Deepa Chalisgaonkar Jyoti Patil	1 year (04/17-03/18)	DoLR (under NNWP)

RESEARCH MANAGEMENT AND OUTREACH DIVISION (RMOD)
Work Programme 2017-18

SN	Title of Project	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1	Development of IWRM Plan for Ibrahim-Masahi village (Haridwar district) (Ongoing)	Omkar Singh (PI), V C Goyal, Dinesh Kumar	04/13-09/17	NIH
II. Sponsored Projects (Ongoing)				
2	Development of IWRM Plan for identified watersheds in Jhansi, Lalitpur and Chhatarpur districts (Ongoing)	NIH: V C Goyal (PI), Jyoti Patil MPCST: Sandeep Goyal, Rajesh Saxena UP-RSAC: Rajiva Mohan, Sudhakar Shukla	04/16- 03/18	MoWR, RD & GR (under NIH Plan funds)
III. Sponsored Projects (New)				
3	Rejuvenation of village ponds for identified villages in Muzaffarnagar and Meerut districts	V C Goyal (PI), Dinesh Kumar, Omkar Singh, Digamber Singh	04/17- 03/20	MoWR, RD & GR (Rs 830 lakh)
4	Vulnerability assessment of identified watersheds in Neeranchal Project States	Jyoti P Patil + RCs	07/17- 06/19	DoLR (under NNWP)

REGIONAL CENTRE, BELGAUM
Work Programme 2017-2018

S.N.	Title of the Project	Team	Duration	Funding
I. Internal Studies (New)				
1	Climate Change Adaptation Framework for Water Resources Management for Malaprabha River Basin in Karnataka	B Venkatesh, (PI) MK Jose, PC Nayak, T Thomas & Sc. HRRC B Venkatesh, (PI) PC Nayat, T Thomas, & Sc. of HRRC (In association with WRDO, Govt. Karnataka)	3 years (4/17-3/20)	NHP
2	Sustainability of Spring flows in parts of Western Ghats, India	BK Purandara (PI) & Sc. HRRC, (In association with WRDO, Govt. Karnataka)	3 years (4/17-3/20)	NHP
3	Water balance estimation in selected watersheds of Amaravati and Ahmednagar districts of Maharashtra	Chandramohan T (PI) M.K. Jose Venkatesh.B	One year (2017-18)	DoLR (NNWP)

4	Water balance estimation in selected watersheds of Nalgonda and Mehboob nagar districts of Telangana	M.K. Jose (PI) Chandramohan T Venkatesh.B	One year (2017-18)	DoLR (NNWP)
II. Sponsored Projects (Ongoing)				
1.	Clean and safe drinking water supply to rural community using river bank filtration techniques in hard rock regions of Krishna basin, Karnataka, India.	BK Purandara (PI), Sudhir Kumar, Sc G	3 years (4/16- 3/19)	DST (95 lakhs)

**REGIONAL CENTRE, JAMMU
Work Programme 2017-18**

S. N.	Title of Study	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1.	PBS: Integrated Water Resources Management (IWRM) Study in Tawi River Basin, JK	P Kumar (PI) S S Rawat	05 years (04/12-8/17)	NIH
2.	Hydrological Investigation of Natural Water Springs of Baan Ganga watershed in Jammu & Kashmir State	S S Rawat (PI) P Kumar S P Rai R V Kale	03 years (05/15-03/18)	NIH
II. Internal Studies (New)				
1.	Performance evaluation of 2D-VPMM and 2D-explicit schemes for two-dimensional overland flow simulation.	R V Kale (PI) M K Goel	1.5 years (04/17 - 08/18)	NIH

**REGIONAL CENTRE, BHOPAL
Work Programme 2017-18**

S.N.	Title of the Project	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1.	Development of DSS for Bina river basin in Bundelkand region in M.P. using WEAP Model (under PBS)	T.R. Nayak (PI) R.V. Galkate T.Thomas R.K. Jaiswal Shashi P. Indwar	2 ¼ Years (04/15-07/17)	NIH
2.	Surface and ground water modeling for conjunctive use (under Pilot Basin Studies)	T.R. Nayak (PI) R.V. Galkate T.Thomas R.K. Jaiswal Shashi P. Indwar	2 ¼ Years (04/14-07/17)	NIH
3	Estimation of revised capacities of reservoirs in Chhattisgarh state using Digital Image Processing technique	R.K. Jaiswal (PI) R.V. Galkate T.Thomas R.K. Jaiswal Shashi P. Indwar	2 ¼ Years 04/15-09/17	NIH

4	Groundwater flow modeling in upper Bina river watershed in Bina block	S.P. Indwar (PI) R.V. Galkate T.Thomas R.K. Jaiswal Shashi P. Indwar	1 ½ Years 10/16-09/17	NIH
II. Sponsored Projects (Ongoing)				
1	IWRM based Development Plan for Water Security in the Four Districts of Bundelkhand Region in India	V. C. Goyal (PI) Omkar Singh T. R. Nayak T. Thomas R. V. Galkate R. K. Jaswal Jyoti Patil	1¼ Years 07/16 – 09/17	MoWR, RD, GR (under NIH Plan funds) Rs. 300 lakhs
III. Sponsored Projects (New)				
1	Water balance estimation in identified watersheds of Jashpur and Kanker districts of Chhattisgarh	T.R. Nayak (PI)	3 Years (04/17-03/20)	DoLR (under NNWP)
2	Water balance estimation in identified watersheds of Dewas and Jabalpur districts of Madhya Pradesh	R.V. Galkate (PI)	3 Years (04/17-03/20)	DoLR (under NNWP)
3	Water balance estimation in identified watersheds of Kuchch and Surendra Nagar districts of Gujarat	T.Thomas (PI)	3 Years (04/17-03/20)	DoLR (under NNWP)
4	Water balance estimation in identified watersheds of Jodhpur and Udaipur districts of Rajasthan	R.K. Jaiswal (PI)	3 Years (04/17-03/20)	DoLR (under NNWP)
5	Revival of Village Ponds through Scientific Interventions in Sagar District	T. Thomas (PI) Jyoti Patil Sandeep Goyal (MPCST) V. K. Bhatt (WALMI)	2 Years (07/17-06/19)	DST Rs. 28.82 lakhs
6	Evaluation of impacts of Rabi irrigation in Ganga river sub basin of Madhya Pradesh	R.V. Galkate, (PI) R.K. Jaiswal, T.R. Nayak, T. Thomas, Shashi P. Indwar,	3 years	PDS (under NHP) (Rs. 41.5 Lakh)

REGIONAL CENTRE, KAKINADA
Work Programme 2017 – 2018

S.N.	Title of the Project	Team	Duration	Funding
I. Internal Studies (New)				
1	Hydrological Evaluation and Modeling for Water Resources Management in Lower Mahanadi basin in Odisha State	P. C. Nayak (PI) Sharad Jain, N.C. Ghosh, J. V. Tyagi, Y. R. Satyaji Rao, S. V. Vijayakumar B. Venkatesh V. S. Jeyakanthan T. Thomas R. Venkatramana, Prabhash Mishra	5 years (08/17-07/22)	NHP PDS (Rs.2.44 crore)
II. Sponsored Projects (Ongoing)				
1.	Water balance estimation in identified watersheds of Anantpur and Chittoor districts of Andhra Pradesh	Y. R. Satyaji Rao V.S.Jeyakanthan R. Venkata Ramana	18 months (03/17-08/18)	DoLR (under NNWP)
2.	Water balance estimation in identified watersheds of Mayurbhanj and Kandhmal districts of Odisha	Y. R. Satyaji Rao V.S.Jeyakanthan R. Venkata Ramana	18 months (03/17-08/18)	DoLR (under NNWP)
3.	Real-time snow cover information system	V. S. Jeyakanthan	05 Years (2016-2021)	DST (under NMSHE)
4.	Hydrological modeling in Alaknanda basin and assessment of climate change impact	V. S. Jeyakanthan	05 Years (2016-2021)	DST (under NMSHE)

CFMS, GUWAHATI
Work Programme 2017-18

S.N.	Title of the Project	Team	Duration	Funding
I Internal Studies (Ongoing)				
1.	Application of USLE Model for Estimation of Soil Loss in Kuls River Basin using Remote Sensing and Geographic Information System	Gulshan Tirkey (PI) S. K. Sharma	1 year (04/16-03/17) Extended for 2017-18	NIH
II Internal Studies (New)				
1.	Evaluation of Ground Water Quality with more Emphasis on Arsenic Contamination in Barpeta District of Assam	C. K. Jain (PI) S. K. Sharma Babita Sharma	1 year (04/17-03/18)	NIH
2.	Evaluation of Ground Water Quality in Shillong– the Capital City of Meghalaya	C. K. Jain (PI) M. B. Ritshong (SE, WRD, Meghalaya) S. K. Sharma Babita Sharma	1 year (04/17-03/18)	NIH

3.	Distribution and Risk Assessment of Heavy Metal Pollution in Surface Soils of Guwahati (Assam)	C. K. Jain (PI) S. K. Sharma Upma Vats	1 year (04/17-03/18)	NIH
4.	Estimation of Runoff for Kulsī River Basin using NRCS Curve Number and Geographic Information System	S. K. Sharma (PI) Gulshan Tirkey	2 years (04/17-03/19)	NIH
5.	Morphometric Analysis of Kulsī Basin using different Digital Elevation Models (DEMs)	Gulshan Tirkey (PI) S. K. Sharma	1 year (04/17-03/18)	NIH

CFMS, PATNA
Work Programme 2017-18

S.N.	Title of the Project	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1.	Development of Relationships between Reference Evapotranspiration (ET _o) of Penman-Monteith and other Climatological methods	S.R. Kumar (PI)	3 years (04/16-03/19)	NIH
II. Sponsored Projects (Ongoing)				
1.	Demonstration scheme on Riverbank Filtration in Gangetic plain of Bihar	B. Chakravorty (PI) N. G. Pandey	2 years (02/16-02/18)	MoWR (under NIH Plan funds),
2.	River shifting analysis and flow modelling study of Ganga river from Rishikesh to Anupshahar	Pankaj Mani (PI) Rakesh Kumar, J. P. Patra	3 years (04/16-03/19)	MoWR (under NIH Plan funds),
III. Sponsored Projects (New)				
1.	Water balance estimation in identified watersheds of Ranchi and Dhanbad districts of Jharkhand	B. Chakravorty (PI) N. G. Pandey	2 Years (04/17-03/19)	DoLR (under NNWP)

The list of research papers published by the scientists and scientific staff of the Institute during August, 2017 – March 2018 is given in **Appendix 71.4.2 [Page # 312 (Vol.-II)]**. The list of workshops/training courses/seminar/symposia organized during August, 2017 – March 2018 is given in **Appendix 71.4.3 [Page # 332 (Vol.-II)]**. The progress of laboratory work done during August, 2017 – March 2018 is given in **Appendix 71.4.4 [Page # 335 (Vol.-II)]**.

Various activities carried out under Information, Education and Communications (IEC) programme, to create mass awareness among the people regarding water conservation, harvesting, quality of water, etc., is given in **Appendix 71.4.5 [Page # 339(Vol.-II)]**.

The TAC may please consider the progress and status of the Work Programme of the Divisions and RC/CFMS of NIH for the year 2017-18.

ITEM # 71.5: Report the proceedings of the Working Group meeting

The 46th meeting of the Working Group of NIH was held at NIH, Roorkee, during Feb. 8-9, 2018, under the Chairmanship of Director, NIH. The Working Group considered the status of the work programme of the year 2017-18 and also the proposed work programme for the year 2018-19 under two categories: (i) internally funded projects, and (ii) sponsored/consultancy projects, including purpose driven projects under HP-II.

The approved minutes of the 46th meeting of the NIH Working Group are given in **Appendix 71.5.1 [Page # 341 (Vol.-II)]**.

The TAC may please note the proceedings of the meeting of the Working Group.

ITEM # 71.6: Work programme for the year 2018-19

The proposed Work Programme of the Divisions at the Headquarters and RC/CFMS of the Institute for the year 2018-19 is given in the tables below.

1. Environmental Hydrology Division
2. Ground Water Hydrology Division
3. Hydrological Investigation Division
4. Surface Water Hydrology Division
5. Water Resources System Division
6. Research Management & Outreach Division
7. Regional Centre, Belgaum
8. Regional Centre, Jammu
9. Regional Centre, Bhopal
10. Regional Centre, Kakinada
11. Centre for Flood Management Studies, Guwahati
12. Centre for Flood Management Studies, Patna

ENVIRONMENTAL HYDROLOGY DIVISION WORK PROGRAMME FOR 2018-19

S.No.	Study	Study Team	Duration / Status
Internal Studies (Cont.)			
1.	Development of Habitat Suitability Curves for the Aquatic Species of Western Himalayan Streams and Assessment of Environmental Flows	Pradeep Kumar (PI) C. K. Jain	3 Years (04/16-03/20)
Sponsored Projects (Cont.)			
2.	Environmental Assessment of Aquatic Ecosystem of Upper Ganga Basin	C. K. Jain (PI), NIH Manohar Arora, NIH	5 Years (04/16-03/21)

		M. K. Sharma, NIH Pradeep Kumar, NIH D. S. Malik, GKU	Sponsored by: DST Project Cost: 2.25 Crore Status: In-progress
3.	Ground Water Quality Assessment with Special Reference to Sulphate Contamination in Bemetara District of Chhattisgarh State and Ameliorative Measures	M. K. Sharma (PI) C. K. Jain Surjeet Singh Pradeep Kumar Partner: WRD, Raipur A. K. Shukla Ashok Verma P. C. Das	3 Years (09/17-08/19) Sponsored by: NHP- PDS Project Cost: 25.4 Lakh Status: In-progress
4.	Water Quality Assessment of Southwest Punjab Emphasizing Carcinogenic Contaminants and their Possible Remedial Measures	Rajesh Singh (PI) M. K. Sharma Sumant Kumar Pradeep Kumar Partner: Irrigation Department, Punjab	3 Years (09/17-08/20) Sponsored by: NHP- PDS Project Cost: 65.6 Lakh Status: In-progress
Consultancy Projects (ongoing)			
5.	Study on Ash Disposal from Telangana STPP into Mine Void of Medapalli Open Cast Mines	C. K. Jain (PI) Sudhir Kumar Y. R. S. Rao S. D. Khobragade Anupma Sharma M. K. Sharma Pradeep Kumar	15 Months (04/16-06/17) Sponsored by: NTPC Amount Rs. 54.kh Lacs Status: Final Draft Report submitted and comments awaited.
6.	Downstream Impacts of Water Withdrawal by TTPS from Brahmani River	Pradeep Kumar (PI) C. K. Jain M. K. Sharma	6 Months (02/18-07/18) Sponsored by NTPC Amount: 20 Lakh. Status: In-progress

Note: The study on Environmental Assessment of Village Ponds in Uttarakhand and Western UP has been dropped from EHD and merged with RMOD with Dr. Rajesh Singh, Sc. 'C' as one of the members of the study group.

**GROUND WATER HYDROLOGY DIVISION
WORK PROGRAM FOR 2018-19**

S. No.	Project	Project Team	Duration & Status	Funding Source
1. NIH/GWD/NIH/ 15-19	Peya Jal Suraksha - Development of Six Pilot Riverbank Filtration Demonstrating Schemes in Different Hydrogeological Settings for Sustainable Drinking Water Supply.	N.C. Ghosh (Project Lead), B. Chakraborty, Y.R.S. Rao, Anupma Sharma, Surjeet Singh, Sumant Kumar, Gopal Krishan, Suman Gurjar, Anju Choudhury, Sanjay Mittal, Ram Chandar, Staff of SW Lab	21/2 year (11/15 – 4/18) Status: Continuing study. Extended upto 04/2019	Sponsored by MoWR, RD & GR under Plan Fund.

2. NIH/GWD/BGS/ 16-20	Ground water fluctuation and conductivity monitoring in Punjab- New evidence of groundwater dynamics in Punjab from high frequency groundwater level and salinity measurements	From : NIH, Roorkee Gopal Krishna, (PI), Surjeet Singh, C. P. Kumar, N.C Ghosh From : BGS, UK Dr. Dan Lapworth (PI) Prof. Alan MacDonald (project coordinator)	03 Years (01/16-11/20) Status: Continuing study.	Sponsored by BGS, UK
3.NIH/GWD/NM SHE/16-20	Study of river - aquifer interactions and ground water potential at selected sites in the upper Ganga basin up to Dabrani.	Surjeet Singh (PI), N.C. Ghosh, R. J. Thayyen, Manohar Arora, Gopal Krishan,	1 year (01/16 – 12/20) Status: Continuing study	Sponsored by DST under NMSHE SP-8.
4. NIH/GWD/NIH/ 16-19	Grey Water to Blue Water –Natural Treatment Techniques for Trans-forming Wastewater into Sustainable Useable Water	N.C. Ghosh (Project Leader), Anupma Sharma, Surjeet Singh, Sumant Kumar, Suman Gurjar, Anju Chaudhury, Sanjay Mittal, Ram Chandar	3 years (11/16-10/19) Status: Continuing study (progress in hold)	Sponsored by NWM, MoWR, RD & GR
5.NIH/GWD/DS T/18-20	Future Secular Changes and Remediation of Groundwater Arsenic in the Ganga River Basin- FAR GANGA	NIH-Team: N. C. Ghosh (Indian Lead) Surjeet Singh; Sumant Kumar; Gopal Krishan; Suman Gurjar Other Indian partners: IIT Rke; IIT Khg; & Mahavir Cancer Sansthan, Patna. UK- Partners: Prof. David Polya – UK lead; Univ. of Manchester; BGS; Salford University; Univ. of Birmingham.	3 years (01/18 – 12/20) Status : New Study.	DST-Newton Bhabha-NERC- India-UK Water Quality Research Programme.
6.NIH/GWD/DS T/18-20	Impact of Rainwater Harvesting on Groundwater Quality in India with Specific reference to Fluoride and Micro-pollutants.	NIH-Team: Anupma Sharma (Indian Lead); Sumant Kumar; Gopal Krishan; Suman Gurjar and M. K. Sharma Other Indian partners: IIT Ropar & IIT Jodhpur. UK Partner: Cranfield Univ. Alison Parker – UK Lead; Cranfield University Pablo Campo Moreno, School of Water, Energy and	3 years (01/18 – 12/20) Status: New Study.	DST-Newton Bhabha-NERC- India-UK Water Quality Research Programme.

		Environment; Cranfield University		
7. NIH/GWHD/P DS/18-21	Ganges Aquifer Management in the context of Monsoon Runoff conservation for sustainable River Ecosystem Services- A Pilot study	Surjeet Singh, (PI), N.C Ghosh, Sudhir Kumar, C. P Kumar, Suman Gujar, Gopal Krishan	04 Years (02/18-02/21) Status: New Study	Sponsored by NHP under PDS
8. NIH/GWHD/P DS/18-20	Assessment of impacts of groundwater salinity on regional groundwater resources, current and future situation in Mewat, Haryana – possible remedy and resilience building measures	NIH, Roorkee, India Gopal Krishan (PI), N. C. Ghosh, Surjeet Singh, C.P. Kumar. Haryana Irrigation Department Consultants IIT-Roorkee Brijesh Yadav (PI) Sehgal Foundation, Gurgaon Lalit Mohan Sharma	03 years (01/18 12/20) Status : New Study.	Sponsored by NHP under PDS
9. NIH/GWHD/P DS/18-20	Hydro-geochemical Evolution and Arsenic Occurrence in Aquifer of Central Ganges Basin	Sumant Kumar (PI), N.C. Ghosh, Sudhir Kumar, Rajesh Singh, Gopal Krishan, Anju Chaudhary, Ram Chandar	03 years (01/18 12/20) Status : New Study	Sponsored by NHP under PDS
10.NIH/GWD/P DS/18-20	Integrated Management of Water Resources for Quantity and Quality in Upper Yamuna Basin upto Delhi.	NIH Team: Dr. Anupma Sharma (Lead)	05 years (02/18-01/23) Status: New Study	Special Project under “Centre of Excellence”
11. NIH/GWD/NIH/ 18-19	Application for Conjunctive use management of Surface Water and Ground Water in Saryu Nahar Pariyojana, U.P.	Suman Gurjar (PI), Jyoti P. Patil (Co-PI), N.C. Ghosh, Sumant Kumar, Anupma Sharma, Surjeet Singh	1 year (04/18-03/19) Status: New Study	NIH Internal Study

**HYDROLOGICAL INVESTIGATIONS DIVISION
WORK PROGRAMME FOR 2018-19**

SN.	Project Title	Duration	Remarks
<u>INTERNAL STUDIES:</u>			
1.	Radiocarbon dating of deeper groundwater of Indo-Gangetic Basin	3 years (04/16 – 03/19)	Continuing Study
<u>SPONSORED PROJECTS:</u>			
1.	Understanding of hydrological processes in Upper Ganga basin by using isotopic techniques	5 Years (04/16-03/21)	NMSHE Project

2.	Rejuvenation of Springs and Spring-fed Streams in Mid-Himalayan Basin using Spring Sanctuary concept	3 Years (06/16 -05/19)	Project with GBPIHE
3.	Dating very old ground waters of deeper aquifers in Ganga Plains, India	3 Years (06/16 -05/19)	IAEA under CRP
4.	Integrated Study on groundwater dynamics in the coastal aquifers of West Bengal for sustainable groundwater management	3 ½ year 18/1)– (21/6)	PDS under NHP
5.	Chemical & Isotopic Characterization of Deep Aquifer Groundwater of Middle Ganga Basin	3 ½ year (1/18 – 6/21)	PDS under NHP
6.	Development of a comprehensive plan for conservation and sustainable management of Bhimtal and Naukuchiatal lakes, Uttarakhand	3 Years 18/1)– (20/12)	PDS under NHP

**SURFACE WATER HYDROLOGY DIVISION
WORK PROGRAM FOR 2017-18**

S.No. & Ref. Code	Title	Study Team	Duration
SPONSORED STUDIES			
1.NIH/SWHD/NIH/15-18	WaterRAIN-Him: Changes in water Resources Adaptation options in Indian-Himalayan basins	Archana Sarkar Sanjay K Jain	Ongoing 3 years (1 Jan 2015 to 31 Mar. 2018) Total Cost: 188000 SEK
2.NIH/SWHD/NIH/14-18	Effect of Changing Global Tropospheric Temperature on Asia-Pacific Monsoon Circulation and Rainfall Fields across India	Ashwini Ranade	Ongoing 3.5 years (Oct. 2014 to May 2018) Total Cost: 12.6 Lac
3.NIH/SWHD/NIH/16-20	Hydrological modeling in Alaknanda basin and assessment of climate change impact	A.K. Lohani Sanjay K. Jain Archana Sarkar V.S. Jeyakanthan L.N. Thakural	Ongoing 5 years (Jan. 2016 to Dec. 2020) Total Cost: 42.296 Lac
INTERNAL STUDIES			
4.NIH/SWHD/NIH/14-18	Study of Rainfall Patterns and Comparison of Rainfall Data from different Sources for Uttarakhand State	Archana Sarkar N.K. Bhatnagar Vaibhav Garg Rakesh Kumar	Ongoing 3 years (April 2014 to Mar. 2018)

5.NIH/SWHD/NIH/15-18	Snowmelt Runoff Modelling and Study of the Impact of Climate Change in Sharda River Basin	Archana Sarkar Vaibhav Garg N.K. Bhatnagar	Ongoing 3 years (April 2015 to March 2018)
6.NIH/SWHD/NIH/15-18	Flood and Sediment studies in Himalayan basin using MIKE-11 Model	A.K. Lohani Sanjay K. Jain	Ongoing 3 years (April 2015 to March 2018)
7.NIH/SWHD/NIH/15-19	Study of Hydrological Changes in selected watersheds in view of climate change in India	L.N. Thakural D.S. Rathore Surjeet Singh Sanjay Kumar Jain Shard Kumar Jain	Ongoing 4 years (April 2015 to March 2019)
8.NIH/SWHD/NIH/16-17	Generalization and parameter estimation of GEV distribution for flood analysis: Specific application on Indian data	Sushil K. Singh	Completed 1 year (April 2016 to Sep. 2017)
9.NIH/SWHD/NIH/16-19	Application and development of analytical models on data collected at NIH under Saph-Pani Project "The study was discontinued by the Working Group"	Sushil K. Singh	Discontinued
10.NIH/SWHD/NIH/16-18	Snow cover variability in the Upper Yamuna Basin	Naresh Kumar Manohar Arora Rakesh Kumar	Ongoing 2 years (April 2016 to June 2018)
11.NIH/SWHD/NIH/17-19	Development and regionalization of unit hydrograph for runoff modeling on Indian catchments	Sushil K. Singh	Ongoing 1 years (April 2017 to March 2019)
12.NIH/SWHD/NIH/17-21	Development of regional relationships for water availability analysis and flood estimation for lower Godavari basin (3f)	Sanjay Kumar Rakesh Kumar J. P. Patra Pankaj Mani	Ongoing 4 years (April 2017 to March 2021)
13.NIH/SWHD/NIH/17-20	Development of regional methods for design flood estimation in Uttarakhand	J.P.Patra Rakesh Kumar Pankaj Mani Sanjay Kumar	Ongoing 3 years (April 2017 to March 2020)

WORK PROGRAM FOR 2018-19

NEW STUDIES (Sponsored)			
14.NIH/SWHD/NIH/17-19	Impact Assessment of Climate Change on Water Resources and Agriculture in Banas basin in Western India using Climate change Indicators(CII's)	Archana Sarkar Surjeet Singh T. Thomas	3 years (Sep. 2017 to Feb. 2019) Total Cost: 24200 Euros
15.NIH/SWHD/NIH/17-20	Water efficient irrigation by using SCADA system for medium irrigation project (MIP) Shahnehar	R.P. Panday J. P. Patra Rajesh Singh	3 years (Dec 2017-Dec 2020)

		N.K. Bhatnagar	Total Cost:75 Lac NIH Component: 15 Lac
NEW STUDIES (Internal)			
16.NIH/SWHD /NIH/18-21	Evaluation of seasonal extreme rain events across river basins of India in 3D global temperature change scenario	Ashwini Ranade Archana Sarkar	3 years (April 2018 to March 2021)

**WATER RESOURCES SYSTEMS DIVISION
WORK PROGRAMME FOR 2018-19**

SN	Title	Study Team	Duration	Funding (Rs. in Lakhs)
Completed Sponsored/ Internal Studies				
1.	NIH_Basin – A WINDOWS based model for water resources assessment in a river basin	M. K. Goel Sharad K. Jain Deepa Chalisgaonkar P. K. Mishra	3 years (04/13- 12/17)	NIH (16)
2.	Hydrologic Modelling of a part of Satluj Basin using SWAT Model	P. K. Agarwal Sharad K. Jain M. K. Goel Sanjay K. Jain M. K. Nema	2 -3/4 years (06/14- 03/18)	NIH (23)
3.	Decision Support System for Water Resources Planning in Upper Bhima basin, Maharashtra	D. S. Rathore M. K. Goel R.P. Pandey Sanjay Kumar Surjeet Singh	2 years (07/14- 12/17)	NIH (34)
4.	Modeling of Narmada basin by using the GWAVA model	T. Thomas (RC-Bhopal) P. K. Mishra M. K. Nema Sanjay K. Jain Sharad K. Jain P. K. Agarwal	2.25 years (12/14- 03/18)	NIH
5.	Development of Ganga Information Portal	Deepa Chalisgaonkar Sharad K. Jain D. S. Rathore Sanjay K. Jain Sudhir Kumar P. K. Mishra P. K. Agarwal M. K. Nema	3 years (04/15- 03/18)	MoWR, RD & GR (65.55)
6.	Modeling of Gangotri Glacier melt runoff and simulation of stream flow variation under different climate scenarios	M. Arora	03/2018	DST
Ongoing Internal Studies				
1.	Catchment scale evaluation of cold-arid cryospheric system Hydrology, Ganglass catchment,	Renoj J. Thayyen S. P. Rai Sanjay K. Jain	3 years (04/14- 03/18)	NIH (48)

	Ladakh	Sudhir Kumar	Up to 09/2018	
2.	Runoff modeling of Shyok River, Karakorum Range	Renoj J.Thayyen Sanjay K.Jain	3 years (12/14- 12/17) Up to 09/2018	NIH (38)
3.	Hydrological process and characterization of Lesser Himalayan Catchments	M. K. Nema Sharad K. Jain Sanjay K. Jain Renoj J.Thayyen P. K. Mishra P. K. Agarwal	5 years (12/14- 12/19)	NIH+
Ongoing Sponsored Studies				
1.	Mass and Energy balance of Phuiche and Khardung glaciers, Ladakh range	R.J. Thayyen Farooq Azam P.G. Jose A.P. Dimri	3 years (03/16- 02/19)	SERB (65.14)
2.	Development of a project website and hydrological database in Upper Ganga Basin (Sub-project – 1)	M. K. Goel M. Arora A. K. Lohani D. S. Rathore D. Chalisgaonkar A. R. S. Kumar Surjeet Singh P. Mani A. Sarkar M. K. Nema P. K. Mishra	5 years (01/16- 12/20)	DST (52.15)
3.	Real-time snow cover information system for Upper Ganga basin (Sub-project – 2)	D. S. Rathore D. Chalisgaonkar V. S. Jeyakanthan L. N. Thakural	5 years (01/16- 12/20)	DST (48.83)
4.	Glacial Lakes & Glacial Lake Outburst Flood (GLOF) in Western Himalayan Region (Sub-project – 3)	Sanjay K. Jain A. K. Lohani Sudhir Kumar P. Thakur (IIRS)	5 years (01/16- 12/20)	DST (36.79)
5.	Assessment of downstream impact of Gangotri glacier system at Dabrani and future runoff variations under climate change scenarios (Sub-project – 4)	Renoj J.Thayyen Sanjay K. Jain Sharad K. Jain S. P. Rai P. K. Mishra M. Arora AP Dimri (JNU)	5 years (01/16- 12/20)	DST 51.43 (NIH) + 28.29 (JNU)
6.	Observation and modelling of various hydrological processes in a small watershed in Upper Ganga basin (Sub-project – 5)	Sharad K. Jain Renoj J.Thayyen Sanjay K. Jain S. P. Rai Surjeet Sing	5 years (01/16- 12/20)	DST (54.07)

		M. K. Nema P. K. Mishra P. K. Agarwal AP Dimri (JNU)		
7.	Water Census and Hotspot analysis in selected villages in Upper Ganga basin (Sub-project – 11)	P. K. Mishra M. K. Nema R. J. Thayyen P. K. Sachan	5 years (01/16-12/20)	DST (90.99)
8.	Dynamics of Himalayan Ecosystem and its impact under changing climate scenario- Western Himalaya	Renoj J.Thayyen P. K. Mishra	3 years (03/17-03/19)	NMHS-MoEF (58.76 lakh)
9.	Measurements and Modeling of Evapotranspiration and other Hydrological Processes in Lesser Himalayas	M K Nema Renoj Thayyen Sharad K. Jain Sanjay K. Jain P. K. Mishra AP Dimri (JNU)	3 years (2016-19)	MOES (Rs. 98 Lakh)
10.	Sustaining Himalayan Water Resources in a Changing Climate (SusHi-Wat)	Sanjay K. Jain (PI) Sharad K. Jain CSP Ojha (PI, IITR)	3 years (2016-2019)	MOES-NERC, Newton-Bhabha project (11.59 Lakh)
11.	Design and development of generic Decision Support System-Hydrology platform for Neeranchal Project	D. S. Rathore Deepa Chalisgaonkar Jyoti Patil	1 year (04/17-03/19)	DoLR (NNWP)
New Sponsored Studies				
1.	Investigating Water Stress using Hydro-meteorological and Remote Sensing data	D. S. Rathore L. N. Thakural Sanjay Kumar B. Venkatesh M. K. Jose T. Chandramohan	3 years 2017-2020	PDS under NHP
2.	Seasonal Characterization of Gangotri Glacier melt runoff and simulation of streamflow variation under different climate scenarios	M. Arora Sanjay K. Jain	3 years 2018-2021	NIH/ DST
3.	Water availability analysis of Subarnarekha basin	M. K. Goel D. S. Rathore P. K. Singh P. K. Mishra	1 year 10/17-09/18	MOWR, RD & GR (10.45)
OTHER SCIENTIFIC ENGAGEMENTS				
1.	Strategic basin planning for Ganga River basin in India	Sharad K. Jain M. K. Goel	-	MoWR, RD & GR
2.	Water resources status and availability of north west Himalayas	Sanjay K. Jain	-	IIRS
3.	Water Accounting Plus (WA+)	P. K. Singh P. K. Mishra	-	MoWR, RD & GR

**RESEARCH MANAGEMENT AND OUTREACH DIVISION (RMOD)
WORK PROGRAMME FOR 2018-19**

SN	Title of Project/Study	Funding	Study Team	Duration	Status
Internal Study					
1	Study on effect of climate change on sediment yield to Pong reservoir	NIH	A R Senthil kumar (PI) J V Tyagi, S D Khobragade	Apr 2015- Sep 2018	Ongoing
2	Effect of climate change on evaporation at point scale	NIH	Digamber Singh (PI) A R Senthil Kumar, Manohar Arora	Jun 2014- Jun 2018	Ongoing
3	Bathymetric survey and water quality monitoring of selected ponds in Bundelkhand region for development of water management plan	NIH	Digamber Singh (PI) Omkar Singh, Subhash Kichlu, N R Allaka	Apr 2018- Mar 2020	New Study (Follow up of Bundelkh and 4- district project)
4	Conservation of ponds in Ibrahimpur- Masahi Village and performance evaluation of natural treatment system	NIH,CEH (UK) & IITR	NIH: Omkar Singh (PI) V C Goyal, Digamber Singh, Subhash Kichlu, NR Allaka IITR: Himanshu Joshi CEH: Laurence Carvalho, Mike Clarke	Apr 2018- Mar 2020	New Study (Follow up of earlier study)
Sponsored Projects					
1	Vulnerability assessment of identified watersheds in Neeranchal Project States	NNWP	Jyoti P Patil (PI) + RCs	Jul 2017- Jun 2019	Ongoing
2	Hydrological modelling in Bhagirathi basin up to Tehri dam and assessment of climate change impact	NMSHE	A R Senthil kumar (PI) J. V. Tyagi, M. K. Goel S. D. Khobragade P. C. Nayak, Manohar Arora	Mar 2016- Mar 2021	Ongoing
3	Rejuvenation of village ponds for identified villages in Muzaffarnagar and Meerut districts	MoWR-funded project	V C Goyal (PI) Omkar Singh, Digamber Singh, Rajesh Singh, Subhash Kichlu, Rakesh Goel	Apr 2017- Mar 2020	Ongoing
4	Development of water allocation plan for a Neeranchal watershed in Chhattisgarh	NNWP	A R Senthil kumar (PI) T R Nayak, Jyoti P Patil Rajesh Agarwal	Apr 2018- Mar 2020	New Study
5	Development of Innovation centre for EcoPrudent Wastewater Solutions	DST	V C Goyal (PI), Jyoti P Patil, Amrendra Bhushan + from NIT Jaipur, IIT Bombay and IRMA Anand	5 Years	New Study (subject to approval)

REGIONAL CENTRE, BELGAUM
Proposed Work Programme For 2018-19

SN	Title of Project/Study	Study Team	Duration	Status
INTERNAL STUDIES				
1	Assessment of Water Resources in Ungauged Catchments of West Flowing Rivers of Karnataka	CMT(PI) & Sc. HRRC	3 years (4/17-3/20)	Internal
2	Climate Change Impact assessment for Jayakwadi Reservoir	BV (PI), and officers from WRD, Govt. Maharashtra)	3 years (01/18-3/21)	Internal
3	Analysis of Spatio-temporal Characteristics of Sediment Carrying Capacity of Rivers of Karnataka State	M K J (PI)	2 Years (4/2018- 3/20)	Internal
SPONSORED PROJECTS				
4	Clean and safe drinking water supply to rural community using river bank filtration techniques in hard rock regions of Krishna basin, Karnataka, India.	BKP (PI) & SK	Apr 2016 – Mar 2019	DST Sponsored
5	Studies on Occurrence, Distribution and Sustainability of Natural Springs for Rural Water Supply in parts of Western Ghats, India	BKP (PI) & Sc. HRRC,	3 years (4/17-3/20)	NHP
6	Hydrological evaluation of existing water conservation/ harvesting structures in selected watersheds of Amravathi and Ahmed Nagar districts, Maharashtra state	CMT (PI)	1 year	NEERANCHAL Proj
7	Water Balance Studies in selected Watersheds of Nalgonda and Mehaboob Nagar Districts of Telangana	M K J (PI)	1 year	NEERANCHAL Proj
8	Impact of Land use/Land cover Changes on Ground water – A Case Study (<i>submitted for sponsorship from MoES, and is approve in principal and sanction letter awaited</i>)	BKP & BV	3 years (April 16-March 19)	MoES
CONSULTANCY				
9	Flood Review in Kali and Sharavathy river basin, Dam Break analysis, inundation mapping and preparation of Emergency Action Plan for Dams in Kali, Sharavathi and Varahi	BV (PI)	2 years	Karnataka Power Corporation Limited, Govt. of Karnataka

river basin			
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REGIONAL CENTRE, JAMMU
Proposed Work Programme For 2018-19

No.	Study	Team	Duration	Status
Internal Studies				
1.	Hydrological Investigation of Natural Water Springs of Baan Ganga watershed in Jammu & Kashmir State	SSRawat P Kumar SP Rai RV Kale*	02 years 11 months (May 2015 to Mar 2018)	Ongoing/ Extension requested for 06months
2.	Performance evaluation of 2D-VPMM and 2D-explicit schemes for two-dimensional overland flow simulation.	RV Kale MK Goel M. Perumal	12 months (Apr 2017 to Mar 2018)	Likely to complete by April 2018
3	Hydrologic and hydraulic modeling for floodplain inundation mapping under future climate change scenarios: A case study of Tawi River, India.	RV Kale MK Goel PG Jose SSRawat R Sharma	03 years (Apr 2018 to Mar 2021)	New proposal
4.	Estimation and Assessment of Hydrological Characteristic of a Western Himalayan river	D Khurana MK Goel PG Jose SSRawat RV Kale	12 months (Apr 2018 to Mar 2019)	New proposal

PDS under National Hydrology Project (NHP)

1.	Web GIS based Spring inventory for vulnerability assessment and hydro-geological investigation of selected springs for sustaining local water demand in Ravi Catchment of Himachal Pradesh”	SSRawat PG Jose SP Rai RV Kale	04 years (Apr 2017 to Mar 2021)	Ongoing PDS under NHP
2.	Study of cryospheric processes in Budhil catchment for water resource management in Ravi Basin [New Study under PDS]	PG Jose SSRawat RV Kale SP Rai RJ Thayyen	03 years (Apr 2018 to Mar 2021)	Yet to start [proposal under review]
3.	Hydrological Modeling study to assess the impact of climate change on the hydrological regime of the Ravi River basin in India [New Study under PDS]	RV Kale AA Ranade PG Jose SS Rawat PC Nayak MK Goel SK Jain	04 years (Apr 2017 to Mar 2021)	Yet to start [proposal under review]

Externally funded Studies				
1.	Integrated Studies of Himalayan Cryosphere using Space Based Inputs (ISHC)	PG Jose RJ Thayyen	02 years Sept 2017 to Sept 2019	Ongoing Funded by SAC/ISRO
2.	Dynamics and associated processes in a Benchmark glacier in Ravi Basin, Himachal Pradesh, NW Himalaya and its Glaciohydrological response to climate variability	A Linda (CUHP) PG Jose P Sharma (NCAOR)	03 years (Apr 2018 to Mar 2021)	Yet to start [proposal under review]
Consultancy Projects				
1.	Establishment of Silt Observation Post (SOP) in the Baglihar HEP catchment	P Kumar PG Jose SSRawat	06 months (Mar 2016 to Oct 2016)	Ongoing/ Extension upto June 2018

REGIONAL CENTRE, BHOPAL
Proposed Work Programme For 2018-19

S.No.	Name of the project	Duration	Status
1.	"Neeranchal Project" (The responsibility of four states, i.e. Chhattisgarh, Madhya Pradesh, Rajasthan and Gujarat)	5 years	Started in May, 2017
2.	Modeling of Tawa Reservoir Catchment and Development of Tawa Reservoir Operation Policy under Climate Change	3 Years	Started in Sept. 2017
3.	Evaluation of impact of Rabi irrigation in Ganga River sub-basin of Madhya Pradesh	3 years	Started in Nov. 2017
4.	Impacts of Upcoming Irrigation Projects and Climate Change on the Droughts and Desertification Scenario for Chambal Basin in Western Madhya Pradesh	4 years	Started in Dec. 2017
5.	Hydrological Modeling for Evaluation of Return Flow and Irrigation Planning for Optimal Utilization of Water Resource in the Command of Thanwar Irrigation Project in Madhya Pradesh.	4 years	Under Process
6.	Rejuvenation of Arpa River in Upper Mahanadi Basin	4 years	Under Process
7*	Modelling of Narmada using GWAVA. (International Collaborative Project with CEH Wallingford, UK)	2 years	Started in April, 2015
8*	Revival of Village Ponds through Scientific Interventions in Sagar District (Sponsored R&D Project by DST New Delhi)	2 years	Started in Sept, 2017
9*	Development of water allocation plan of a Neeranchal watershed in Chhattisgarh	2 years	Apr.2018 to Mar.2020

* Association as Co P.I.

REGIONAL CENTRE, KAKINADA
Proposed Work Programme For 2018-19

S.N.	Title of the Project	Team	Duration (Start date and	Funding
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			End date)	
I. Internal Studies				
1	Sedimentation Study of Hirakud Reservoir, Odisha using Optic and Microwave Remote Sensing Technology	V.S. Jeyakanthan(PI) J.V. Tyagi Y.R. Satyaji Rao S.V. Vijaya Kumar R. Venkata Ramana P.C. Nayak	July 2017- March 2020	Approved by NHP PDS (Rs.51.19 lakhs) (SP-28/2017-18/PDS-3)
2	Groundwater salinity source identification in Godavari delta, Andhra Pradesh	Y R Satyaji Rao(PI) T Vijay JV Tyagi S V Vijaya Kumar V S Jeyakanthan P C Nayak R V Ramana	Dec.,2017- March 2020	Approved by NHP PDS (Rs 61.09 lakhs) (SP-28/2017-2018/PDS-13)
3	Forecasting of Flash flood and Management of East Flowing Rivers of India's sub Zone 4 (A)	R. V. Ramana (PI) Y.R. Satyaji Rao V.S. Jeyakanthan S.V. Vijaya Kumar P.C. Nayak T.Vijaya	Dec.,2017- March 2020	Internal
4	Hydrological Evaluation and Modeling for Water Resources Management in Baitarani basin in Odisha State	Dr. P C Nayak (PI) J.V. Tyagi Y.R. Satyaji Rao S.V. Vijaya Kumar R. Venkata Ramana P.C. Nayak	2018-2023	<i>under</i> NHP PDS Total Cost of Project: Rs 2,43,98,352.00
II. Sponsored Projects (Ongoing)				
1.	Hydrological evaluation of existing water conservation/ harvesting structures in identified IWMP watersheds in Chitturu and Ananthapur district (AP)	Y. R. Satyaji Rao R. Venkata Ramana V.S.Jeyakanthan	April 2017- March 2019	DoLR (under NNWP)
2	Hydrological evaluation of existing water conservation/ harvesting structures in identified IWMP watersheds in Pulbani and Khandamal district (Odisha)	Y. R. Satyaji Rao V.S.Jeyakanthan R. Venkata Ramana	April 2017- March 2019	DoLR (under NNWP)
3	River bank Filtration (RBF) studies in coastal alluvium of Andhra Pradesh	Y R Satyaji Rao (Co-PI) T Vijay	April 2016 - March 2019	Under Peya Jal Suraksha Project

**CFMS, GUWAHATI
Proposed Work Programme For 2018-19**

ONGOING STUDIES (Internal)			
1.NIH/CFMS-G/17-19	Estimation of Runoff for Kushi River Basin using NRCS Curve Number and	S. K. Sharma, GulshanTirke	Ongoing, 1 year (April 2017 to

	Geographic Information System	y G. Arun	to March 2019)
2.NIH/CFMS-G/17-19	Evaluation of Ground Water Quality in Shillong – the Capital City of Meghalaya	C. K. Jain M. B. Ritshong S. K. Sharma Babita Sharma	Ongoing, 1 year (April 2017 to March 2019)
3.NIH/CFMS-G/17-19	Morphometric Analysis of Kulsu Basin using different Digital Elevation Models (DEMs)	GulshanTirke y S. K. Sharma	Ongoing, 1 year (April 2017 to March 2019)
NEW STUDIES (Internal)			
4.NIH/CFMS-G/18-21	Flood Inundation Modelling of Beki River Basin of Assam	S. K. Sharma Rakesh Kumar Pankaj Mani J. P. Patra G. Arun	3years (April 2018 to March 2021) Asked to be done by 3 years.
5.NIH/CFMS-G/18-21	Development of regional methods for design flood estimation for North Brahmaputra Subzone 2 (a)	S. K. Sharma Rakesh Kumar Pankaj Mani J. P. Patra G. Arun	3 years (April 2018 to March 2021)
6.NIH/CFMS-G/18-21	Linear hydrological routing using Satellite precipitation datasets for flood forecasting in parts of Brahmaputra Basin	GulshanTirke y S. K. Sharma Pankaj Mani G. Arun	3 years (April 2018 to March 2021)

**CFMS, PATNA
Work Programme For 2018-19**

S.N.	Title of the Project	Team	Duration	Funding
I. Internal Studies (Ongoing)				
1.	Demonstration scheme on Riverbank Filtration in Gangetic plain of Bihar	B. Chakravorty (PI) N. G. Pandey	3 years (02/16-03/19)	NIH
2.	Development of Relationships between Reference Evapotranspiration (ET _o) of Penman-Monteith and other Climatological methods	S.R. Kumar (PI)	3 years (04/16-03/19)	NIH
3.	River shifting analysis and flow modelling study of Ganga river from Rishikesh to Anupshahar	Pankaj Mani (PI) Rakesh Kumar, J. P. Patra	3 years (04/16-03/19)	NIH
II. Sponsored Projects				
1.	NEERANCHAL watershed	B. Chakravorty (PI)	5 Years	DoLR

project in Jharkhand	N. G. Pandey	(04/17-03/22)	
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ITEM # 71.7: Reporting Items:

LIST OF ON-GOING CONSULTANCY PROJECTS IN NIH

SN	Title of Project	Consultancy No.	Sponsoring Agency	Status
1	Desk Study of Dam Break Analysis for Kudgi STPP, Stage-I	CS-64/2014-15/NIH (SWHD)	NTPC Noida	Ongoing
2	Water Availability Studies for Chulka Lake	CS68-2014-2016/NIH(SWHD)	NPCIL Mumbai	Ongoing
3	Area Drainage Study including hydrological design of site area drainage for chutka lake	CS69-2014-2016/NIH(SWHD)	NPCIL Mumbai	Ongoing
4	Project wise water availability and integrated operation analysis of major projects in Krishna Basin	CS-72/2015-15/NIH(WRSD)	Irrigation & CAD Department, Govt of Andhra Pradesh	Ongoing
5	Water loss study for Pushkar Sarovar, Ajmer	CS-74/ 2015-16/NIH(SWHD)	Executive Engineer NLCP, Pushkar ADA, Ajmer	ongoing
6	Hydro geological study of Gadarwada Super Thermal Power Project of NTPC Ltd.	CS-80/2015-15/NIH(HID)	NTPC Gadarwada	ongoing
7	Preparation of emergency action plan for NSRSSP and inundation map associated with dam break analysis in AP	CS-81/2014-16/NIH (SWHD)	CE, NSRSSP, Hyderabad	Ongoing
8	Hydro-Dynamic flow Analysis in Kuakhai and Kathajodi River System	CS-82/2015-16/NIH (SWHD)	Vishontek Consultancy Services, Bhubneshwar	Ongoing
9	Mathematical model Development for Vishwamitri River System in Vadodara City	CS-83-2015-2017/NIH(SWHD)	Vadodara Mahanagar Sewa Sadan, Vadodara	Ongoing
10	Hydro geological study of Khargone Super Thermal Power Project of NTPC Ltd	CS-86/2015-16/NIH(HID)	NTPC Gadarwada	Ongoing
11	Hydro geological study for Harduaganj, 1x660 MW HTPS Distt Aligarh, UP	CS-87/2015-16/NIH(HID)	UPRVUNL Ltd	Ongoing
12	Hydrological Study for development of Dheerpur and	CS-89/2015-17.NIH(SWHD)	Ambedkar University Delhi	Ongoing

	Rohin campuses of Ambedkar University			
13	Isotopic/Hydro geological investigation of 1x660 MW PTPS Distt Kanpur, UP	CS-90/2015-16/NIH(HID)	UPRVUNL Ltd	Ongoing
14	Establishment of silt conservation post in the Bagalihar HEP catchment	CS-94/2016-17/NIH(Jammu)	Deptt of soil & Water conservation, Narwal, Jammu	Ongoing
15	Hydro-geological investigations in MRM Campus	CS96/2016-17/NIH (Belgaum)	MRPL Mangalore	Ongoing
16	Study on Ash Disposal from Telangana STPP into Mine Void of Medipalli Open Cast Mines	CS-97/2016-17/NIH (EHD)	NTPC Ltd Telangana	Ongoing
17	Hydrological study/ Water Availability Study of Brahmani River at 2x600 MW power station Odissa	CS/99/2016-16/NIH(Kakinada)	LANCO Gurgaon	Ongoing
18	Dam Break Analysis for Dulhasti Dam	CS100/2016-16/NIH(SWHD)	NHPC Ltd	Ongoing
19	Dam Break Analysis fo Dhauliganga Power Station	CS103/2016-17/NIH(SWHD)	NHPC Ltd	Ongoing
20	Infiltration, Percolation test and isotopic analysis of groundwater under mega recharge scheme of groundwater in Tapi Alluvial Basin, Maharashtra	CS-105/2016-17/NIH(HID)	WAPCOS	Ongoing
21	Detail Hydro-geological study of ash pond area, Talcher Super Thermal Power Station (TSTPS), Angul, Orissa	CS-106/2016-17/NIH(HID)	NTPC	Ongoing
22	Infiltration Test and Chemical Analysis of groundwater of Kanpur Nagar Nigam Area	CS-107/2016-17/NIH(HID)	WAPCOS	Ongoing
23	Evaluation of water level networks to identify suitable pizometers for installation of digital water level recorders in districts of North UP	CS/108/2016-16/NIH(GWHD)	UP Ground water deptt Lucknow	Ongoing
24	Carrying Capacity for the basins of Bhagirathi in respect of HE Projects	CS-109/2016-18/NIH(WRSD)	AHEC	Ongoing
25	Carrying Capacity for the basins of Alaknanda in respect of HE Projects	CS-110/2016-18/NIH(WRSD)	AHEC	Ongoing
26	A field based research study for Management Planning of Coastal Wetlands in Gujarat	CS/111/2017-17/NIH(Kakinada)	KPMG Gurgaon	Ongoing
27	Assessment of water availability at the proposed barrage of	CS112/2017-18/NIH(RC Patna)	NWDA Patna	Ongoing

	Sankh-South Loel Link & South Koel-Subernarekha link in Brahmani Basin			
28	Land use planning of Farakka Barrage Project area: Land use mapping	CS-113/2017-18/NIH(WRSD)	Farrakka barrage project MOWR	Ongoing
29	CEIA study for less than 10 MW HEP (Part II) for Satluj basin	CS-114/2017-18/NIH(WRSD)	AHEC, IIT Roorkee	Ongoing
30	Aquifer mapping for Agra Nagar Nigam Area	CS-115/2017-17/NIH(HID)	WAPCOS New Delhi	Ongoing
31	Hydrological Studies of Bokang-Baing HEP on Dhauliganga river Distt Pithoragarh	CS118/2017-17/NIH(WRSD)	THDC Ltd	Ongoing
32	Preparation of Emergency Action Plan for six projects of MP Water Resources Deptt	CS119/2017-18/Bhopal	Bodhi, WRD Bhopal	Ongoing
33	Dam break Analysis for dams in Kali Basin and Flood Review of Kali and Sharavathi Basins	CS-120/2017-18/RC-BE	KPCL Bangalore	ongoing
34	Estimation of Yield for Bembla Project in Maharashtra	CS-121/2017-18/RC-BE	EE, Lower Penganga Division, Yevatmal, Maharashtra	ongoing
35	Preparation of Emergency Action Plan for Three projects of M. P. WRD	CS/122/2017-18/RC-BH	BODHI-WRD Bhopal	Ongoing
36	Technical wetting of Tawi River front Development Project: Hydrology and Hydraulic (Model Study) Report	CS/123/2017-18/RCJ	JDA, Jammu	Ongoing
37	Preparation of DPR for Building Climate Resilience through Participatory GWM in Burhanpur and Ratlam distt of MP	CS/125/2017-18/RC-BH	IPE Global Ltd New Delhi	Ongoing
38	Water Availability and Water Budgeting Study of Kalsi Micro-Watershed, Uttarakhand	CS/126/2017-18/NIH(GWH)	Watershed Management Directorate, Dehradun	Ongoing
39	Downstream Impacts of Water Withdrawal by TTPS from Brahmani River	CS-127/2018-18/NIH (EHD)	NTPC Ltd Angul	Ongoing
40	Power Potential Study for Bokang-Baling Hydrol Electric Project	CS128/2018-18/WRS	THDC , India Ltd Rishikesh	Ongoing
41	Preparation of Working Table for Multiple Reservoirs of Bina Complex	CS-129/2018-18/RC-BH	BODHI, Bhopal	ongoing
42	Hydrological and Water Quality investigations in the Solar	CS-130/2018-18/RC-BE	Rays Power Infra Pvt Ltd	ongoing

	Power Project Sites in Part of Northern Karnataka		Jaipur	
43	Study of Conservation Remedial and Management Measures for Nainital Lake Uttarkhand	CS-131/2017-18/HID	Uttarakhand Irrigation Deptt	Ongoing
44	Identification of sources of seepage in the villages surrounding the Ash dykes of Barh STPP	CS-132/2016-18/HID	NTPC Barh	Ongoing
45	Estimation of Water Level in Aghinashini River for Manikatta Saline Embankment	CS-133/2018-18/RC-BE	Principal Secretary, Revenue Deptt Govt of Karnataka Bangalore	Ongoing
46	Hydro Geological Study for 2x660MW JTPP UP	CS-134/2015-18/HID	UPRVUNL	Ongoing
47	Hydro Geological Study for Darlipali STPP of NTPC Ltd	CS-135/2015-18/HID	NTPC	Ongoing
48	Hydro Geological Study for Kudgi STPP of NTPC Ltd	CS-136/2015-18/HID	NTPC	Ongoing
49	Dam break analysis for Teesta low dam-IV Dam TLD power station Kalijhora	CS-137/2017-19/SWH	NHPC LTD	ongoing
50	Hydro Geological Study for dewatering of Jhamkotra mines, Udaipur	CS-138/2017-21/HID	Rajsthan State Mines and Mineral ltd Udaipur	ongoing
51	Area Drainage Study for 3x800 MW Odhisha TPP	CS-139/2018-19/SWH	NLC India LTD	Ongoing
52	Evaluation of Centrally Sponsored River Basin Management Scheme	CS-140/2017-18/SWH	MoWR,RD & GR	Ongoing
53	Hydro-geological study of Nabinagar super thermal powerplant (3*660) MW site	CS-141/2017-18/SWH	NPGC Patna	Ongoing
54	Water Quality and isotopic analysis of groundwater along paleo-channels of Saraswati river in Haryana State	CS-142/2017-18/HID	WAPCOS Ltd	Ongoing

ITEM # 71.8: Any Other Item: