

Minutes of the Fourth Meeting of the "Group on Financial Aspects under Task Force for Interlinking of Rivers" on 09.01.2018 at 11:00 AM in the Committee Room, NWDA, 3rd floor, Palika Bhawan, New Delhi .

The fourth meeting of the "Group on Financial Aspects under Task Force for Interlinking of Rivers" was held under the Chairmanship of Dr. Prodipto Ghosh, Former Secretary to Govt. of India and Chairman of the Group on 09.01.2018 (Tuesday) at 11:00 AM in the Committee Room of NWDA, 3rd floor, Palika Bhawan, New Delhi. List of Members and other participants is enclosed as Annex-I.

At the outset, Shri Ghosh welcomed all the Members, Invitees and other participants. He expressed concern over absence of Member from NITI Aayog and advised Shri K.P. Gupta to send a D.O. letter from Chairman, Task Force to NITI Aayog to depute some other officer from the Aayog, if Shri Dhiraj Nayyar, OSD is not getting time to attend the meetings of the Financial Group. He requested Shri K. P. Gupta, Member Secretary of the Group to take up the agenda items one by one for discussion.

Item no.4.1 Confirmation of minutes of the Third meeting of the Group on Financial Aspect held on 08.12.2017

The minutes of the third meeting of the Group on financial aspects under Task Force for Interlinking of Rivers held on 08.12.2017 at New Delhi was circulated among the Members/Special Invitee vide NWDA's letter dated 2nd January, 2018. Since no comments were received from any Member, it was decided to confirm minutes of the third meeting held on 08.12.2017 as circulated.

Item no.4.2 Presentation by NITI Aayog on projection of fiscal resources

This item was deferred for the next meeting as the representative of NITI Aayog could not come to attend the meeting due to some other pre-occupation. However, the Chairman of the Group desired that a D.O. letter from Chairman, Task Force should go to NITI Aayog to depute some other officer from the Aayog, in case Shri Dhiraj Nayyar, OSD, is not getting time to attend the meetings of the Financial Group. He mentioned that participation of NITI Aayog is very essential to know the extent of Government funding for such infrastructure projects as well as policy decision.

Item no.4.3 Presentation by Yes Bank on projections of possible flow of funds for the ILR programme from Indian Banks/ Financial Institutions,

Shri Bhupesh Rathore, President, Strategic Govt. Advisory, Yes Bank, New Delhi (Representing Shri Rana Kapoor, MD & CEO, Yes Bank) stated that they still require 8-10 days for finalising presentation. Accordingly, Chairman allowed him to make his presentation in the next Meeting. However he requested to send his presentation in advance to Shri K.P. Gupta, so that the same could be circulated to all the members. He also advised representative of Yes Bank to be in touch with Dr. Dasgupta while finalising their presentation.

Item no. 4.4 Cost analysis of Mahanadi-Godavari link and its impact on the cost of the entire ILR project (*Presentation by NWDA*)

Shri M.K. Sinha, Senior Consultant, NWDA made a Power Point Presentation on cost analysis of Mahanadi-Godavari (MG) link and extrapolated cost of ILR projects, based on the suggestions of last meeting. Copy of his presentation is enclosed as Annexure-4.4.1. It was noted by the Group that the total cost has come down with respect to previous estimations as the sum total of link wise irrigation and power benefits are lower than the projected benefits under NPP (National Perspective Plan). During presentation, following suggestions were made to firm up the total cost of ILR projects:

- (i) Shri K.P.Gupta, pointed out that Irrigation benefits (in terms of hectares) from Brahmaputra water (about 14 BCM) being dropped into Mahanadi river through MSTG, GDS and SM links have not been planned by NWDA. It was therefore decided that Irrigation benefits (in terms of hectares) from Brahmaputra water (about 14 BCM) being dropped into Mahanadi river through MSTG, GDS and SM links should be reasonably assessed and added in total benefits to work out total cost of irrigation development.
- (ii) Shri Navin Kumar, CE(IMO), CWC pointed out that in the third meeting, it was suggested to escalate the cost of land by four times (In terms of the provisions of the current land acquisition Act) and thereafter apply the price index, and residual cost as per price index. It was decided that this aspect may please be checked to arrive at cost of the Mahanadi-Godavari link project at 2015-16 P.L. After doing this refinement, weighted mean of cost of irrigation development should be worked out.

After doing minor corrections, suggested above, extrapolated cost of ILR projects should be worked out and presentation should be made on final cost of ILR projects in next meeting.

Item no.4.5 Review of progress of work of the Group and to draw up a work programme completion of its tasks.

Chairman made a presentation on this agenda item. Copy of his presentation is enclosed as Annexure-4.5.1. During his presentation, he elaborated different themes of the tasks assigned to the Group with reference to the terms of reference. He also identified the Anchors (agencies) who may be entrusted with working on the different themes. The members are requested to provide their comments in respect of the proposed work programme at the next meeting, when the work programme may be finalized. Apart from Anchors, he emphasized the role of Resource Persons. In the meeting, names of Shri Vinayak Chatterjee from Feedback Infrastructure and Dr. Pradeep Singh, former Professor Indian School of Business (contact details to be collected from Yes Bank) were identified as Resource Persons for making presentation in next meeting on specific funding models (PPP, etc) for private sector (domestic and international) participation in ILR links, and risk mitigation in respect of the different models. Some additional Resource Persons may be identified in due

course for making presentation on other themes, like Principles of tariff setting/ negotiation for ILR services, etc.

Item no. 4.6 Any other matter(s) with the permission of the Chair.

- (i) Chairman of the Group mentioned that the tenure of the Group is going to complete shortly and therefore suggested Shri K.P.Gupta, Director (Tech), NWDA to process the case for extension of the tenure of the Group by another six months as the Group has yet to do a lot of works though it has held four meetings so far.
- (ii) After discussion with Members and other participants it was decided to convene next meeting, i.e., 5th meeting of the Group on Financial Aspects on 1st February, 2018 at 14.30 hrs. .

The meeting ended with vote of thanks to the Chair.

Annex-I

List of Participants In the Fourth meeting of the “Group on Financial Aspects under Task Force for Interlinking of Rivers” held on 09th January, 2018 at New Delhi.

1.	Dr. Prodipto Ghosh, Former Secretary to Govt. of India & Member of Task Force for ILR and Distinguished Fellow, TERI, New Delhi	Chairman
2.	Shri Navin Kumar Chief Engineer (IMO), CWC, New Delhi	Member
3.	Shri K.P. Gupta Director (Technical), NWDA, New Delhi	Member-Secretary
4.	Shri Bhupesh Rathore, President, Strategic Govt. Advisory, Yes Bank Ltd. New Delhi	Representing Shri Rana Kapoor, Managing Director and CEO, Yes Bank Ltd.
5.	Shri Raj Kumar Pachauri, Chief Engineer (PPO), CWC, New Delhi	Special Invitee
	Officers from NWDA	
6.	Shri Anil Kumar Jain, Deputy Director(SCILR), New Delhi	
7.	Shri M.K. Sinha Senior Consultant, New Delhi	
8.	Shri R. K. Agrawal, Consultant, New Delhi	

PRESENTATION ON EXTRAPOLATED COST (MODIFIED) OF ILR PROJECTS FOR FOURTH MEETING OF FINANCIAL GROUP

BY
NATIONAL WATER DEVELOPMENT AGENCY

EXTRAPOLATED COST OF ILR PROGRAM – FIRST ESTIMATION (Discussed in 2nd Meeting)

S.N.	COMPONENTS OF ILR PROGRAM	BENEFITS ENVISAGED	COST PER UNIT	TOTAL COST
1.	IRRIGATION	35 million ha	Rs.2.8 lakh per ha or Rs.0.028 crore per ha	Rs.9.8 lakh crore
2.	HYDRO POWER	34,000 MW	Rs. 8 crore per MW	Rs.2.72 lakh crore
3.	DRINKING WATER	895 MCM +	Rs.3.32 crore per MCM	Rs.2972 crore Or 0.03 lakh crore
	TOTAL COST			Rs.12.55 lakh crore

Note- 1. FIRST ESTIMATION WAS BASED ON UNIT COST OF IRRIGATION DEVELOPMENT OF KBL PROJECT (APPROVED), AVERAGE UNIT COST OF POWER GENERATION OF KBL PROJECT (APPROVED) AND DAMANGANGA-PINJAL LINK PROJECT (APPROVED).
2. COST OF WATER SUPPLY COMPONENT OF OTHER LINKS NOT CONSIDERED AS COST OF THE SAME IS NOT INCLUDED IN IRRIGATION COMPONENT.
3. BENEFITS TAKEN ARE BASED ON NPP PROJECTION

EXTRAPOLATED COST OF ILR PROGRAM – SECOND ESTIMATION (Discussed in 3rd Meeting)

S.N.	COMPONENTS OF ILR PROGRAM	BENEFITS ENVISAGED	COST PER UNIT	TOTAL COST
1(a).	SURFACE IRRIGATION	25 million ha	Rs.3.5 lakh per ha or Rs.0.035 crore per ha	Rs.8.75 lakh crore
1(b).	IRRIGATION THROUGH GROUND WATER	10 million ha	Rs.1.0 lakh per ha or Rs.0.01 crore per ha	Rs.1.00 lakh crore (DROPPED)
2.	HYDRO POWER	34,000 MW	Rs. 6.2 crore per MW	Rs.2.11 lakh crore
3.	DRINKING WATER	895 MCM +	Rs.3.32 crore per MCM	0.03 lakh crore
	TOTAL COST			Rs.11.89 lakh crore

BASIS FOR SECOND ESTIMATION

1. Benefits as per NPP (National Perspective Plan)
2. While working out total cost of irrigation component, average unit cost of irrigation development of three projects, namely, Ken-Betwa, P-T-N and Mahanadi-Godavari link projects were considered.
3. While working out total cost of power component, unit cost of power generation of 2585 MW Sankosh H.E. Project in Bhutan (Approved by CEA) which works out to Rs.6.2 crore per MW, has been considered.

DECISIONS OF THIRD MEETING

- LINK-WISE COST OF IRRIGATION DEVELOPMENT AND POWER DEVELOPMENT SHOULD BE CONSIDERED FOR WORKING OUT TOTAL COST OF ILR PROJECT
- COST OF IRRIGATION DEVELOPMENT THROUGH GROUND WATER NOT TO BE CONSIDERED FOR ILR PROJECTS
- COST OF M-G LINK (AT 2003-04 P.L.) SHOULD BE UPGRADED TO 2015-16 P.L. BASED ON PRICE INDEX.
- UNIT COST OF IRRIGATION DEVELOPMENT SHOULD BE WORKED OUT BASED ON WEIGHTED MEAN OF THREE PROJECTS, NAMELY, KBL, PTNL & MGL IN STEAD OF SIMPLE ARITHMETIC MEAN.
- COST OF POWER PROJECTS SHOULD BE TAKEN AS RS.8.00 CRORE/MW FOR PROJECTS GENERATING < 500 MW AND RS.6.2 CRORE/MW FOR PROJECTS GENERATING >500MW

IMPLEMENTATION OF DECISIONS

- LINK-WISE COST OF IRRIGATION DEVELOPMENT AND POWER DEVELOPMENT SHOULD BE CONSIDERED FOR WORKING OUT TOTAL COST OF ILR PROJECT (DONE, TOTAL IRRIGATION-17.03 M HA, TOTAL POWER-29750 MW)
- COST OF IRRIGATION DEVELOPMENT THROUGH GROUND WATER NOT TO BE CONSIDERED FOR ILR PROJECTS (NOT CONSIDERED)
- COST OF M-G LINK (AT 2003-04 P.L.) SHOULD BE UPGRADED TO 2015-16 P.L. BASED ON PRICE INDEX. (PRICE INDEX IN 2003-04 WAS 463 AND IN 2015-16 WAS 1081 W.R. TO BASE YEAR OF 1982-83)
- UNIT COST OF IRRIGATION DEVELOPMENT SHOULD BE WORKED OUT ON WEIGHTED MEAN OF THREE PROJECTS, NAMELY, KBL, PTNL & MGL IN STEAD OF SIMPLE ARITHMETIC MEAN.
- COST OF POWER PROJECTS SHOULD BE TAKEN AS RS.8.00 CRORE/MW FOR PROJECTS GENERATING < 500 MW AND RS.6.2 CRORE/MW FOR PROJECTS GENERATING >500MW (FOLLOWED)

WEIGHTED MEAN COST OF IRRIGATION DEVELOPMENT

S.N.	NAME OF PROJECT	ANNUAL IRRIGATION IN LAKH HA	COST OF IRRIGATION DEVELOPMENT
1.	KEN BETWA(PH.-I)	6.36	Rs.2.74 lakh/ ha
2.	PAR-TAPI-NARMADA	2.32	Rs.4.32 lakh / ha
3.	MAHANADI-GODAVARI	4.43	Rs.4.165 lakh/ ha
	AVERAGE COST		Rs.3.74 lakh/ ha
	WEIGHTED MEAN COST		Rs.3.50 lakh / ha

MODIFIED EXTRAPOLATED COST OF ILR PROGRAM AS PER DECISION IN 3rd MTG

S.N.	COMPONENTS OF ILR PROGRAM	BENEFITS ENVISAGED	COST PER UNIT	TOTAL COST
1(a).	SURFACE IRRIGATION	17.03 million ha	Rs.3.5 lakh per ha or Rs.0.035 crore per ha	Rs.5.96 lakh crore
2. (a)	HYDRO POWER	27,962 MW	Rs. 6.2 crore per MW	Rs.1.73 lakh crore
2.(b)	HYDRO POWER	1608	Rs. 8.0 crore per MW	Rs.0.13 lakh crore
3.	DRINKING WATER	895 MCM +	Rs.3.32 crore per MCM	0.03 lakh crore
	TOTAL COST			Rs.07.85 lakh crore

Note- 1. Damanganga-Pinjal link is only Water supply project. Cost of water supply component in respect of other link projects are normally included in irrigation component.

CONCLUSION

EXTRAPOLATED COST HAS MAINLY COME DOWN DUE TO FOLLOWING TWO REASONS:

- * REDUCTION IN IRRIGATION BENEFITS FROM 25 M HA TO 17.03 M HA, WHEN CONSIDERED LINKWISE.
- * CONSIDERATION OF LOWER COST OF POWER GENERATION (Rs.6.2 CRORE/MW) FOR PROJECTS GENERATING >500MW AS MOST OF SUCH PROJECTS ARE LYING IN BHUTAN AND NEPAL.

THANKS

Inter-Linking of Rivers: Proposed Work Programme of Finance Group of Task Force on ILR

Prodipto Ghosh, Ph.D

09 January 2018

TORs of Finance Group

1. To study the documents relating to Finance of the earlier Task Force set up in 2002.
2. To suggest funding mechanism for each link project.
3. To study the option(s) of declaring some of the IBWT links of the NPP as national projects on the lines of Ken-Betwa.
4. To study cost-sharing of link projects by the respective beneficiary States and suggest the basis/formula for cost-sharing.
5. Any other matter relating to the above aspects.

Proposed Work Plan for Finance Subgroup

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Task No	Theme of Task	Anchor(s) for Theme	Relates to TOR(s) No(s)	Remarks
1	Review of earlier Task Force recommendations on financial aspects	Chair	1	Review of recommendations of NCAER for earlier Task Force completed
2	Update cost of each link and total for ILR at 2015 prices	NWDA	2, 3, 4	First order update completed. Refinement under way. Overall time frame for ILR to be evaluated after completion of Task Nos 3, 4, 5
3	Projections of public finance likely to be available for ILR upto 2048	NITI Aayog	2, 3, 4	?
4	Projections of private finance from Indian Financial Institutions likely to be available for ILR upto 2048	YES Bank + Dr Dipak Dasgupta	2, 4	Methodology discussed

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Task No	Theme of Task	Anchor(s) for Theme	Relates to TOR(s) No(s)	Remarks
5	Projections of funding for ILR upto 2048 from multilateral financial institutions (WB, ADB, GCF, BRICS Bank, GCF, etc.)	NITI Aayog/Mr Satish Rao + Dr Dipak Dasgupta	2, 4	
6	Review of due diligence requirements for public infrastructure projects in India	NWDA	2, 3, 4	Completed
7	Review of specific funding models (PPP etc.) for private sector (domestic and international) participation in ILR links	Resource person(s) to be identified + YES Bank	2, 4, 5	Risk mitigation mechanisms for private sector participation to be also identified in respect of each type of model/participant
5				

Task No	Theme of Task	Anchor(s) for Theme	Relates to TOR(s) No(s)	Remarks
8	Review of financing models and due diligence requirements of international financial institutions (WB etc.)	Resource person(s) to be identified + Mr Satish Rao + Dr Dipak Dasgupta	2, 4, 5	Risk mitigation mechanisms for each financing model/participant to be also discussed
9	Principles for tariff setting/negotiation for ILR services (irrigation, drinking water, inland navigation, etc.), and payment of benefits to source states by destination states and/or central govt.	Chair + Sh. AB Pandya + Dr Dipak Dasgupta (+ resource person(s))	2, 4, 5	Possibility of constitution of a ILR tariff regulatory board and its mandate to be also discussed
6				

Task No	Theme of Task	Anchor(s) for Theme	Relates to TOR(s) No(s)	Remarks
10	Identification of links for possible declaration as national projects and/or feasible ways of leveraging public finance for participation by other financing partners	Chair + AB Pandya + MK Mittal + YES Bank + Dr Dipak Dasgupta	2, 3, 5	
11	Identification of financing pattern for each (type of) link, including co-financing by beneficiary states	Chair + NWDA + AB Pandya + MK Mittal + YES Bank + Dr Dipak Dasgupta	2	
12	Drafting of report of Finance Group	Chair + NWDA	1, 2, 3, 4, 5	
				7

