



राष्ट्रीय जल विकास अभिकरण  
जल शक्ति मंत्रालय, भारत सरकार  
(जल संसाधन, नदी विकास और गंगा संरक्षण विभाग)  
**National Water Development Agency**  
Ministry of Jal Shakti, Government of India  
(Department of Water Resources, River Development and Ganga Rejuvenation)



SCILR/400/2(ii)/2022/ 853-866

Date : 6.4.22

**Sub.: Minutes of the 20<sup>th</sup> Meeting of the “Sub Committee on System Studies for identification of most appropriate alternative plan”, held on 26.03.2022 at 10:00A.M. through Video Conferencing – reg.**

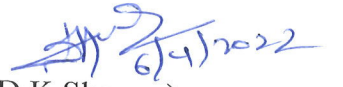
Sir,

The 20<sup>th</sup> Meeting of the “Sub Committee on System Studies for identification of most appropriate alternative plan” was held on 25.6.2022 at 10:00A.M. through Video Conferencing under the chairmanship of Prof. P.B.S.Sarma. A copy of minutes of the meeting, duly approved by the Chairman are enclosed for kind information.

It is requested to send your comments, if any, at the earliest, by e-mail to: dirtech-nwda@nic.in.

Yours faithfully,

Encl : As above

  
(D.K.Sharma)

Director (Technical) &  
Member Secretary  
dirtech-nwda@nic.in

To

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Special Invitees:

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Copy for kind information to :

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2. CE(HQ), NWDA, Palika Bhawan, New Delhi. E-mail : cehq-nwda@nic.in.

**Minutes of the 20<sup>th</sup> Meeting of the “Sub Committee on System Studies for identification of most appropriate alternative plan”, held on 26.03.2022 at 10:00A.M. through Video Conferencing**

The 20<sup>th</sup> meeting of the Sub-Committee on “System Studies for identification of Most Appropriate Alternative Plan” was held on 26.3.2022 through video conferencing under the Chairmanship of Prof. P.B.S.Sarma. The list of the participants is given at **Annexure – I.**

Prof. P.B.S.Sarma, the Chairman of the Sub-committee welcomed all the members of the Sub-Committee and other invitees. He apprised all the members about main objective of the present meeting regarding finalisation of proposals received from four Institutes for taking up system studies of the four links. He, then, requested Director General, NWDA for his Opening Remarks.

Thereafter, DG, NWDA extended a hearty welcome to the Chairman of the Sub Committee and all other participants. DG told that NWDA is looking for a uniform approach ( methodology, modelling etc.) for taking up system studies of various link projects. It would be appropriate if this principle is kept in view while carrying the system studies of four links viz; Manas- Sankosh-Tista-Ganga link, Ganga-Damodar-Subernarekha link, Subernarekha- Mahanadi link and Farakka- Sunderban link. He also pointed out that there seems to be a financial inconsistency in the proposals received from the four institutes for taking up the system studies work. Then, he requested Shri D.K.Sharma, Director (Tech), NWDA & Member Secretary of the Sub-Committee for taking up the Agenda items.

**Item No. 20.1: Confirmation of the Minutes of 19<sup>th</sup> Meeting of the Sub-Committee on System Studies for identification of most appropriate alternative Plan held on 26.11.2021.**



The Member-Secretary informed that the minutes of the 19th Meeting of the Sub-Committee held on 26.11.21, were circulated to all the members. Comments of Sh.M.K.Sinha were received and the same were circulated to all the members of the Sub Committee to take note of the modification as suggested by him.

*Sub-committee confirmed the minutes as circulated.*

**Item No. 20.2: Follow up Action of the previous meeting:**

The Member-Secretary apprised all the members that Draft Final Report on System Studies of Mahanadi-Godavari link as submitted by NIH, Roorkee has been provided to all concerned as decided in 19<sup>th</sup> meeting for scrutinisation. The proposals received from four institutes for taking up system studies of four other links have been scrutinised by NWDA and will be presented for discussion in the present meeting.

**Item No. 20.3: Proposal for taking up the system studies of four links.**

The Member-Secretary apprised all the members about tentative proposal of allocation of work of system studies of Manas-Sankosh-Tista-Ganga (MSTG) link project to Indian Institute of Technology (IIT), Guwahati, Ganga-Damodar-Subarnarekha (GDS) link project to National Institute of Technology (NIT), Patna, Farakka-Sundarban (FS) link project to National Institute of Hydrology (NIH), Roorkee and Subarnarekha-Mahanadi (SM) link project to National Institute of Technology (NIT), Warangal. He informed that all the four Institutes viz; IIT, Guwahati, NIT, Warangal, NIT, Patna and NIH, Roorkee have submitted their timeline and financial proposals which have been examined by NWDA.

**Item no. 20.4: The broad overview of scope of work for system studies of the four links:**

Member Secretary briefly explained the broad scope of work for system studies of the four links for information of members of the Sub Committee.

Dr. Sharad K. Jain pointed out the use of word “*realistic*” water demands in point no. 4 and transfer of “*maximum*” water through link in point no. 5 in scope of work for MSTG Link may not be appropriate.

Prof P B S Sarma explained that use of word “*realistic*” is justified for being on safer side so that assessment of water demands is done in a way so as to get idea of realistic demand to the extent possible.

For use of word “*maximum*”, DG, NWDA replied that the basic principle of inter-basin water transfer is first to meet in-basin water requirements and enroute demands and after that whatever water is available may be considered for transfer to deficit area/ basins. He suggested that in place of the word “*maximum*” the word “*optimum*” may be used in point no. 5 for “Assessment of quantity of surface water to be made available for running the canal in judicious manner to transfer “*optimum*” water through link canal.”.

Also, Chairman of the Sub - Committee suggested that parameter in the scope of work that is related to study for impact of different possible scenarios for assessment of water resources in the project like climate change impact, change in water requirements, improved water applications etc. should be kept same for all the four link projects, except wherever some variation is necessary.

**Item no. 20.5: Gist of the proposals as received from the four Institutes:** Member Secretary briefed about examination of the proposals done by NWDA. Member Secretary also presented a comparative statement of project proposals received from the four Institutes indicating their consultancy charges, general scope and methodology to be adopted by them, time frame required to complete the work etc.

DG, NWDA explained that financial proposal for system studies of each link has been sought from respective institutions only thus making financial proposal as a single bid.

NWDA tried to analyse the relative workload involved in system studies of four links based on some of the attributes link system in a matrix as circulated along with agenda items.

Dr. Sharad K. Jain supported the view of DG, NWDA that prices should be rationalised for the works to be allotted to the four institutes. He also agreed to the viewpoint of DG, NWDA that there should be uniformity in use of models by the four institutes. He mentioned that presently we do not have procedures to assess water availability with uniformity and this system study work can be viewed as an opportunity for development of models for the same though NWDA has time constraint to finish the system studies work within a reasonable time period.

He suggested that all the four Institutes should start assessment of water availability by using model developed by NIH, Roorkee for system studies of Mahanadi-Godavari link project and a brainstorming session can be organised to discuss their viewpoints on use of that model. He also suggested to include an upcoming aspect of social hydrology study in the scope of work.

DG, NWDA opined that the four Institutes may be encouraged to use the model(s) developed by NIH in the ongoing study but at the same time be allowed the flexibility to develop and use their own models also, if found more appropriate. After one year or so, we may examine the suitability of various models as used by the institutions in their study and recommend suitable models to be used in the system studies of various links.

Chairman, Sub- Committee suggested that the models of NIH, Roorkee should be provided to all the four Institutes to study / refer that for development of their own models in respect of the areas / link projects allotted to them.

Chairman, Sub- Committee pointed out that proposal received from NIT, Patna lacks information about their methodology to be adopted, models and tools to be used and details of availability of their technical expertise/ competence. Also details of technical expertise needs to be asked from NIT, Warangal. These details should cover proper details of experts



including their technical qualifications, technical capabilities, experience and works published in reputed journals. Information related to timeline commitment from NIH, Roorkee also needs to be obtained as quantum of work for system study of Farraka-Sunderban is lesser as compared to other link projects.

DG, NWDA assured that this information as suggested by the Chairman, will be sought from the respective Institutes.

Thereafter, DG, NWDA requested Sub Committee to suggest that how the prices can be rationalised as work is of similar nature but difference in costs quoted is very high.

Chairman, Sub Committee suggested that the works can be grouped in two brackets viz; System study work of Manas-Sankosh-Tista-Ganga and Ganga-Damodar-Subernarekha link as one bracket at cost limited to approximately 90 lakh plus 18% GST and system study work of Subernarekha-Mahanadi and Farraka - Sunderban link project as second bracket at cost limited to approximately 70 lakh plus 18% GST. All the members of the committee agreed to this suggestion.

**Rationale of Work load Assessment as vetted by the members of the Sub- Committee:**

S.No.	Attribute/parameter		MSTG	FS	GDS	SM
1.	Number of inflow/storage nodes		6 (Very High)	1 ( Low)	1 ( Low)	1 ( Low)
2.	Number of Diversion nodes		6 nos. (Medium)	6 nos. (Medium)	5 nos. (Medium )	5 nos. (Medium )

3.	Command Area		3.4 lakh ha ( Medium)	1.5 lakh ha ( Low)	12.3 lakh ha (Very High)	6.07 lakh ha (High)
4.	Length of Main Canal		Medium (485 km)	Medium (618 km)	Low (380.90 km )	Low (377 km)
5.	Heterogeneity of geographical extent		High	Medium	Medium	Medium
6.	Assessment of Ground Water Scenario		Medium	Medium	High	Medium
7.	Analysis of Climate Change impacts		High	Low	Medium	Medium
8.	System Model		High	Low	Medium	Medium
	<b>Relative Work Load</b>		<b>58</b>	<b>40</b>	<b>50</b>	<b>46</b>
<b>COSTS (INCLUDING GST) AS QUOTED BY THE FOUR INSTITUTES</b>						
			<b>115.66</b> <b>(IIT, Guwahati)</b>	<b>117.00</b> <b>(NIH, Roorkee)</b>	<b>99.71</b> <b>(NIT, Patna)</b>	<b>131.08</b> <b>(NIT, Warangal)</b>

**Proposed Weightage: Very High - 10, High - 8, Medium - 6, Low - 4**

In his closing remarks, DG, NWDA proposed to have next meeting for vetting the Draft Final Report submitted by NIH, Roorkee in April, 2022. He also mentioned that



obtaining views from CWC, CGWB and Prof P K Agrawal, VC, Odisha University of Agriculture and Technology, will be pursued on personal level so that in the forthcoming meeting of the Sub Committee, the Report can be deliberated in details along with the reviews of the members of the Sub Committee.

The meeting ended with a vote of thanks to the Chair and all the participants by DG, NWDA, for their fruitful guidance and deliberations.

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Annexure – 1

**List of participants of the 20<sup>th</sup> Meeting of the “Sub-Committee on System Studies for identification of most appropriate alternative plan” held on 25.3.2022 through Video Conferencing.**

<b>S.No.</b>	<b>Name of the Participant</b>
1.	Prof. P.B.S.Sarma, (Retd.), CED, IIT Delhi, New Delhi, <b>Chairman</b>
2.	Dr. Sharad K. Jain, Former Director, NIH, Roorkee, <b>Member</b>
3.	Sh. D.K.Sharma, Director (Technical), NWDA <b>Member Secretary</b>
<b>Special Invitees</b>	
4.	Sh. Bhopal Singh, DG, NWDA
5.	Sh. R.K.Jain, CE(HQ), NWDA
6.	Dr.R.N.Sankhua, CE(S), NWDA
7.	Sh. S.C.Awasthi, Superintending Engineer- N, NWDA
8.	Sh.R.K.Gupta, SE, NWDA, IC, BBSR
<b>Other Officers</b>	
9.	Sh. M.P.Krishnamurthy, AD, SE-N Unit, NWDA
10.	Ms Deepika, DD(H), NWDA
11.	Sh. Nikhil V. J. JE, NWDA.
12.	Sh. Shivam Sharma, JE, NWDA

