



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)



No. SCILR/400/2(ii)/ 2020/

Date: December 30, 2020


Sub: Minutes of the 16th Meeting of the "Sub-Committee on System Studies for identification of most appropriate alternative plan" held on 17.12.2020 at New Delhi - reg.

Sir,

Sixteenth (16th) meeting of the "Sub-Committee on System Studies for identification of most appropriate alternative plan" was held through Video Conferencing on 17.12.2020 under the Chairmanship of Prof. P.B.S. Sarma (Retd.), CED, IIT Delhi and Chairman of the Sub-Committee. A copy of the Minutes of the Meeting duly approved by the Chairman of the Sub-Committee is enclosed for kind information and necessary action.

Yours faithfully,

Encl.: As above.


(Muzaffar Ahmad)
30/12/2020
Director (Technical) &
Member- Secretary
dirtech-nwda@nic.in

To,

All the members/ Special Invitees of the Sub-Committee.

- 1. Prof. P.B.S. Sarma (Retd.), CED, IIT Delhi, B2-501, Sunny Valley, Plot No. 27, Dwarka, New Delhi-78. E-mail: pbsarma@yahoo.com, Phone 011-47522501 (R), 09873222125 (M).**
- 2. Prof. Sanjeev Kapoor, IIM Lucknow, Prabandh Nagar, IIM Road, Lucknow – 226 013. E-mail: sanjeev@iiml.ac.in, Phone 09415402466.**

Contd..2/-

3. **Dr. S. Mohan**, Professor, EWRE 24, Environmental and Water Resources Engineering Div., Department of Civil Engineering, IIT Madras, Chennai-600036. E-mail: smohan@iitm.ac.in, Phone (O) 044-22574261(R) 22579296.
4. **Prof. Kamta Prasad**, Chairman, IRMED, 2-B, Institutional Area, Karkardoma, Delhi-110092. E mail: irmed7@gmail.com, Phone: 011- 2377199 (O), 011- 22374975, 22793060(R), 09810288036 (M).
5. **Director**, NIH, Roorkee. Email: director.nihr@gov.in .
6. **Shri M. K. Sinha**, Assessor, Krishna Water Disputes Tribunal, & (Retd.) Chief Engineer, CWC, Trikoot-I, Bhikaji Cama Place, New Delhi - 110066 E-mail: mksinhacwc@gmail.com, mksinhacwc@yahoo.co.in Phone: 9971686789 (M).
7. **DG, NWDA**, Saket, New Delhi, E-mail: dg-nwda@nic.in, Phone: 011-26519164, Fax: 011-26960841.
8. **Chief Engineer (HQ)**, NWDA, Saket, New Delhi, , E-mail: cehqnwda@rediffmail.com Phone: 011-26852735, Fax: 011-26960841
9. **Dr. Sharad K. Jain**, Director(rtd), NIH, Roorkee, E Mail: s_k_jain@yahoo.com, 09897018550 (M).
10. **Chief Engineer (South)**, NWDA, Hyderabad, E-mail: cesnwda@rediffmail.com, ceshyd-nwda@nic.in.
11. **Chief Engineer (North)**, NWDA, Lucknow. Email: cenwdalko@rediffmail.com / kpgupta1962@gmail.com.
12. **Shri N. C. Jain, Chief Engineer (Retd.)**, NWDA. Email: nemichandra16160@gmail.com, Mob:9868211631.
13. **Dr. M.K.Goel**, Scientist (G), NIH, Roorkee, E Mail: goel.mk1@gmail.com
14. **Superintending Engineer-I**, NWDA, Palika Bhawan, R.K. Puram, Sector-13, New Delhi-110066, E-mail: se1nwda@rediffmail.com, Tel: 011-26852735.
15. **Superintending Engineer-II**, NWDA, Palika Bhawan, R.K. Puram, Sector-13, New Delhi-110066, E-mail: se3nwda@rediffmail.com, Tel: 011-24195731.

Minutes of the 16th meeting of the Sub-Committee on “System Studies for identification of Most Appropriate Alternative Plan” held on 17.12.2020 at 14.00 hrs through video conferencing.

The 16th meeting of the Sub-Committee on “System Studies for identification of Most Appropriate Alternative Plan” was held on 17.12.2020 through video conferencing under the Chairmanship of Prof. P.B.S. Sarma (Retd.). The list of the participants is given at **Annex - I**.

At the outset, Chairman of the Sub-committee extended warm welcome to all the members of the Sub-committee and other invitees. Thereafter he requested Shri Muzaffar Ahmad, Member Secretary of the Sub-Committee, to take up the agenda items for discussion.

Item 16.1: Confirmation of the Minutes of 15th Meeting of the Sub-Committee on System Studies for identification of most appropriate alternative Plan held on 16.06.2020

The Member Secretary of the sub-committee informed that the Minutes of the 15th Meeting of the Sub-Committee held on 16.06.2020, were circulated to all the members vide letter dated 01.07.2020. No comments on the minutes were received from any of the members. Prof. Kamta Prasad, Chairman, IRMED raised the queries regarding the scope of work on system studies of Mahanadi-Godavari Link being carried out by NIH. Prof. Sarma, Chairman of the Sub-committee informed that the issue was discussed in details in the last meeting of the Sub-committee. However, as Prof Kamta Prasad could not attend the last meeting, the Chairman requested him to furnish his comments in the form of a note to NWDA which in turn will be sent to NIH, Roorkee for further modification in the scope of work to the extent feasible. With this observation, the minutes of the last meeting were confirmed by the Sub-committee.

Item No. 16.2: System Studies of Mahanadi-Godavari link being carried out by NIH, Roorkee – Status and Review

The Member Secretary of the sub-committee informed that the works of system studies of Mahanadi – Godavari link are being carried out by NIH. The Inception Report covering the approach and methodology to be used in the study was discussed in the last meeting of the sub-committee held on 16th June, 2020. The observations of the sub-committee on the Inception Report were conveyed to NIH. The NIH revised the Inception Report suitably incorporating the observations / suggestions of the sub-committee and resubmitted the modified Inception Report to NWDA on 18.08.2020. On perusal of the revised Inception Report, it is found that most of the observations/suggestions of sub-committee have been incorporated suitably. He further informed that NIH has recently submitted brief progress report covering “Study of Various Possible Scenarios for Understanding the Long-term Effect of Enroute Canal Irrigation for Proposed Mahanadi – Godavari Link”. Thereafter, Dr. M.K.Goel, Scientist – G, NIH, Roorkee and his team gave a detailed presentation on the progress report and the changes which have been made on the basis of suggestions made on the Inception Report.

The components of the progress report included Generation of GIS database, Climate data analysis and Projection scenario, Estimation of Crop Water requirements and Land & Water productivity using Water Accounting Plus, present ground water resources in the study command and estimation of recharge of ground water and setup/calibration of a ground water model for the study area using USGS MODFLOW model.

Dr. Goel further informed that it was suggested in the last meeting to include one expert from CGWB in the studies as groundwater is a major component of the studies. However, no such inclusion has been made till date. He requested NWDA that one Nodal officer from NWDA and one expert from CGWB to maybe included in the studies.

Sh. Bhopal Singh, DG, NWDA informed that SE, Bhubaneswar, NWDA has been nominated as the Nodal officer from NWDA and CGWB would be requested immediately for nominating one ground water specialist at the earliest.

Dr. S. K. Jain, Former Director, NIH, Roorkee informed that Bias correction using CHIRPS data is not coming out to be accurate for two stations. He suggested checking it using GPM data or some other suitable source also.

He also suggested that the revised water demands can be computed by NIH, Roorkee for Mahanadi – Godavari link using Land and Water productivity data also.

Dr. Goel informed that on digitizing the link canal, the length of canal between Barmul to Dowlaiswaram is coming out to be 770 km whereas the length of canal as per NWDA is 844 km.. He further informed that GCA and CCA of 20 distributaries have been computed by NIH, Roorkee using Land use Land cover map and although the value of GCA is coming out to be very close to what has been assessed by NWDA however, there is significant difference of around 600 sq km in computed CCA values. He requested NWDA to examine the issue and work together with NIH to reconcile the differences..

Chief Engineer (HQ), NWDA informed that the length of canal has been calculated by NWDA on the basis of detailed surveys and as the difference between canal length is coming too large, therefore a meeting with NIH, Roorkee will be held shortly to reconcile the data used by two methods.

Shri M.K. Sinha, Assessor, KWDT informed that the studies for GCA and CCA calculations were done by NWDA in 1990s and at that time CCA was assumed to be 60% of GCA but since then significant developmental activities have taken place and therefore the CCA might be quite different . He further suggested that quantification of ground water available in the command, which can be used in place of surface water , should be carried out by NIH, Roorkee so that the excess surface water can be taken to the Dowlaiswaram barrage from where it can be taken further South.

Dr. Jain, inquired whether NIH, Roorkee is using Land use map of the catchment to see what new projects have come up in the mean time and what new projects are likely to come to which Dr. Goel replied that the Land use Land cover maps of the catchment for the year 1985, 1995, 2005, 2017-18 have been used and further informed that the upcoming

projects are not going to affect the command area of different distributaries of Mahanadi-Godavari link canal.

Dr. Jain, further inquired whether NWDA has information about demand and water availability of different sub basins in the country to which Chief Engineer (HQ), NWDA replied that aforementioned information is only available for the sub - basins which are pertaining to inter basin transfer link studies.

Item No. 16.3: Proposal for taking up the system studies of other links

As decided in the last meeting of the Sub-committee the system studies of Manas - Sankosh - Tista - Ganga, Farakka - Sunderbans, Ganga - Damodar - Subarnarekha and Subarnarekha - Mahanadi links are being taken up in the first phase. The scope of work for the proposed system studies was circulated amongst the members of the sub-committee. The proposed system studies target to integrate various components of the link system like inflows to the system, link network (reservoirs, transmission network, diversions etc.), crop water requirements and other water demands and their changes in time due to changes in food habits and resulting cropping patterns, irrigation methods, ground water recharge and conjunctive use, impact of climate change on supply and demands, operating rules and policies etc.using standard water planning system model and other tools to generate various possible scenarios. Accordingly, the Expression of Interest was invited by NWDA vide letter dated 17th September, 2020 from reputed organizations/institutions as given in agenda.

The last date of submission of EOI was 6th November, 2020. Only two EOIs have been received. The National Institute of Hydrology, Roorkee and WAPCOS Limited (I), Gurgaon have submitted their Expression of Interest for above work. Both the firms have given their willingness and also submitted their comments on scope of work, approach/methodology in brief to be adopted, list of experts proposed for taking up study and on Terms and Conditions, if any, for taking up the study.

Shri D. K. Sharma, Superintending Engineer, NWDA, New Delhi informed that NIH, Roorkee has suggested that as Ganga and Brahmaputra are international basins with restricted data

availability, it needs to be clarified whether all the restricted data required for the study would be made available by NWDA. Dr. Goel has further commented that water quality would be assessed based on the available observed data and no water quality measurements would be made and surface water and ground water interaction would be limited to the canal link systems and their command areas. He further informed that NIH, Roorkee has planned to develop the application for the system of links using some latest basin scale model in public domain, such as Water Evaluation and Planning System (WEAP) or Mike HYDRO or other similar model whereas WAPCOS Limited (I), Gurgaon has suggested that they will develop comprehensive system model for proposed links instead of using WEAP model.

Sh. Bhopal Singh, DG, NWDA proposed that a pre bid conference can be held to discuss their observations and views and then accordingly the scope of the work can be finalized.

Dr. Jain, suggested that before seeking the detailed proposal, decision on how these would be evaluated should be made with respect to technical aspects and financial aspects. In this regard, DG, NWDA clarified that before inviting the financial proposal, their technical capabilities to take up such type of works shall be assessed first and detailed proposal including financial proposal shall be sought only from the shortlisted firms after deliberation by the Sub-committee. Accordingly, the evaluation will be made based on financial proposal only.

The Sub-Committee expressed concerns about not receiving responses from premier institutions like IITs/NITs and suggested that the date of submission of EOI may be extended further, say up to 31 January, 2021. It was also decided to circulate the EOIs to more NITs apart from the institutions circulated earlier. Subsequently, a pre bid conference maybe held in the following month.

DG, NWDA also requested NIH, Roorkee for planning a training program on software like WEAP, WA+ for the capacity building at NWDA.

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

Annex - I

List of participants of the 16th Meeting of the "Sub-Committee on System Studies for identification of most appropriate alternative plan" held on 17.12.2020 through Video Conferencing.

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| 1. Prof. P.B.S. Sarma,
(Retd.), CED, IIT Delhi, New Delhi | In Chair |
| 2. Prof. Kamta Prasad,
Chairman, IRMED, New Delhi | Member |
| 3. Shri M. K. Sinha, Assessor, Krishna Water Dispute
Tribunal & Chief Engineer (Retd.), CWC New Delhi | Member |
| 4. Shri Muzaffar Ahmad,
Director (Tech.), NWDA, New Delhi | Member - Secretary |

Special Invitees

5. Shri Bhopal Singh,
Director General, NWDA, New Delhi
6. Dr. Sharad K. Jain,
Former Director, NIH, Roorkee
7. Shri R. K. Jain,
Chief Engineer (HQ.), NWDA, New Delhi
8. Dr. R. N. Sankhua,
Chief Engineer (South), NWDA, Hyderabad
9. Shri K. P. Gupta,
Chief Engineer (North), NWDA, Lucknow
10. Shri N. C. Jain,
Chief Engineer (Retd.), NWDA, New Delhi
11. Dr. M. K. Goel,
Scientist - 'G', WRS Division, N.I.H., Roorkee
12. Shri D. K. Sharma,
Superintending Engineer, NWDA, New Delhi

Other Officers from NWDA

13. Shri Rakesh Kumar Gupta,
Deputy Director (Technical), New Delhi
14. Shri B. Ravichander,
Executive Engineer, ID, Bhubaneswar
15. Shri H. K. Pandey,
Deputy Director, New Delhi
16. Shri R. A. Srinivas,
Assistant Director, IC, Bhubaneswar

Other Officers from NIH Roorkee

17. Dr. Surjeet Singh,
Scientist - 'F', WRS Division
18. Dr. P. K. Singh,
Scientist - 'D', WRS Division
19. Dr. P. K. Mishra,
Scientist - 'C', WRS Division
20. Dr. Vishal Singh,
Scientist - 'C', WRS Division
21. Shri P. K. Agrawal,
Scientist - 'B', WRS Division
22. Dr. Nitesh Patidar,
Scientist - 'B', WRS Division
23. Mrs. Anju Chowdhary,
PRA, WRS Division
24. Dr. Radha Krishan,
RA, WRS Division