

**MINUTES OF 65th MEETING OF
TECHNICAL ADVISORY COMMITTEE OF
NATIONAL INSTITUTE OF HYDROLOGY
HELD ON MAY 14, 2012 AT NEW DELHI**

The 65th meeting of the Technical Advisory Committee (TAC) of the National Institute of Hydrology, Roorkee was held in the Central Water Commission, New Delhi on May 14, 2012. The meeting was chaired by Sri R C Jha, Chairman, CWC. Since Sri Jha had to attend to an urgent call from the Ministry, he requested the Director, NIH to continue with the proceedings of the meeting. The list of the participants is given in Appendix -I.

Chairman in his opening remarks welcomed the members and the invitees. He appreciated the work being carried out by NIH, and urged that the Institute should gear up to handle new challenges. He further mentioned that the present year is the last year of the 11th Plan, and NIH need to be ready for the 12th Plan. He then requested the Member-Secretary to take up the agenda.

Dr V C Goyal, Member-Secretary, also welcomed the Chairman, members and invitees. He then took up the agenda items one by one.

ITEM NO. 65.2: Confirmation of the Minutes of 64th Meeting of TAC

The Member-Secretary informed that the minutes of the 64th meeting of the TAC, held on June 1, 2011 at New Delhi, was circulated vide letter no. NIH/RCMU/64TAC/11 dated August 3, 2011. Since no comments were received from the members, the Minutes were confirmed by the TAC.

ITEM NO. 65.3: Action Taken on the Decisions/Recommendations in the Previous Meeting

The Member-Secretary presented the actions taken with regard to the various suggestions/recommendations made by TAC in its previous meetings. The TAC noted the actions taken.

ITEM NO. 65.4: Status and Progress of the Work Programme for the Year 2011-2012

The Member-Secretary briefed about the studies carried out by the Institute during the year 2011-2012. He informed that 180 research papers have been published by the Institute and 26 research papers have been accepted for publication during the period. He further informed that 30 training courses/workshops/symposia were organized during June 2011–March 2012. Members appreciated the number of publications brought out by the Institute and number of training/workshop/symposium organized by Institute.

ITEM NO. 65.5: Report the Proceedings of the Working Group Meetings

The Member-Secretary briefed about the 35th and 36th meetings of the Working Group of NIH, which were held at NIH, Roorkee, during October 11-12, 2011 and April 3-4, 2012, respectively. During these meetings, the Working Group members reviewed the progress of studies for the year 2011-2012 and also discussed the proposed work programme for the year 2012-2013. He presented the major recommendations of the working group.

ITEM NO. 65.6: Work Programme for the Year 2012-2013

The Member-Secretary briefed about the proposed work programme of the Institute for the year 2012-2013, which was discussed during the 36th Working Group meeting of NIH. Under the work programme of the RC Belgaum, Dr S Chellamuthu informed that NRSA had conducted a low-level photography study in the Godavari delta area for water quality related investigations. He opined that while conducting a similar study on "Water quality assessment using remote sensing approach- a case study", scientists may like to consult NRSA for their experience.

The list of proposed studies recommended by the TAC for the year 2012-2013 is given in Appendix-II.

ITEM NO. 65.7: Revision of Regional Coordination Committees (RCCs)

The Member-Secretary briefed the TAC members about the role and existing composition of the RCCs at various RC/CFMS. He mentioned that in the 64th meeting of the TAC, the need for revising the existing composition of the RCCs at various RC/CFMS was explained, which included involvement of different stakeholders and representation of individual subject experts and renowned NGOs working in the water sector. The TAC had suggested that the proposed revised composition of the RCCs may be submitted in the next meeting for consideration by the TAC.

The TAC considered and recommended the revised composition of the various Regional Coordination Committees as given in Appendix-III.

ITEM NO. 65.8: Work Programme of NIH for the 12TH Plan (2012-2017)

Director, NIH, mentioned that the process for implementation of the 12th Plan has already begun and in this context, NIH has drawn a road map to take up the challenges during operation of the 12th Plan. He informed that some of the study areas of the XIth Plan period shall be continued, and the Institute would like to take up few other areas considered to be relevant in view of the emerging techno-managerial challenges and expectations of the stakeholders. The TAC considered and recommended the thrust areas and studies proposed by different divisions during the 12th Plan as listed in the following table:

Involvement of Divisions & RCs in Thrust Areas & Studies during 12th Plan Period

Division → Theme and Studies ↓	EH	GWH	HI	SWH	WRS	RCMU
I. Hydrology of Extremes 1. Flood management 2. Urban flooding 3. Drought mitigation and management 4. Glacier lakes outburst flood 5. Early warning systems				√ √ √ √ √	√	
II. Regional Hydrology		√		√		
III. Environmental Hydrology 1. Pollution from point and non-point sources 2. Water quality and health 3. Environmental flow in rivers 4. River bank filtration studies 5. Water treatment/ remediation technologies	√ √ √ √	√		√	√	
IV. Integrated Water Resources Management (IWRM) 1. Hydrology for sustainability of water sources 2. Integrated operation of reservoirs, including sedimentation aspects 3. Groundwater management 4. Conjunctive use of surface and Ground Water 5. Pilot basin studies 6. DSS (Planning) activities 7. Hydrological studies in Brahmaputra basin	√ √ √ √	√ √	√	√ √ √ √	√ √ √ √	√
V. Hydrology for Watershed Management 1. Forest hydrology 2. Hydrology for springs management 3. Hydrology of lakes and other water bodies 4. Water management in mined areas 5. Water management in salinity-affected areas 6. Water management in coastal and hard rock aquifers 7. Impact assessment studies	√ √ √ √ √	√	√ √ √	√		√

<p>VI. R&D Under National Water Mission</p> <p>1. Development / implementation of modern technology for measurement of various data</p> <p>2. Research and studies on all aspects related to impact of climate change on hydrologic cycle and water resources, including quality aspects</p> <p>3. Projection of the impact of climate change on water resources</p> <p>4. Dynamics of deeper aquifers</p> <p>5. Centre for Climate Change Studies</p> <p>6. Centre for Snow & Glacier Studies</p>						<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>
<p>VII. Technology Transfer and Outreach Activities</p> <p>1. Training workshops</p> <p>2. Seminars/symposia</p> <p>3. User interaction workshops</p> <p>4. Science-policy interface</p> <p>5. IPR issues in hydrology and water resources</p> <p>6. PPP linkages</p>	<p>√</p> <p>√</p>	<p>√</p> <p>√</p>	<p>√</p> <p>√</p>	<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>	<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>	<p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>

ITEM NO. 65.9: Reporting Items

1. Details of the consultancy projects and Technical Services carried out by NIH during the year 2011-2012 were noted by the TAC members.
2. For benchmarking and technological upgradation of the Institute, consultants are being hired by the World Bank under DFID grant. In this regard, a base document has been prepared by the Institute and submitted to the World Bank. Also, it was reported that on initiatives of the Ministry of Water Resources, the Institute has taken up implementation of ISO 9001:2008 at the Institute.
3. It was informed that for establishment of an “Indo-German Competence Centre for River Bank Filtration (IGCCRBF) at NIH, a Memorandum of Understanding (MoU) was signed with Prof. Dr.-Ing. Thomas Wintgens on 31st, May, 2011. As a follow up of the MOU signed between NIH and HTWD, Germany, NIH has joined a consortium of 20 organizations from 8 countries to collaborate in the R & D project entitled “Saph Pani - Enhancement of natural water systems and treatment methods for safe and sustainable water supply in India”, funded by the European Commission under its 7th Framework Programme (Theme–ENV.2011.3.1.1.2). The Project duration is 36 months starting from October 2011. The Project has seven Work

Packages (WPs), in which NIH is participating in 4 Work Packages: Riverbank Filtration (WP1), Managed Aquifer Recharge (WP2), Modelling and System Design (WP5), and Training & Dissemination (WP7).

4. The Member-Secretary informed that the Institute has recently signed an MOU with the Water Institute and School of Civil Engineering of Karunya University, Coimbatore.
5. In response to an invitation from the International Atomic Energy Agency (IAEA), Vienna, a CRP project proposal on the topic "Assessment of baseflow and its impact on water quality in the part of Satluj River in India using Environmental isotope and age dating Technique" was submitted by NIH.

ITEM NO. 65.10: Any Other Item with Permission of the Chair

The meeting ended with a vote of thanks to the Chair.

Appendix– I: List of Participants

Appendix– II: Proposed Work Programme for the Year 2012-2013

Appendix– III: Recommended composition of RCCs

LIST OF PARTICIPANTS OF THE 65th TAC MEETING OF NIH

1.	Sri R C Jha Chairman, CWC Sewa Bhawan, R K Puram New Delhi	Chairman
2.	Sri R D Singh Director National Institute of Hydrology Roorkee-247667	Member
3.	Dr S Chellamuthu Director Water Technology Centre, Coimbatore	Member
4.	Dr R C Trivedi Jt. Dir (Retd.), CPCB, New Delhi	Member
5.	Dr V C Goyal Scientist F, NIH, Roorkee	Member-Secretary

INVITEES

1. Dr Sharad K Jain, Sc. F & Head, WRSD, NIH
2. Dr Rakesh Kumar, Sc. F & Head, SWHD, NIH
3. Sh C P Kumar, Sc. F & Head, HID, NIH
4. Sh N N Rai, Director, Hyd. DSR, CWC, NEW DELHI
5. Dr. Anupama Sharma, Sc. E-1, NIH

Appendix-II**WORK PROGRAMME OF THE INSTITUTE FOR THE YEAR 2012-2013****ENVIRONMENTAL HYDROLOGY DIVISION
2012-13**

S.No.	Study	Study Team	Duration
Internal Studies			
1.	Assessment of Groundwater Quality in Hindon River Basin	M.K. Sharma, V. K. Choubey, Omkar Singh, Rajesh Singh, Babita Sharma, Beena Prasad, Rakesh Goel, Dayanand	3 Years (11/2011-10/2014)
2.	Development of low cost media for fluoride removal from drinking water of fluoride affected areas.	Rajesh Singh, V. K. Choubey, Omkar Singh, M.K. Sharma, Dayanand	2 Years (4/2011-3/2013)
3.	Water Quality Modeling of Hindon River	Omkar Singh, V. K. Choubey, M.K. Sharma, Rajesh Singh, A.R. Senthil Kumar, Babita Sharma, Beena Prasad, Rakesh Goel, Dayanand	3 years (4/2012-3/2015) New Study

**GROUNDWATER HYDROLOGY DIVISION
2012-13**

S. No.	Study	Team	Duration
Internal Studies			
1.	Quantification of Impact of Rainwater Harvesting on Groundwater Availability in Aravalli Hills – Part II: Mathematical Modeling	Anupma Sharma (PI), C.P. Kumar, N.C. Ghosh, Sudhir Kumar, Rajan Vatsa, Sanjay Mittal	2 years (04/10 – 03/12) Status: In progress
2.	Groundwater Fluoride Contamination in different parts of India and study severity of Fluorosis in a Drought prone area	A.K. Dwivedi (PI), N.C. Ghosh, Anupma Sharma, Sumant Kumar, Sanjay Mittal, Ram Chandra	3 years (04/11 – 03/14) Status: In progress
3.	Hydrological Instrumentation and Data Monitoring Planning for Integrated Water Resources Management (IWRM) of the Bina River Pilot Basin	Surjeet Singh (PI), N.C. Ghosh, R.K. Jaiswal (RC-Sagar)	3 years (04/12 – 03/15) New Study
Sponsored Projects			
4.	Coastal Groundwater Dynamics and Management in the Saurashtra Region, Gujarat.	N. C. Ghosh (Coordinator), Anupma Sharma (PI), C P Kumar, A.D. Gohil, C.K. Jain, Sudhir Kumar, D.S. Rathore, Surjeet Singh, Rajan Vatsa, GWRDC Gandhinagar	3 years (10/09 – 06/12) Status: In progress

5.	Saph Pani - Enhancement of natural water systems and treatment methods for safe and sustainable water supply in India	Project Director : R. D. Singh Project Coordinator & PI : N. C. Ghosh Other Team Members (<i>Tentative</i>) Bhishm Kumar, V. C. Goyal, C. K. Jain, Sudhir Kumar, B. Chakravorty, A. K. Lohani, Anupma Sharma, Surjeet Singh, Sumant Kumar	3 years (10/11 - 9/14) Status: In progress
6.	Management of Aquifer Recharge (MAR) and Aquifer Storage Recovery (ASR)	Sumant Kumar (PI), Rajan Vatsa N.C. Ghosh, C.P. Kumar, Surjeet Singh, Sanjay Mittal	3 years (04/11 – 03/14) Status: In progress
7.	Flow and Contaminant Transport Modeling of Riverbank Filtration	Shashi Poonam Indwar (PI), N.C. Ghosh, Anupma Sharma, Rajan Vatsa, Stefanie Fischer - Research Student (Germany) - six months, HTWD Germany, Uttarakhand Jal Sansthan (UJS), Haridwar & Dehradun	30 months (04/12 – 9/14) New Study
Consultancy Projects			
8.	Drainage Area mapping and hydrological studies in and around Gurha (W) Lignite Block in Kolayat tehsil of Bikaner District, Rajasthan	A.K. Dwivedi, N.C. Ghosh, Surjeet Singh, Rajan Vatsa, Sumant Kumar	9 months

**HYDROLOGICAL INVESTIGATIONS DIVISION
2012-13**

S. N.	Study	Team	Duration/ Status
Internal Studies			
1	Estimation of Snow and Glacier Melt Contribution in Melt Water of Gangotri Glacier at Gaumukh using Isotopic Techniques	S. P. Rai (PI) Manohar Arora Bhishm Kumar Rakesh Kumar Naresh Kumar Jamil Ahmad Vishal Gupta	3 years (4/10 – 3/13) Continuing Study
2	Assessment of Radon Concentration in Waters and Identification of Paleo-Groundwater in Punjab State	S. K. Verma (PI) Sudhir Kumar M. S. Rao Mohar Singh	2 years (04/11-03/13) <i>Continuing Study</i>
3	Hydro-geological assessment of Ghar area for artificial recharge and water management planning	Pankaj Garg (PI) Sudhir Kumar V.C. Goyal M. S. Rao C. P. Kumar Tanveer Ahmad Rajesh Agarwal	2 years (04/11-03/13) Continuing Study

S. N.	Study	Team	Duration/ Status
4	Assessment of Sensitivity of Open Water Evaporation to Increase in temperature for Different climatic regions of India	S. D. Khobragade (PI) C. P. Kumar Manohar Arora A. R. Senthil Kumar	2 years (04/12-03/14) New study
Sponsored Projects			
5	National Program on Isotope Fingerprinting of Waters of India (IWIN)	M. S. Rao (PI) Bhishm Kumar Sudhir Kumar S. P. Rai S. K. Verma Pankaj Garg	5 years (07/07-06/12) (To be extended upto Aug, 2013) Continuing Study
6	Groundwater Dynamics of Bist-Doab Area, Punjab Using Isotopes	M. S. Rao (PI) Bhishm Kumar Sudhir Kumar S. K. Verma PankajGarg CGWB Officials	3 years (07/09-6/12) Continuing Study
7	Groundwater Management in Over-Exploited Blocks of Chitradurga and Tumkur Districts of Karnataka	Sudhir Kumar (PI) J. V. Tyagi S. P. Rai Anupma Sharma B. K. Purandara Prof. C. Rangaraj	3 years (07/09-6/12) Continuing study
8	Impact Assessment of Landuse on the Hydrologic Regime in the selected Micro-watersheds in Lesser Himalayas, Uttarakhand	S. P. Rai (PI) Bhishm Kumar J. V. Tyagi M. P. Singh, FRI Rajeev Tiwari, IGNA Vishal Gupta Jamil Ahmad V. K. Agarwal	5 years (4/08- 3/13) Continuing Study
9	Development of Spring Sanctuaries in an Urban and a Rural Watershed in District Pauri Garhwal, Uttarakhand	S. P. Rai (PI) Bhishm Kumar Sudhir Kumar S. D. Khobragade Pankaj Garg Jamil Ahmad Vishal Gupta	3 years (04/10-03/13) Continuing Study
Consultancy Projects			
10	Hydro-geological Studies of Jhamarkotra Mines, Udaipur, Rajasthan	Sudhir Kumar, (PI) S K Verma, Pankaj Garg,	1 year (07/10-06/11) Extended upto Dec, 2012 Continuing Study
11	Integrated Hydrological Investigations of Sukhna Lake, Chandigarh for its Conservation and Management	S. D. Khobragade (PI) C. P. Kumar	3 years (07/11-06/13)

S. N.	Study	Team	Duration/ Status
		R. D. Singh S. P. Rai Vipin Agrarwal	Continuing Study

**SURFACE WATER HYDROLOGY DIVISION
2012-13**

S. No. & Ref. Code	Title	Study Team	Duration
Internal Studies			
1. NIH/SWD/NIH/ 10-13	Snowmelt Runoff Modeling and Study of the Impact of Climate Change in part of Brahmaputra River Basin	Archana Sarkar R.D. Singh Rakesh Kumar Sanjay K. Jain	3 years (April 10- March 13)
2. NIH/SWD/NIH/ 08-	Monitoring and modelling of streamflow for the Gangotri Glacier	Manohar Arora Rakesh Kumar	March 08 -To be continued
3. NIH/SWD/NIH/ 10-13	Climatic Scenarios Generation for Satluj Basin using Statistical Downscaling Techniques	Manohar Arora Rakesh Kumar	3 years (April 10 – March 13)
4. NIH/SWD/NIH/ 10-13	Climatic variability analysis and its impact on Himalayan watershed in Uttarakhand	A. Agarwal, Manohar Arora R K Nema	3 years (Nov. 10 – Oct. 13)
5. NIH/SWD/NIH/ 11-13	Impact of Climate Change on Glaciers and Glacial Lakes: Case Study on GLOF in Tista basin	A.K. Lohani Sanjay K. Jain Rakesh Kumar	2 years (April 11 – March13)
6. NIH/SWD/NIH/ 11-14	Hydrological Studies for Upper Narmada Basin.	Jagdish P. Patra Rakesh Kumar Pankaj Mani T R Sapra	3 years (April 11 – March 14)
Proposed new Internal studies			
7. NIH/SWD/NIH/ 12-15	Study of Hydro-Meteorological Droughts for Bundelkhand Region in India	R.P. Pandey	3 years (April 12- March 15)
8. NIH/SWD/NIH/ 12-15	Sedimentation Studies for Pong Reservoir, Himachal Pradesh	A. R. S. Kumar, Manohar Arora Suhas D Khobragade, A. Agarwal, Sanjay K. Jain	3 years (April 12 – March 15)
Consultancy Projects			
1.	Estimation of Design Basis - flood & safe grade elevation in the Upstream of Bargi Dam at Chutka Nuclear Power Project site, situated in Narmada Valley in Madhya Pradesh (NPCIL)	Rakesh Kumar Pankaj Mani J. P. Patra R. D. Singh T. R. Sapra N.K. Bhatnagar	Under Progress

2.	Site Specific Area Drainage Study for Plant and Ash Dyke for Khargone Super Thermal Power Project (2 x 660 MW) (NTPC)	Rakesh Kumar R.P. Pandey Pankaj Mani J. P. Patra R. D. Singh T. R. Sapra Om Prakash	Under Progress
3.	Area Drainage Study for Plant and Ash Dyke for Gajmara Super Thermal Power Project (4x800 MW)" (NTPC)	Rakesh Kumar Pankaj Mani J. P. Patra Archana Sarkar R. D. Singh T. R. Sapra Hukum Singh	Under Progress
4.	Drainage study for Rourkela Expansion Power Project (1*250 MW) (NTPC)	Rakesh Kumar Pankaj Mani J. P. Patra R. D. Singh A.R. Senthilkumar T. R. Sapra S.P.L. Shrivastava	Under Progress
5.	Carrying Out Dam Break Analysis and Preparation of Emergency Action Plan for Nagarjunasagar Dam	A.K. Lohani Rakesh Kumar S.K. Jain	Under Progress
6.	Study of hydro-meteorological droughts for Bundelkhand region in India	R.P Pandey M.K. Goel D.S. Rathore S.K.Singh	Under Progress

**WATER RESOURCES SYSTEMS DIVISION
2012-13**

S.N.	Title	Study Team	Duration	Funding
1.	Trend and variability analysis of rainfall and temperature in Himalayan region	L.N.Thakural Sanjay Kumar Sanjay K. Jain Tanveer Ahmed	3 years (10/11-09/14) Continuing study	NIH
2.	Analysis of water management scenarios in Tapi river basin using MIKE basin	Rama Mehta M.K.Goel D.S.Rathore	3 years (4/10-3/13) Continuing study	NIH
3.	Integrated approach for snowmelt runoff studies and effect of anthropogenic activities in Beas basin	Sanjay K. Jain S. P. Rai L. N. Thakural	3 years (4/09-3/12) Continuing study	PDS (HP-II)
4.	Assessment of effects of sedimentation on the capacity/life of Bhakra reservoir (Gobind sagar)	Sanjay K. Jain J. V. Tyagi D. S. Rathore	3 years (4/09-3/12)	PDS (HP-II)

	on river Satluj and Pong reservoir on river Beas	Rama Mehta	Continuing study	
5.	Mathematical representation of elevation-area-capacity curves for Indian reservoirs	M. K. Goel Sushil K. Singh P. K. Agarwal	1 year (4/12-3/13) New Study	NIH
6.	Web GIS based snow cover information system for Himalayas	D. S. Rathore D. Chalisgaonkar L. N. Thakural Tanveer Ahmed	1 year (4/12-3/13) New Study	NIH
7.	Software for frequency analysis in Hydrology	D. Chalisgaonkar Sushil K. Singh D. S. Rathore M. K. Goel	1 year (4/12-3/13) New Study	NIH
8.	Event-based rainfall runoff modelling using soft computing techniques	Rama Mehta Sushil K. Singh Yatveer Singh	1 year (4/12-3/13) New Study	NIH

RESEARCH COORDINATION & MANAGEMENT UNIT (RCMU)

2012-13

SN	Study	Team	Duration
Internal Studies			
1	Recession Flow Analysis for Evaluation of Spring Flow in Indian Catchments	Ravindra V Kale (PI) V C Goyal	DOS: Apr 2011 DOC: Mar 2013
2	Understanding Water Use Efficiency: A Field Based Research and Documentation of Best Practices on Water Use Efficiency and Conservation	Joint study NIH: V C Goyal (PI) Subhash Kichlu Rajesh Agrawal Indian Environment Law Offices, Gurgaon: Ms Archana Vaidya Ms Shilpa Chohan Mr Shawahiq Siddiqui (PI)	DOS: Apr 2012 DOC: Mar 2013 (New Study)
3	Pilot Basin Studies (PBS) at six identified sites, jointly with the RCs and CFMSs	Joint study NIH HQs: V C Goyal (Leader) Ravindra V. Kale New Scientist NIH RCs/CFMSs: RC-Belgaum, RC-Jammu, RC-Kakinada, RC-Sagar, CFMS-Guwahati, CFMS-Patna	DOS: Apr 2012 DOC: Mar 2015 (New Study)

REGIONAL CENTRE, BELGAUM
PROPOSED WORK PROGRAM 2012-13

No	Title of the Study	Study Group	Duration	Funding
1	An Investigation of Changes in Rainfall and River Flow Structure due to Climate Change in a selected Basin of the Western Ghats Region	BV, MKJ CMT	3 years (July 2010 to June 2013)	Internal
2	A Comprehensive Assessment of Water Quality Status of Kerala State (Purpose Driven Study under HP II)	BKP, CMT	3 years (July 2008 to June 2011)	Under HP II PDS
3	Sediment transport characteristics of rivers of Karnataka	CMT, BKP, CK	2 years (August 2011 to July 2013)	Internal
4	Review of Existing Empirical formulae used in water resources planning and design	CMT, MKJ, NV	2 years (August 2011 to July 2013)	Internal
5	Water Quality Assessment using Remote Sensing Approach – A case study	BKP, CMT, VKC	2 years (August 2011 to July 2013)	Internal
6	Impact of climate change on Groundwater resources in a water limited environment – a case study	BKP, BV, NV	2 years (August 2011 to July 2013)	Internal

BV : B.Venkatesh, Scientist E1 CMT : Chandramohan T., Scientist E1
BKP : B.K. Purandara, Scientist E1 MKJ : Mathew K.Jose, Scientist C
NV : N. Varadarajan, SRA CK : ChandraKumar S., SRA

REGIONAL CENTRE, JAMMU
PROPOSED WORK PROGRAM 2012-13

S. No.	Title of the Study	Study Team	Duration	Funding/ Status
1	Cryospheric System Studies and Runoff Modeling of Gangglass Catchment, Leh, Ladakh Range	R. J. Thayyen M. K. Goel S. P. Rai	05 years	NIH/ Ongoing
2	Status Report on Environmental Flow Assessment (EFA) in the Context of Western Himalayan Region	P. Kumar	01 year	NIH/ Ongoing
3	Impact of Land Use Changes on Environmental Flows of Tawi River at Jammu	P. Kumar M. K. Nema	03 years	NIH/ Ongoing
4	Climate Change Effects on Hydrology of the Tawi Basin in Western Himalaya	M. K. Nema P. Kumar R. J. Thayyen	03 years	NIH/ Ongoing
5	Integrated Hydrological Study of Tawi Basin (IWRM-Pilot Basin Study)	P. Kumar M. K. Nema R. J. Thayyen	05 years	NIH/ New study
6	Glaciological Studies of Phuche Glacier, Ladakh Range, India	R. J. Thayyen M. K. Goel S. P. Rai	03 years	DST/ Ongoing

**REGIONAL CENTRE, SAGAR
PROPOSED WORK PROGRAM 2012-13**

Study No.	Title of the study	Study Team	Duration	Funding
1. NIH/GPSR C/NIH/09 -13/1	Water resources management study for drought affected Bundelkhand region.	Sh. T. Thomas Sh. R.V. Galkate Sh. R.K.Jaiswal Dr. N.C. Ghosh	Aug 2009 to July 2013 4 years	NIH
2.	Water availability study and supply-demand analysis in Kharun sub-basin of Seonath basin in Chhattisgarh state	Sh. R.V. Galkate Sh. T. Thomas Sh. R.K. Jaiswal Dr. S. Singh	Sept 2009 to June 2012 2 ¾ years	HP
3.	Study of reservoir sedimentation, impact assessment and development of catchment treatment plan for Kodar reservoir in Chhattisgarh state	Sh. R.K. Jaiswal Sh. R.V. Galkate Sh. T. Thomas Dr. S. Singh	Sept 2009 to June 2012 2 ¾ years	HP
New Study				
1.	Pilot Basin Study	Sh. T.R. Nayak Sh. T.Thomas	April, 2012 to April, 2015	PBS

**REGIONAL CENTRE, KAKINADA
PROPOSED WORK PROGRAM 2012-13**

S. No.	Project	Project Team	Duration	Funding/Remarks
1	Storm water management in Otteri nullah sub basin, Chennai Corporation, Chennai, Tamilnadu	Y.R. Satyaji Rao, Sc `E2' (PI) B. Chakraborty, Sc'E2' (Co-PI) S.V. Vijaya Kumar , Sc 'E2'(Co-PI) Members V.S. Jeyakanthan, Sc 'E1' B.V. Ramana, Sc'C' B.Krishna, Sc 'C' P.C.Nayak, Sc 'C' B.Venkatesh, Sc'E1'	April, 2008 – June 2012 (Under Progress)	Under HP II (PDS)
2	Groundwater Modelling Study in the Pushkar Canal Command Area in Andhra Pradesh.	S.V. Vijaya Kumar, Sc 'E2' (PI) Y.R. Satyaji Rao, Sc 'E2' V.S. Jeyakanthan, Sc 'E1' P.C.Nayak, Sc 'C' B.Krishna, Sc 'C'	April 2011 – March 2013 (Under Progress)	Internal
3	Trend and Variability analysis of Rainfall and Stream flow in Krishna river sub basin using wavelet multi resolution analysis	B.Krishna, Sc 'C' (PI) P.C. Nayak , Sc'C'	May 2012 to March 2014	Internal

S. No.	Project	Project Team	Duration	Funding/Remarks
4	Integrated Water Resources Management in Yerrkalva Basin, Andhra Pradesh – Part I (Status Report)	Y.R. Satyaji Rao, Sc `E2' (PI) S.V. Vijaya Kumar, Sc 'E2'(PI) (A.P. State Ground Water Department and Irrigation Dept.)	May 2012 to Dec., 2013	Internal (Basin Suggested by Govt., of A.P)
5	Statistical Downscaling of hydrological variables to study the impact of climate change on water resources	P.C. Nayak , Sc'C' (PI)	May 2012 to March, 2014	Internal
6	Identification of Ground Water Recharges Zones in Vaippar Basin, Tamilnadu Using GIS and Sub-pixel based Remote Sensing Approach.	V.S. Jeyakanthan, Sc 'E1' (PI)	May 2012 to March 2014	Internal

**CFMS-GUWAHATI
PROPOSED WORK PROGRAM 2012-13**

S. No.	Title	Study Group	Duration (Month/Year)	Remarks
1.	Pilot Basin Study: Assessment of Ground Water Quality in Kulsri River Basin	C. K. Jain S. K. Sharma P. K. Sarkar	1 Year (5/12-3/13)	New Study
2.	Pilot Basin Study: Status Report on Kulsri River Basin	S. K. Sharma	1 Year (5/12-3/13)	New Study
Technology Transfer:				
1. Two day Training Workshop on Flood and Erosion Management with Special Reference to North East Region, Nov. 2012.				
2. Two day Training Workshop on Water Quality and its Management with Special Reference to North East Region, Jan. 2013.				

**CFMS-PATNA
PROPOSED WORK PROGRAM 2012-13**

Sl.	Title of the Project/Study	Study Group	Duration	Funding
1.	Storm water management in Coom sub basin Chennai Corporation, Chennai, Tamil Nadu	RC Kakinada B Chakravorty R. Venkata Raman N. G. Pandey P. Mani	3 year (Started in 2010-11)	Under HP-II
2.	Flood inundation mapping and risk assessment in a reach of river Ganga using MIKE FLOOD	B Chakravorty R. Venkata Raman N. G. Pandey	3 year (Started in 2010-11)	NIH
3	Rainfall runoff modeling of Bagmati basin	R. Venkata Raman B Chakravorty N. G. Pandey	2 year (Started in 2011-12)	NIH
4	Analysis of temporal variability of climatological parameters in Patna	N. G. Pandey R. Venkata Raman B Chakravorty	3 year (Started in 2011-12)	NIH

RECOMMENDED COMPOSITION OF RCCs**DECCAN HARD ROCK REGIONAL CENTRE, BELGAUM**

(Karnataka; parts of Andhra Pradesh, Kerala, Tamil Nadu, and Madhya Pradesh; and Maharashtra)

Chairman: Director, NIH

Member-Secretary: Head, DHRC

Existing Composition of RCC	Revised Composition of RCC
<p>Members:</p> <ol style="list-style-type: none"> 1. Director, State Ground Water Department, Hyderabad 2. Chief Engineer, Central Water Commission, Hyderabad 3. Director, Central Ground Water Board, Bangalore 4. Chief Engineer and Director, A. P. Engineering Research Laboratory, Hyderabad 5. Chief Engineer, WRDO, Karnataka Irrigation Department, Bangalore 6. Director, Ground Water Survey and Development Agency, Pune 7. Professor, Soil Science, Agriculture University, Dharwad 8. Chief Engineer, State Surface Water and Ground Water Resources Data Centre, Water Resources Organization, Chennai 	<p>Members</p> <p>Central Govt. Institutions</p> <ol style="list-style-type: none"> 1. RD, Central Ground Water Board, Bangalore 2. Chief Engineer, Krishna and Godavari Basin Organisation, CWC, Hyderabad 3. Nominee of Director, IITM, Pune 4. Nominee of Director, NRSC, Hyderabad <p>State Govt. Institutions</p> <ol style="list-style-type: none"> 5. Chief Engineer, Water Resources Development Organisation, Bangalore 6. Chief Engineer, Water Resources Dept., Goa 7. Chief Engineer (Project II and HP-II), Kerala State Irrigation Department, Kerala 8. Chief Engineer, Hydrology Project (Surface Water), Nashik 9. Chief Engineer, State Ground and Surface Water Resources Data Centre, Chennai 10. Director, Groundwater Survey and Development Agency, Pune 11. Director, State Groundwater Deptt., Thiruvanthapuram 12. Director, Ground Water Department, Hyderabad 13. Chief Engineer (Hydrology), I&CAD Deptt., Hyderabad 14. Director, WTC, Coimbatore <p>Academic Institutions</p> <ol style="list-style-type: none"> 15. Nominee of Director, NIT, Trichy 16. Nominee of Director, IISc, Bangalore <p>NGOs and Individual Experts</p> <ol style="list-style-type: none"> 17. Prof. Lakshman Nandagiri, Deptt. Of Applied Mechanics, NIT, Surathkal, Mangalore 18. Prof. A.G. Chachadi, Deptt. Of Geology, Goa University 19. Ashoka Trust for Research in Ecology and Environment, Bangalore 20. Dhan Foundation, Madurai, Tamilnadu

WESTERN HIMALAYAN REGIONAL CENTRE, JAMMU

(States of Jammu & Kashmir, Himachal Pradesh and hilly parts of Uttarakhand)

Chairman: Director, NIH

Member-Secretary: Head, WHRC

Existing Composition of RCC	Revised Composition of RCC
<p>Members:</p> <ol style="list-style-type: none"> 1. Chief Engineer, J&K Irrigation & Flood Control Department, Jammu 2. Representative of Engineer-in-Chief, Irrigation Department, Himachal Pradesh (not below the rank of Chief Engineer) 3. Representative of Engineer-in-Chief, Irrigation Department, Uttarakhand (not below the rank of Chief Engineer) 4. Regional Director, CGWB, Jammu 5. Representative of Director, Snow & Avalanche Study Esstt., Panchkula (not below the rank of Deputy Director) 6. Representative of Commissioner (Indus), (not below the rank of Joint Commissioner) 7. Chief Engineer (Indus), Central Water Commission, Chandigarh or his representative (not below the rank of Director) 8. A Professor from National Institute of Technology, Hamirpur (to be nominated by Principal, NIT, Hamirpur) 9. Representative of Director, G.B. Pant Institute of Himalayan Environment and Development, Almora (not below the rank of Deputy Director) 10. Deputy Director, Department of Agriculture, Govt. of H.P., Hamirpur 	<p>Members:</p> <p>Central Govt. Institutions</p> <ol style="list-style-type: none"> 1. Regional Director, NWHR, CGWB, Jammu 2. Nominee of Director Snow & Avalanche Study Establishment (RDC), HIM PARISAR, Chandigarh 3. Nominee of Director, GB Pant Institute of Himalayan Environ. & Development, Almora (Uttarakhand) 4. Chief Engineer (Indus Basin), Central Water Commission, Chandigarh 5. Director, IMD, Srinagar 6. Nominee of Director, Wadia Institute of Himalayan Geology, Dehradun 7. RD, Geological Survey of India, Jammu 8. Director, Central Water Commission, Jammu 9. Representative of BBMB <p>State Govt. Institutions</p> <ol style="list-style-type: none"> 10. Chief Engineer, I&FC (J & K), Jammu 11. Nominee of Engineer-in-Chief, I&PH Department (HP), Shimla 12. Nominee of Engineer-in-Chief, Irrigation Department (U.A.), Dehradun 13. RD, J & K State Pollution Control Board, Jammu <p>Academic Institutions</p> <ol style="list-style-type: none"> 14. Chief Scientist & Head (WM), SKUAST, Jammu 15. Nominee of Director, NIT, Srinagar 16. Nominee of VC, HPKV, Palampur <p>NGOs and Individual Experts</p> <ol style="list-style-type: none"> 17. Prof. M. N. Kaul, Department of Geography, University of Jammu, Jammu 18. Mr Chewang Norphel, Chief Project Officer, Leh Nutrition Project, Leh, Laddakh, J & K 19. Maj. Gen. (Retd.) G. S. Jamwal, President, J & K Paryavaran Sanstha, Jammu

GANGA PLAINS SOUTH REGIONAL CENTRE, SAGAR

(Major part of Madhya Pradesh, southern part of Uttar Pradesh, southeast Rajasthan, northern Chhattisgarh and south-west part of Bihar)

Chairman: Director, NIH

Member-Secretary: Head, GPRC

Existing Composition of RCC	Revised Composition of RCC
<p>Members:</p> <ol style="list-style-type: none"> 1. Chief Engineer, BODHI, Bhopal (M.P) 2. Chief Engineer, Yamuna Basin, CWC, New Delhi. 3. Chief Engineer, Chambal Betwa Basin, WRD, Bhopal (M.P) 4. Chief Engineer, Dhasan-Ken Basin, WRD, Sagar (M.P) 5. Regional Director, NCR, CGWB, Bhopal (M.P) 6. Chief Engineer, & Director, IMTI, Kota 7. Head of Department, Civil Engg., MANIT, Bhopal 8. Superintending Engineer, Ground Water Survey, WR Dept., Bhopal (M.P) 	<p>Members:</p> <p>Central Govt. Institutions</p> <ol style="list-style-type: none"> 1. Chief Engineer, Narmada Basin, CWC, Bhopal 2. Regional Director, NCR, CGWB, Bhopal (M.P) 3. Director, Meteorological Centre, IMD, Bhopal 4. Nominee (dealing with water resources) of Director, CSIR-AMPRI (RRL), Bhopal 5. CPCB Zonal Office, Bhopal <p>State Govt. Institutions</p> <ol style="list-style-type: none"> 6. Chief Engineer, BODHI, Bhopal 7. Chief Engineer, Chambal Betwa Basin, WRD, Bhopal 8. Chief Engineer, Dhasan-Ken Basin, WRD, Sagar 9. Chief Engineer, MG Basin, Raipur, Chhatisgarh 10. Chief Engineer, Betwa Pariyojna, Jhansi (UP) 11. Chief Engineer, Sone Basin, Bihar 12. Superintending Engineer, Ground Water Survey, WRD, Bhopal 13. Nominee of MP Council of Science & Technology <p>Academic Institutions</p> <ol style="list-style-type: none"> 14. Chief Engineer, & Director, IMTI, Kota 15. Nominee of Director (dealing with water resources), MANIT, Bhopal 16. Nominee of Director, WALMI, Bhopal <p>NGOs and Individual Experts</p> <ol style="list-style-type: none"> 17. Samaj Pragati Sahyog, Dewas 18. Development Alternatives, Jhansi 19. Dr Salim Romani, Chairman (Retd.), CGWB, Bhopal

DELTAIC REGIONAL CENTRE, KAKINADA

(Coastal areas in the states of Tamilnadu, Andhra Pradesh, Orissa, West Bengal and Union Territory of Pudduchery)

Chairman: Director, NIH
Member-Secretary: Head, DRC

Existing Composition of RCC	Revised Composition of RCC
<p>Members:</p> <ol style="list-style-type: none"> 1. Chief Engineer (Hydrology), Andhra Pradesh Irrigation Department, Hyderabad 2. Engineer-in-Chief, Orissa Irrigation Department, Bhubaneswar 3. Chief Engineer, State Surface Water and Ground Water Data Centre, Water Resources Organization, Chennai 4. Professor of IIT, Chennai (to be nominated by Director, IIT, Chennai) 5. Director, Centre for Water Resources, Anna University, Chennai 6. Director, State Ground Water Department, Hyderabad 7. Representative of NRSA, Hyderabad to be nominated by Director, NRSA 8. Director, A.P. Engineering Research Laboratory, Himayatsagar, Hyderabad 9. Chief Engineer, Irrigation and Waterways Department, Govt. of West Bengal 10. Chief Engineer & Director, GWS&I, Department of Water Resources, Bhubaneswar, Orissa 	<p>Members:</p> <p>Central Govt. Institutions</p> <ol style="list-style-type: none"> 1. Director, Meteorological Centre, Bhubaneswar 2. RD, CGWB, SE Coastal Region, Chennai 3. Chief Engineer (Krishna & Godavari Basin), Central Water Commission, Hyderabad 4. Nominee (dealing with water resources) of Director, National Geophysical Research Institute, Hyderabad 5. Head, WR Division, NRSC, Hyderabad 6. Director, Directorate of Water Management (ICAR), Bhubaneswar 7. Nominee of Director, Water Resources Centre, Anna University, Chennai 8. Nominee of Director, NIOT, Chennai <p>State Govt. Institutions</p> <ol style="list-style-type: none"> 9. Engineer-in-Chief (RWS & S), Hyderabad 10. Nominee of Director General, AP State Remote Sensing Applications Centre (APSRAC), Hyderabad 11. Managing Director, West Bengal Minor Irrigation Corporation, State Water Investigation Directorate, Kolkata 12. Nominee of Member Secretary, Andhra Pradesh Pollution Control Board, Hyderabad <p>Academic Institutions</p> <ol style="list-style-type: none"> 13. Nominee (dealing with water resources) of VC, JNTU, Kakinada <p>NGOs and Individual Experts</p> <ol style="list-style-type: none"> 14. Prof. L Elango, Anna University, Chennai 15. Dr K P Sudheer, IIT Madras 16. Prof B E Vijayam, PROGRESS, Hyderabad 17. Dr T P Raghunath, Pondicherry Science Forum, Puducherry

CENTRE FOR FLOOD MANAGEMENT STUDIES, GUWAHATI
 (Seven North-East States, Sikkim and parts of West Bengal (Teesta basin))
 Chairman: Director, NIH
 Member-Secretary: Head, CFMS-Guwahati

Existing Composition of RCC	Revised Composition of RCC
<ol style="list-style-type: none"> 1. General Manager, Brahmaputra Board, Basistha, Guwahati 2. Chief Engineer (Water Resources), Assam Irrigation Department, Guwahati 3. Chief Engineer, Irrigation & Waterways Directorate, Govt. of W.B., Kolkata 4. A Professor, IIT, Guwahati. (to be nominated by Director, IIT, Guwahati) 5. Advisor (IFC&WSM), North Eastern Council Sectt., Shillong, Meghalaya 6. Chief Engineer (B & B Basin), Central Water Commission, Maranatha, Shillong 7. Director, Central Ground Water Board, NE Circle, Guwahati 8. Chief Engineer, Irrigation & Flood Control, Arunachal Pradesh, Itanagar. 	<p>Central Govt. Institutions</p> <ol style="list-style-type: none"> 1. Advisor (IFC&WSM), North East Council Secretariat, Shillong 2. Chief Engineer (B & B Basin), Central Water Commission, Shillong 3. Regional Director, Central Ground Water Board, Guwahati 4. DDG, Regional Meteorological Centre, India Meteorological Department, Guwahati 5. General Manager, Brahmaputra Board, Guwahati 6. Director, NE-SAC, Shillong <p>State Govt. Institutions</p> <ol style="list-style-type: none"> 7. Meghalaya State Pollution Control Board, Shillong 8. Chief Engineer, Deptt. of Water Resources, Govt. of Assam, Guwahati 9. Chief Engineer, Water Resources Deptt. , Govt. of Meghalaya, Shillong 10. Nominee of Sikkim State Council of Science & Technology <p>Academic Institutions</p> <ol style="list-style-type: none"> 11. Nominee of Director, NERIST, Nirjuli 12. Nominee of Director, NERIWALM, Tezpur 13. Nominee (dealing with water resources) of Director, IIT, Guwahati 14. Nominee (dealing with water resources) of VC, Manipur University, Imphal 15. Nominee (dealing with water resources) of VC, NEHU, Shillong <p>NGOs and Individual Experts</p> <ol style="list-style-type: none"> 16. Dr Biswajit Sarma, Director CII TDB T Net Centre, Jorhat Engg. College, Jorhat 17. Dr Biplab B Basu, Director, School of Fundamental Research, Kolkata 18. Aaranyak, Guwahati

CENTRE FOR FLOOD MANAGEMENT STUDIES, PATNA
(Eastern Uttar Pradesh, Bihar, Jharkhand and West Bengal)

Chairman: Director, NIH

Member-Secretary: Head, CFMS-Patna

Existing Composition of RCC	Revised Composition of RCC
<ol style="list-style-type: none"> 1. Chief Engineer, Central Water Commission, Patna 2. Chief Engineer (Civil), DVC, Maithon 3. Representative of Chairman, GFCC, Patna (not below the rank of Director) 4. Director (Hydromet), India Meteorological Department, Patna 5. Chief Engineer (Irrigation and Waterways), Kolkata 6. Chief Engineer & Director, WALMI, Patna 7. Chief Engineer (WR), Uttar Pradesh Irrigation Department, Lucknow 8. Chief Engineer (Monitoring), Water Resources Department, Patna, Bihar 9. Director, Centre for Water Resources Studies, Bihar College of Engineering, Patna 	<p>Central Govt. Institutions</p> <ol style="list-style-type: none"> 1. Chief Engineer, CWC, Patna 2. Representative of Chairman, GFCC, Patna (not below the rank of Director) 3. Director, IMD, Patna 4. Regional Director, CGWB, Patna 5. ICAR Research Complex for Eastern Region, Patna 6. CPCB Zonal Office, Kolkata <p>State Govt. Institutions</p> <ol style="list-style-type: none"> 7. Chief Engineer (Civil), DVC, Maithon 8. Chief Engineer (Irrigation and Waterways), Kolkata 9. Chief Engineer (Design, Master Planning & Hydrology), Ranchi 10. Chief Engineer (WR), Uttar Pradesh Irrigation Department, Lucknow 11. Chief Engineer (Monitoring), Water Resources Department, Patna <p>Academic Institutions</p> <ol style="list-style-type: none"> 12. Nominee (dealing with water resources) of Director, NIT, Patna 13. Nominee (dealing with water resources) of Director, IIT, Patna 14. Chief Engineer & Director, WALMI, Patna <p>NGOs and Individual Experts</p> <ol style="list-style-type: none"> 15. Society for Rural Industrialization, Ranchi 16. Prof S P Sinha, Society for Hill Resource Management School, Daltonganj-Jharkhand