

F. No L-25012(11)/2/2022-LME/NMCG  
National Mission for Clean Ganga  
Department of WR, RD&GR  
Ministry of Jal Shakti

Major Dhyanchand National Stadium  
Near India Gate, New Delhi  
Date: 05.01.2023

**Sub: Submission of Report in the matter of OA no 107/2022- Awadhesh Dikshit Vs Union of India and Others before the Hon'ble NGT(PB).**

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Sir,

This has a reference to the Order dated 18.07.2022, passed by the Hon'ble NGT in the above subject relating to illegal mining of soil and sand on the bank of river Ganga at Varanasi, from Assi Ghat to Raj Ghat, with the help of Pokeland and JCB Machine and inter-alia directing to furnish the factual report in regard to the details of policy and guidelines for proper utilization/disposal of the dredged material.

2. That accordingly, a meeting, presided over by the Secretary, Do WR, RD&GR, Ministry of Jal Shakti, was held on 08.08.2022 with the concerned officials including MoEF&CC and State Government of U.P, to discuss the policy and guidelines, for mining of sand & soil and proper utilization/disposal.

3. The delay in submission of the Report has occurred owing to the meeting of the National Council for Rejuvenation, Protection and Management of River Ganga (in short National Ganga Council(NGC) held on 30th December, 2022 at Kolkata, which was presided over by the Hon'ble Prime Minister, being the Chairperson of the NGC.

4. That the Report in compliance of the aforesaid order, is attached and requested to be placed before the Hon'ble Tribunal for consideration.

5. This issues with the approval of the competent authority.

Encl: As above

  
Binod Kumar  
Director (P)

To  
The Registrar, Hon'ble National Green Tribunal, Copernicus Marge New Delhi



F. No. L-25012(11)/2/2022-LME-NMCG  
National Mission for Clean Gang

**Report regarding “policy and guidelines on mining of soil and sand on the bank of river Ganga and proper utilization /disposal of the dredged material” – Order dated 18.07.2022, passed by the Hon’ble National Green Tribunal(NGT), in the matter of OA No 107/2022- Awadesh Dikshi vs union of India & ors.**

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**1. Background:**

1.1 The Honble National Green Tribunal (NGT) is seized of a matter related to illegal mining of soil and sand on the bank of river Ganga with the help of Pokeland and JCB Machine from Assi Ghat to Raj Ghat.

1.2. Hon’ble NGT vide its order dated 17.02.2022, constituted a Joint Committee, comprising representatives of National Mission for Clean Ganga(NMCG), UP State Pollution Control Board (UPSPCB), State Environment Impact Assessment Authority(SEIAA) and District Magistrate, Varanasi to ascertain the factual position. As per the Hon’ble NGT’s order dated 18.07.2022, the said Committee, inter-alia mentioned in the report that no mining has been carried out and only dredging has been done under the project of Ministry of Jal Shakti from Assi Ghat to Raj Ghat.

1.3. Accordingly, the Hon’ble NGT, vide its order dated 18.07.2022, asked the Secretary Ministry of Jal Shakti to furnish a factual report with details of policy on the subject with guidelines for proper utilization/ disposal of the dredged material. (Copy of the order dated 18.07.2022 is annexed as **Annexure-I**)

**2. Action Taken**

2.1 In furtherance of the above NGT’s order dated 18.07.2022, a meeting was convened on 8.08.2022, under the Chairmanship of the Secretary, Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti, to discuss the issues with the stakeholders about the policy and guidelines on mining of soil and sand on the bank of river Ganga and proper utilization/ disposal of the dredged material.



2.2. The representative of the Department of Irrigation of the State Government of U.P clarified during the meeting held on 08.08.2022, that the project mentioned in the report of the Joint Committee pertained to the State Government of U.P and not that of Union Ministry of Jal Shakti, Government of India. The project was undertaken for dredging/ removal of the silt/ sand in the river Ganga with a view to control flooding in the river (provide drainage by-pass channel) so as to avoid impact of flooding in the adjoining areas and in particular to decongest flooding impacts on the left bank of Varanasi with large number of Ghats. It was also informed that the quantity of sand removed from the Ganga river in Varanasi from the dry channel was about 10 lakh m<sup>3</sup> and that the dredging work was got done from the UP Project Corporation and had since been completed. The State Government of U.P had received Rs 2.52 crore (approx) revenue from the project work which was carried out keeping in view the public interest. The removal of soil from the river is a regular routine activities of the U.P State Government's Irrigation Department and does not involve mining necessitating prior approval or clearance from any regulatory authorities. A copy of the minutes of the meeting is attached **Annexure-II.**

2.3 The representative of the UP Project Corporation informed that work of dredging is routinely being done since 2017 in different river reached following the guidelines. The results are very good and encouraging. The dredged material, in this particular case, was promptly lifted from the site. During Covid period, in January, 2021, a study was also undertaken through a Technical Committee constituted to study the impacts of dredging in the river, as there was pressure from the District administration to carry out dredging to avoid any adverse impact from excess flow of water in the river. It was explained that post de-notification of turtle sanctuary on the right bank of river Ganga in Varanasi, the high velocity flows in River Ganga continue to impinge on the left bank and foundation of large number of ghats, including historical ghats, located there. Accordingly, this study was undertaken by construction of flood by-pass channel on the right bank in the flood plains to relieve the pressure of flows in monsoon on the left bank of river. The result of the study has demonstrated effectiveness of such flood by-pass channel towards stated objectives.



The representative of the UP Project Corporation of India also explained that dredging/ excavation of the soil/ earth, falls in the exempted category of the cases as per MoEF&CC's notification dated 28th March, 2020 and as such do not require environmental clearance.

2.4 The representative of the Inland Waterways Authority of India (IWA), Ministry of Shipping informed that no dredging has been undertaken by them in the area of Assi Ghat. However, only maintenance dredging is being taken-up/ proposed to be undertaken beyond Patna. The dredged material is normally put in the river bed itself, 100-150 meters away from the river channel, quite away from the river bank. Minor dredging is done of the navigational channel only. The quantity of the dredged material is based on the proper survey using cutter dredger/ pumping and relocating the dredged/ scrapped material back into the river having high velocity water, so that the dredged/ scrapped material flows along with the river water. Major excavation is not done by the organization. It was also stated that for maintenance dredging, in the navigational channel, environmental clearance is not required.

### 3. Policy & Guidelines.

3.1 As regards the policy and guidelines on "sand & soil mining and proper utilization/disposal of the dredged material, the following is mentioned :

- i. That the Ministry of Environment, Forests & Climate Change (MoEF&CC) Guidelines framed in 2016, for *Sustainable Sand Mining Management* vide Notification No S.O 1224 (E), dated 28<sup>th</sup> March, 2020, published in the Gazette of India, mandates prior environment clearance in respect of mining wherein exemption in respect of certain category of cases have been specifically mentioned from the requirement of environment clearance. The item no 6 and 7 of the Appendix –IX of the said Notification stipulates: -

*(a)-(item No 6)- Extraction or sourcing or borrowing of ordinary earth for linear projects such as roads, pipelines etc;*



*(b)-(Item No 7)- Dredging and de-silting of dams, reservoirs, weirs, barrages, river and canals for the purpose of their maintenance, upkeep and disaster management.*

- ii. Paragraph 42 of the Notification no S.O 3187 (E), dated 07.10.2016, i.e., *River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016*; envisages seeking prior approval from the NMCG in respect of : (a) engineered diversion and storage of water in River Ganga without affecting the flow of water downstream of the River Ganga; (b) construction of bridges and associated roads and embankments over the River Ganga or at its River Bank or its flood plain area; (c) construction of Ghats or extension of any existing Ghat; (d) construction of jetties; (e) construction of permanent hydraulic structures for storage or diversion or control of waters or channelisation of River Ganga or its tributaries; (f) deforestation of hill slopes and notified forest and other eco-sensitive areas; (g) any other activity which contravenes the principles laid out in paragraph 4 which the National Mission for Clean Ganga may specify

A "Web-enabled platform" has been evolved/ developed by NMCG for processing applications (submission & examination) for seeking approval in terms of paragraph 42 aforesaid.

- iii. The proposals regarding dredging in rivers, undertaken by concerned authorities, either private or public, for various projects/ activities shall be considered by NMCG, if such projects attract paragraph 42 of the notification dated 7.10.2016, as dredging is being undertaken, routinely/ periodically, by the authorities;
- iv. *National Framework for Sediment Management, October 2022* has also been developed by Central Water Commission, Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti. The National Framework will serve as a reference document/ guidelines for sediment management/ disposal. The Framework may provide necessary guidance in appraisal of proposals for sediment management, as and when such proposals are received by the NMCG;
- v. There is no existing framework/ guidelines for utilization of the dredged material. Therefore, meanwhile, guidelines/ framework



shall be evolved by the State Governments/ UT Administrations, at the earliest within a specified time, to undertake proposals for sediment management including those for dredging so as to avoid any adverse impact on the river ecology/ riverine hydrology/ biodiversity;

- vi. The methodology for undertaking sand and/ or silt excavation for purposes of flood management, meanwhile shall be examined for its inclusion in the National Framework for Sediment Management after due consultation with States.

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Item No. 05

(Court No. 1)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 107/2022

Awadhesh Dikshit

Applicant

Versus

Union of India & Ors.

Respondent(s)

Date of hearing: 18.07.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER  
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER**

Applicant: Mr. Saurabh Tiwari, Advocate

**ORDER**

1. Grievance in this application is regarding illegal mining of soil and sand on the bank of river Ganga with the help of Pokeland and JCB Machine from Assi Ghat to Raj Ghat. It is alleged that illegal mining of sand and soil is continuing without any District Survey report (DSR) and Environmental Impact Assessment (EIA) in violation of Hon'ble Supreme Court order in Deepak Kumar Vs. State of Haryana & Ors., (2012) 4 SCC 629 and NGT order in O.A No. 173/2018 in the case of Sudarshan Das V. State of West Bengal & Ors.

2. Vide order dated 17.02.2022, the Tribunal constituted a joint Committee of the National Mission for Clean Ganga, State PCB, SEIAA, UP and District Magistrate, Varanasi to ascertain the factual position.

The joint Committee through State PCB has filed its report to the effect that no mining has been carried out and only dredging has been done under the project of Ministry of Jal Shakti from Assi Ghat to Rajghat on the left bank of river Ganga.

3. We consider it necessary to confirm that dredging was under the project of Ministry of Jal Shakti. Let the Secretary, Ministry of Jal Shakti furnish a factual report in this regard with details of policy on the subject with guidelines for proper utilization/disposal of dredged material. The report may be furnished within two months by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

List for further consideration on 21.10.2022.

A copy of this order be forwarded to the Secretary, Ministry of Jal Shakti, GoI, by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

July 18, 2022  
Original Application No. 107/2022  
SN

F.No L-25012(11)/2/2022-LME-NMCG

National al Mission for Clean Gang

Department of Water Resources, River Development &

Ganga Rejuvenation

Ministry of Jal Shakti

Major Dhyan Chand National Stadium

Near India Gate, New Delhi

Dated: 19.09.2022

OFFICE MEMORANDUM

Subject: Minutes of the meeting held on 8<sup>th</sup> August, 2022 to discuss the Policy & Guidelines for mining of sand & soil and proper utilization of the dredged material- in the matter of OA no 107/2022- Awadhesh Dikshit Vs Union of India & Ors- before the Hon'ble NGT(PB)

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Reference is invited to the meeting held on the subject cited above. The minutes of the meeting are enclosed herewith for information and necessary action in the matter. The Action Taken Report(ATR) may be submitted in the matter.

2. This issues with the approval of the competent authority.

~~D.P Mathuria~~  
Executive Director (Tech)

18.9.22

To,  
All concerned.

Copy for information to:

1. PPS to the Secretary, DoWR, RD&GR, Ministry of Jal Shakti, Shram Shakti Bhawan, New Delhi
2. PS to the DG, NMCG.
3. ED(T)/ED(P)/ED(F), ED(A), NMCG
4. Director(Coordinating)NMCG

ANNEXURE-II



F.NO L-25012(11)/2/2022-LME-NMCG

NATIONAL MISSION FOR CLEAN GANGA

Department of Water Resources, River Development & Ganga Rejuvenation

Ministry of Jal Shakti

Minutes of the meeting, held on 8<sup>th</sup> August, 2022, to discuss the Policy & Guidelines for mining of sand & soil and proper utilization/ disposal of the dredged material- in the matter of OA no 107/2022- Awadhesh Dikshit vs Union of India & Ors- before the Hon'ble NGT(PB)

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1. A meeting to discuss, "Policy & Guidelines for mining of sand, soil and proper utilization/ disposal of the dredged material", was held, in a hybrid mode, on 8<sup>th</sup> August, 2022 at 12.00 P.M, under the Chairmanship Secretary, D/oWR,RD&GR, in the Conference room of the Ministry of Jal Shakti, New Delhi.

2. The list of the participants is attached.

3. At the outset the Secretary, D/oWR,RD&GR, briefly, explained the background of the subject for discussion and the order/ directions dated 18.07.2022, passed by the Hon'ble NGT(PB) in OA no 107/2022-Awadhesh Dikshit vs Union of India & Ors, wherein the Ministry of Jal Shakti has been asked to furnish a factual report to confirm whether dredging of the project in the case referred to above, was under the project of Ministry of Jal Shakti and the details of policy & guidelines for proper utilization/ disposal of dredged material.

4. To begin with the representative of the Irrigation Department of State Government of U.P. explained that the project in the case pertains to the Irrigation Department of the State Government of U.P. and not of the Ministry of Jal Shakti, Government of India. It was informed that the project in question was undertaken for dredging/ removal of the silt/ sand in the river Ganga with a view to control flooding in the river so as to avoid impact of flooding in the adjoining areas and in particular to decongest flooding impacts on the left bank of Varanasi with large number of ghats.

5. As per the report of the Joint Committee, constituted by the NGT, the quantity of sand removed from the Ganga river in Varanasi from the dry channel was about 10 lakh m<sup>3</sup> and that the dredging work was got done from the UP Project Corporation and had been completed. The state government has received Rs 2.52 crore(approx) revenue from the project work which was carried out keeping in view the public interest.

It was also informed that removal of soil from the river is a regular routine activities of the U.P State Government's Irrigation Department and does not involve mining which necessitates prior approval or clearance from any regulatory authorities.



6. 6..Executive Director(Tech), NMCG, made a detailed presentation on the subject [copy attached] covering the NGT's order dated 18.07.2022 [in OA no 107/2022], MoEF&CC's Guidelines framed in 2016 for *Sustainable Sand Mining Management*, MoEF&CC's notifications on the subject and in particular Notification No S.O 1224 (E), dated 28<sup>th</sup> March, 2020 published in the Gazette of India, requiring prior environment clearance in respect of mining whereby exemption in respect of certain category of cases have been specifically mentioned from the requirement of environment clearance. The item no 6 and 7 of the Appendix –IX of the said Notification stipulates as under: -

(a)-(item No 6)- *Extraction or sourcing or borrowing of ordinary earth for linear projects such as roads, pipelines etc;*

(b)-(Item No 7)- *Dredging and de-silting of dams, reservoirs, weirs, barrages, river and canals for the purpose of their maintenance, upkeep and disaster management.*

The presentation also covered various other existing prevailing laws/ guidelines, touching on the aspects of regulating or otherwise sand mining/dredging activities viz., provisions relating to *Flood Plain Zoning*; provisions in the *IWAI Act*, *Forest Conservation Act* with provisions as regards structural intervention for by-passing of sediments in existing dams or any other activity; *Policy on Sediment Management* of D/o WR,RD &GR, Ministry of Jal Shakti, Government of India framed in July, 2017; Notification dated 09.10.2018 pertaining to the e-flows for the river Ganga in the context of maintenance of e-flows; *draft National Framework for Sediment Management* framed in June, 2022 for dredging and desilting related activities for sediment management in rivers. Further an overview of various studies which have been undertaken by the Government of India to study the siltation and sedimentation of rivers including the M/oWR,RD&GR's *Committee for Desiltation works in Ganga referring to the Chitale Committee's Report from Bhimgauda to Farakka* was presented along with their recommendations.

7. Further the provisions contained in *paragraph 42 of the Notification no S.O 3187 (E) dated 07.10.2016 i.e., River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016* was duly considered which stipulates obtaining prior approval of the National Mission for Clean Ganga(NMCG) on certain matters contained therein. Paragraph 42 provides as under:

*42. Giving of prior approval in certain matters.- Every person, the State Ganga Committees, District Ganga Protection Committees, local authorities and other authorities shall obtain prior approval of the National Mission for Clean Ganga, on the following matters, relating to River Ganga and any area abutting River Ganga or its tributaries, if required to implement the decisions of the National Ganga Council, namely:- (a) engineered diversion and storage of water in River Ganga without affecting the flow of water downstream of the River Ganga; (b) construction of bridges and associated roads and*



*embankments over the River Ganga or at its River Bank or its flood plain area; (c) construction of Ghats or extension of any existing Ghat; (d) construction of jetties; (e) construction of permanent hydraulic structures for storage or diversion or control of waters or channelisation of River Ganga or its tributaries; (f) deforestation of hill slopes and notified forest and other eco-sensitive areas; (g) any other activity which contravenes the principles laid out in paragraph 4 which the National Mission for Clean Ganga may specify*

The Supreme Court's recommendation in the matter of Deepak Kumar vs State of Haryana were also duly considered and presented.

8. During discussion Executive Director(Tech), NMCG informed that the U.P State Government had neither informed nor sought any approval from the NMCG in terms of the above said notification dated 7.10.2016 and as such the assessment of the impact of the project/ activities undertaken by the U.P. Department of Irrigation could not be assessed. It was also informed that NMCG, however, had made a reference to the State Government of UP with regard to a project involving shifting/ re-location of Turtle Sanctuary, a matter separately seized before the Hon'ble High Court of Allahabad. Further, NMCG also has sought clarifications from Divisional Commissioner, Varanasi, Chairman of Committee constituted for monitoring of activities in the floodplains and ghats of Ganga in Varanasi under orders of Allahabad High Court.

9. The representative of the MoEF&CC affirmed that the category of projects, falling under item no 6 and & 7, besides other cases (numbering 13 items), as stipulated in Appendix-IX to the Notification No S.O 1224 (E) dated 28<sup>th</sup> March, 2020 are exempted from the requirement of the Environmental Clearance.

10. It emerged that there are adequate policy and guidelines to regulate sand and soil excavation activities including in the river bed.

11. The representative of the UP Project Corporation informed that work of dredging is routinely being done since 2017 in different river reached following the guidelines. The results are very good and encouraging. The dredged material, in this particular case, was promptly lifted from the site. During Covid period, in January, 2021, a study was also undertaken through a Technical Committee constituted to study the impacts of dredging in the river, as there was pressure from the District administration to carry out dredging to avoid any adverse impact from excess flow of water in the river. It was explained that post denotification of turtle sanctuary on the right bank of river Ganga in Varanasi, the high velocity flows in River Ganga continue to impinge on the left bank and foundation of large number of ghats, including historical ghats, located there. Accordingly, this study was undertaken by construction of flood by-pass channel on the right bank in the flood plains to relieve the pressure of flows in monsoon on the left bank of river. The result of



the study has demonstrated effectiveness of such flood by-pass channel towards stated objectives.

12. The representative of the *Inland Waterways Authority of India (IWAI)*, Ministry of Shipping informed that no dredging has been undertaken by them in the area of Assi Ghat. However, only maintenance dredging is being taken-up/ proposed to be undertaken beyond Patna. The dredged material is normally put in the river bed itself, 100-150 meters away from the river channel, quite away from the river bank. Minor dredging is done of the navigational channel only. The quantity of the dredged material is based on the proper survey using cutter dredger/ pumping and relocating the dredged/ scrapped material back into the river having high velocity water, so that the dredged/ scrapped material flows along with the river water. Major excavation is not done by the organization. It was also stated that for maintenance dredging, in the navigational channel, environmental clearance is not required.

13. The representative of the UP Project Corporation of India also explained that dredging/ excavation of the soil/ earth, falls in the exempted category of the cases as per MoEF&CC's notification dated 28<sup>th</sup> March, 2020 and as such do not require environmental clearance.

14. Central Water Commission (CWC) representative stated that the dredging done for maintenance purposes do not require Environmental Clearance. However, if the dredging is undertaken for a project for any commercial purposes, the following aspects are to be duly considered/addressed: -

- i. Feasibility report of the project must be prepared and duly examined to assess the impact;
- ii. Detailed Project Report (DPR) must be prepared by an expert agency;
- iii. Dumped/ dredged material must be utilized urgently;
- iv. Flood Control Guidelines, already prepared, must be adhered to.

15. The following concluding propositions emerged:

- i. The project, in question, undertaken by State Government of U.P. was project of U.P. Government and not of Union Ministry of Jal Shakti.
- ii. The project, in question, of the State Government of U.P., although not referred to the NMCG, for consideration/ seeking approval, should have been sent for consideration and assessment in accordance to the provisions contained in paragraph 42 of the Notification no S.O 3187 (E) dated 7-10.2016 i.e., River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016;
- iii. NMCG has a proper system "Web-enabled platform" for dealing with applications, covered under paragraph 42 of the notification dated 07.10.2016 for submission of applications and examination thereof. The



- web-enabled platform could have been utilized by the U.P State Government for approaching NMCG for seeking approval or otherwise etc.
- iv. The proposals regarding dredging in rivers, undertaken by concerned authorities, either private or public, for various projects/ activities are to be considered by NMCG, if such projects attract paragraph 42 of the notification dated 7.10.2016, as dredging is being undertaken, routinely/ periodically, by the authorities;
  - v. Draft National Framework for Sediment Management evolved in June'2022 by CWC would serve as a reference document/ guidelines for sediment management/ disposal, which will also be used by NMCG to assess such proposals;
  - vi. If there is no existing framework/ guidelines for utilization of the dredged material, such guidelines/framework need to be evolved by all the State Governments/ UTs, including the U.P State Government, at the earliest, to avoid any adverse impact on the river ecology/ riverine hydrology/ biodiversity;
  - vii. The methodology for carrying out operation of sand and/ or silt excavation for purposes of flood management needs to be examined for its inclusion in the Draft National Framework for Sediment Management.
  - viii. Response to NGTs directions may be prepared accordingly.
16. The meeting ended with a vote of thanks to the Chair.

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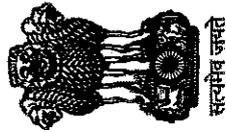
List of Participants

1. Secretary, DoWR, RD&GR, Ministry of Jal Shakti, Government of India- In Chair
2. Shri Asok Kumar, DG, NMCG
3. Shri D.P. Mathuria, Executive Director(Tech), NMCG
- 4.. Shri. Mahesh Kumar Pandey, Chief Engineer(Mech.) Irrigation Department, State Govt. of U.P
- 5.. Representative of the UP Project Corporation Ltd, Lucknow (U.P) [ *via video conferencing*]
6. Shri C.B. Sharma Resident Officer Dredging Corporation of India
7. Shri Ashutosh Gautam Member(Tech), Inland Waterways Authority of India
8. Shri R.K. Singh Chief Environment Officer, UP PCB, Lucknow (U.P)
9. Shri Praveen Kumar, Regional Officer, UPPCB, Noida (U.P)
10. Shri Pankaj Verma, Scientist E, MoEF&CC, New Delhi
- 11.. Shri Ritesh Khattar CWC
- 12 Shri P.M. Solt CWC
- 13 Shri Ishwer Sing, NMCG
14. Shri Subham Tiwari, PMU-KPMG, NMCG.
15. Shri Ashwini Dubey PMU-KPMG, NMCG.



# PROPER UTILIZATION/ DISPOSAL OF DREDGED MATERIALS

A REVIEW OF POLICY, GUIDELINES/ FRAMEWORKS



MINISTRY OF JAL SHAKTI  
DEPARTMENT OF WATER RESOURCES, RIVER  
DEVELOPMENT & GANGAREJUVENATION



7

## Content

- i. NGT Orders on mining of soil and sand on the bank of river Ganga
- ii. Impacts of excessive mining of soil and sand on river bank
- iii. MoEF&CC Guidelines: Principles and Objectives to promote scientific evidence based Sand Mining
- iv. Prevailing Laws & Guidelines relating to Sand Mining, Dredging
- v. Overview of Studies carried out by Government to study issue of siltation and sedimentation of rivers
- vi. Chitale Committee Report: 2017
- vii. Detailed discussion on select Guidelines and Frameworks around Dredging/ Sand Mining
  - Sustainable Sand Mining Management Guidelines – 2016, MOEF
  - Draft policy on Sediment Management- MoWR, RD GR in July 2017
  - Enforcement & Monitoring Guidelines for Sand Mining, MoEF & CC
  - National Framework For Sediment Management, June 2022, MoJS-DoWRR & Ganga Rejuvenation

## NGT Orders on mining of soil and sand on the bank of river Ganga

- **Hon'ble National Green Tribunal (NGT)** in matter [ O.A no 107 of 2022- *Awadhesh Diksht vs Union of India & Ors*] seized of issue of illegal mining of soil and sand on bank of river Ganga with the help of Pokeland and JCB Machine from Assi Ghat to Raj Ghat.
- **Illegal mining** of sand and soil continuing without any District Survey report (DSR) and Environmental Impact Assessment (EIA).
- **Hon'ble NGT Vide order dated 17.02.2022** constituted a Joint Committee to ascertain the factual position. The Joint Committee in its report has inter-alia mentioned that **no mining has been carried out and only dredging has been done on the left bank of river Ganga**
  - Committee with representatives of NMCG, U.P State PCB, SEIAA and District Magistrate, Varanasi
- **Hon'ble NGT Vide order dated 18.07.2022** sought a report with details of Policy on subject with Guidelines for proper utilization/disposal material.

**Supreme Court (2012) 4 SCC 629 : Deepak Kumar vs State of Haryana and Ors**

- Specific river stretch to be identified in case of river bed sand mining
- Mining lease be granted stretch wise to ensure effective monitoring by regulators
- Depth of mining be restricted to 3m/ water level which ever is less.
- For mining in proximity to any bridge or embankment, appropriate safety zone be worked out on case to case basis (parameters to be considered, structural, locational, flow rate etc.)
- No mining in safety zone to be undertaken so worked out

## Impacts of excessive mining of soil and sand on river bank

(11)

- i. It may significantly distort the natural equilibrium of a stream channel.
- ii. It interrupts the continuity of sediment transport through the river system, subsequently disrupting the sediment mass balance in the river downstream
- iii. It can lead to loss of riparian habitat which results in lowering the water table and bank undercutting
- iv. Adequate dredging prevents excess sedimentation, which is considered the greatest pollutant in waters and constitutes one of the major environmental factors in the degradation of stream fisheries

**MoEF&CC – 2016/2020 Guidelines inter-alia provides the following Principles:**

- i. Uncontrolled sand mining is not sustainable**
- ii. Mandatory compliance with present and future legislation and regulations.**
- iii. Lease holder to self-regulate to the extent that it can demonstrate compliance with legislation and regulations.**
- iv. Increased formal enforcement and monitoring should be implemented with punitive measures**

## MOEF&CC-2016/2020 Objectives to promote scientific evidence based Sand Mining:

13

- i. To ensure sand and gravel mining to carried out in **environmentally sustainable and socially responsible manner.**
- ii. Ensure **conservation of the river equilibrium and its natural environment**
- iii. To ensure availability of **adequate quantity of aggregate** in sustainable manner.
- iv. **To avoid aggradation at the downstream reach especially those with hydraulic structures such as jetties, water intakes etc**
- v. To ensure **riders are protected from bank and bed erosion** beyond its stable profile.
- vi. To maintain the river equilibrium with the application of sediment transport principles in **determining the locations, period and quantity to be extracted.** Thus, allowing sand mining/dredging in areas identified by proper scientific studies.

# Prevailing Laws relating to Sand Mining, Dredging

Laws Discusses

## Draft Flood Plain Zoning Bill, CWC, 1975

The River Regulation Zoning for demarcating necessary zones

Any encroachment of flood plain, reclamation of lakes, or disconnection of lakes from the river should be avoided. Rather, adjoining lakes/depressions may be de-silted to increase their storage capacities. The **de-silting of lakes, etc., should be in such a manner that the sediment continuity is maintained and should not lead to head cut** that creates safety issues for river crossings, water intakes or river training works locally or upstream.

## Section 14 (Chapter IV) of IWA Act (82 of 85)- IWA(I)

- IWA is required to carry out dredging to clear shoals/shallow patches on fairway in National Waterways as a mandatory functional requirement as per the Act
- Maintenance dredging is required to be taken up at short notice on **frequent basis on regular bathymetry surveys**
- Such dredging including its disposal is also exempted from obtaining clearance from MoEF&CC

## Forest Conservation Act, 1980

For structural intervention for **sediment by-passing in existing dams or any other activity**, if the land required is forest land, diversion of forest land would attract forest clearance

# Prevailing Guidelines relating to Sand Mining, Dredging

Guidelines

Discusses

15

Environment (Protection) Act, 1986 (latest guidelines/Notification 2020 of MoEF&CC)

- To limit the potential bed/ bank degradation, restrictions as per notifications & guidelines being notified under the Act, shall apply on dredging/de-silting/mining
- In large alluvial rivers, separately prescribed restrictions relating to dredging/ de-silting/ mining will apply

Sustainable Sand Mining Management Guidelines – 2016, MOEF

Ensuring availability, by monitoring and maintaining of Sand & Gravel under District Environment Impact Assessment Authority (DEIAA) and District Level Expert Appraisal Committee (DEAC)

S.O. 141(E) of MoEF & CC dated 15th January, 2016

- SNo6: Extraction or sourcing or borrowing of ordinary earth for linear project such as roads, pipelines etc.**
- SNo7: Dredging and desilting of dams, reservoirs, weirs, barrages, rivers and canals for purpose of their maintenance, upkeep and disaster management is exempted from Environment Clearance as per this S.O.**

ISI Guidelines for riverbed travel/ sand mining

Incorporating geoscientific opinions of GSI are formulated to address the issues pertaining to riverbed mining.

Policy on Sediment Management- MoWR, RD&GR in July 2017

Necessities to adopt Silt management Policy for sensible and sustainable sediment management in rivers and reservoirs.

## Prevailing Guidelines relating to Sand Mining, Dredging

Guidelines	Discusses
<p>“Sand Mining Framework” released by Ministry of Mines in March, 2018</p>	<p>Assisting States to arrive at appropriate policy and administrative system for addressing the needs of Sand Mining Sector.</p>
<p>Guidelines on e-flow for the river Ganga in 2018 vide notification dated 09.10.18, DoWR, RD &amp; GR,</p>	<p>Policy and Prevailing provisions on River conservation and Maintenance of Environmental Flows in Rivers in India</p>
<p>“Operational Procedures for Assessing &amp; Managing Environmental Impacts in Existing Dam Projects” CWC, Nov. 2020</p>	<ul style="list-style-type: none"><li>• Both have competent level approval of MOEF&amp;CC</li><li>• Discusses Environmental and social safeguard issues related to de-silting in the existing dams in context of various statutory and regulatory norms.</li></ul>
<p>“Handbook for Assessing and Managing the Reservoir Sedimentation”, CWC, 2019</p>	
<p>Enforcement and Monitoring Guidelines for Sand Mining -2020, MOEF</p>	<p>Highlights collection of critical information for enforcement of the regulatory provision(s) and requirements necessary for effective monitoring for Sustainable Sand Mining.</p>
<p>National Framework For Sediment Management, June 2022, MoJS-DoWR, RD&amp;GR</p>	<p>Relates to dredging and desilting related activities for sediment management in rivers</p>

## Overview of Studies studies have been carried out by Government to study issue of siltation and sedimentation of rivers

(17)

The latest study relating to siltation and sedimentation of rivers has been carried out in 2017 which recognizes both the environmental degradation and the economic value arising out of desilting operations in rivers

S.N	Year	Committee	Purpose
1	1980	Rashtriya Barh Ayog	To review the flood protection measures undertaken since 1954
2	1996	G.R. Keskar Committee	For bank erosion problem of river Ganga Padma in West Bengal
3	2000	R Ghosh Committee	To study the erosion problem in critical reaches of Ganga between Buxai & Mokama
4	2002	B.K. Mittal Committee	To study silting of rivers in India
5	2003	C.B. Vashishta Committee	Committee for identification of critical anti-erosion schemes of Ganga basin States
6	2004	MK Sharma Report	For flood and erosion problems of North Bengal
7	2004	Task Force Report	For Flood Management/Erosion Control
8	2017	MoWR Committee / For Guidelines for Desiltation works in Ganga from Chitale Committee Report Bhimgauda to Farakka	

Chitale Committee Report Bhimgauda to Farakka

## Chitale Committee Report :2017

### Guidelines for works on De-Siltation from Bhimgauda (Uttarakhand) to Farakka (West Bengal)

- Catchment Area Treatment and Watershed Development works along with good agricultural practices and river bank protection / anti-erosion works are necessary to reduce silt inflow and overall ecology
- Erosion, movement and deposition of sediment in a river are natural regulating functions of a river. The river stream has to complete its geo-morphological cycle.
- De-siltation quantity should not exceed deposition rate.
- Meandering is a natural process of river, do not hinder the process. The latitudinal connectivity must be ensured
- Instead of “keeping the silts away”, “giving the silts way” should be adopted

# Sustainable Sand Mining Management Guidelines – 2016, MOEF

19

## Aim of the Guideline

Main objective is to ensure sustainable sand mining and environment friendly management practices to restore and maintain ecology of river and other sand sources.

## Institutional Strengthening

Creation of **District Level Environment Impact Assessment Authority (DEIAA)** and **District Level Expert Appraisal Committee (DEAC)** for granting mining **Environmental Clearances**. Guidelines ensures mining is done in environmentally sustainable and socially responsible manner by incorporating **river equilibrium**. Some of the key objectives of the Guidelines are highlighted as follows:

## Key Objectives

- To ensure availability of adequate quantity of aggregate in sustainable manner.
- Ensure that the rivers are protected from bank and bed erosion beyond its stable profile
- No obstruction to the river flow, water transport and restoring the riparian rights and instream habitats.
- To maintain the river equilibrium with the application of sediment transport principles in determining the locations, period and quantity to be extracted.
- To prevent ground water pollution by prohibiting sand mining on fissures where it works as filter prior to ground water recharge.
- Streamlining and simplifying the process for grant of environmental clearance (EC) for sustainable mining

## Sustainable Sand Mining Management Guidelines – 2016, MOEF (cont.)

### Institutional Strength ening

Central Government has constituted District Level Environment Impact Assessment Authority (DEIAA), for grant of environmental clearance and District Level Expert Appraisal Committee (DEAC) will appraise cases and make recommendations to DEIAA for environmental clearance. Further, State to create and establish a robust system to monitor and measure the mined out mineral at each location and its transportation.

### District Survey Report

District Survey Report (DSR) to be important initial step. Following processes included:

- Use of satellite imagery for identifying areas of aggradation / deposition where mining can be allowed.
- Calculation of annual rate of replenishment and allowing time for replenishment after mining.
- Identifying ways of scientific and systematic mining
- Identifying measures for protection of environment and ecology.
- A bench mark (BM) with respect to mean sea level (MSL) should be made essential to in-mining channel reaches (MCR) below which no mining shall be allowed.
- Implementing safeguards for checking illegal and indiscrete mining
- Identifying steps for conservation of mineral.
- Permanent gauging facilities should be made compulsory for the sites having excessive mining.

## Policy on Sediment Management- MoWR, RDGR in July 2017

### Approach

Bank erosion induced by dredging can result in loss of land, damages to man-made structures, and adverse impact to environmental resources. The policy mentioned about sensible and sustainable sediment management in rivers and reservoirs, which is necessary to adopt a **Silt Management Policy**.

### Institutional Strengthening

River Basin Authority to be established for all basins as per recommendation of Doabia Committee.

Before taking any desiltation/ dredging work, following guidelines should be followed.

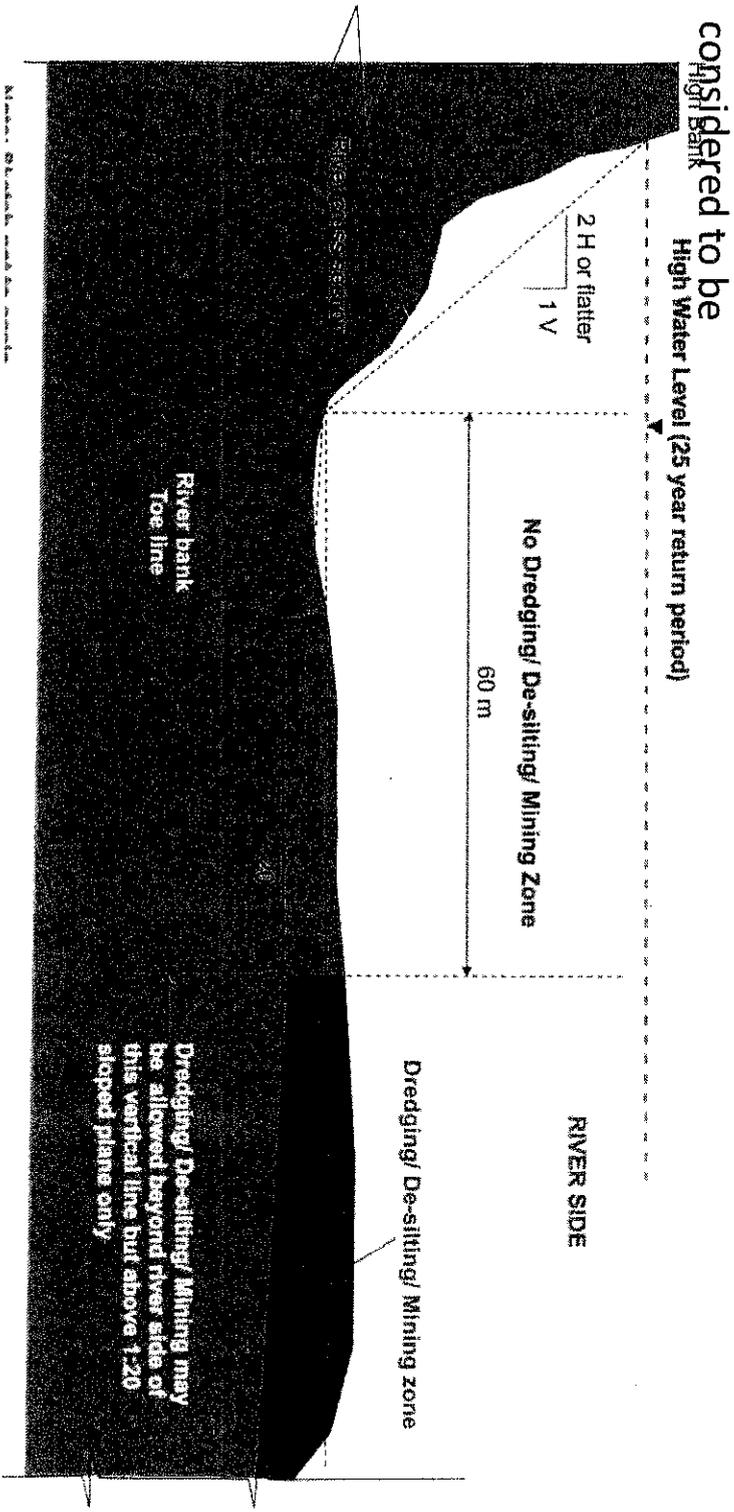
- DPR should include the negative impact on ecology and environment due to desilting
- Sediment modelling studies for the river to be done before taking up any such project
- Contamination to water body, flora and fauna adjacent to disposal site to be strictly avoided
- No project should be executed before formulating a suitable and sustainable action plan for silt disposal, to avoid damage to ecology

### Key Points

# Policy on Sediment Management- MoWR, RD GR in July 2017 (cont.)

## Restrictions

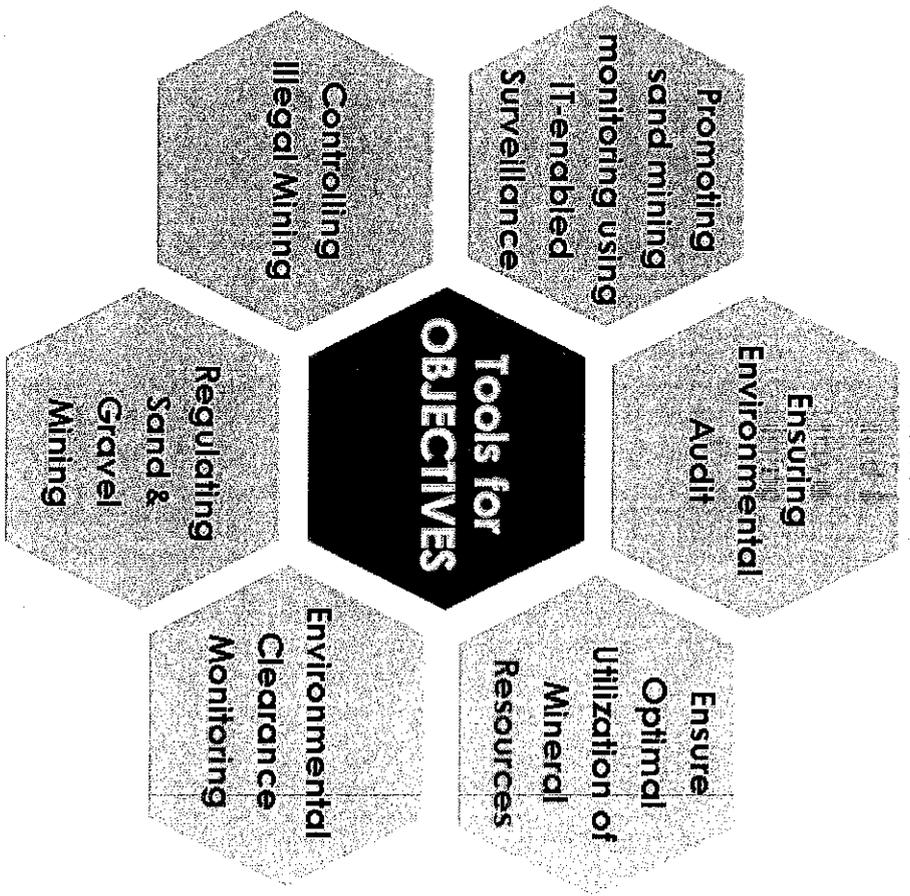
- Further to reduce the adversely impact on river stability, following restrictions are imposed to limit the potential for dredging/ de-silting/ mining :
- No dredging will be allowed within 60 m of the most upstream and downstream point of such banks.
- Dredging/ de-silting/ mining restrictions as shown in figure shall apply for the bank considered to be



# Enforcement & Monitoring Guidelines for Sand Mining, MoEF & CC, 2020

As per Section 5(2) (b) of Mines & Minerals (Regulation & Development) Act, 1957, Mining lease should be accompanied by a approved Mining Plan. The Guidelines highlights following key considerations of the Mining Plan to ensure sustainable mining :

- Preparation of **District Survey Report (DSR)** for identification of possible Sand Mining locations
- Restricting Mining** to areas identified in District comprehensive **Mining Plan**
- Geo-tagged mining zones** to be auctioned by authority for GIS based surveillance
- Mandatory Environmental Clearance** and post clearance monitoring for effective scanning the mining activities
- State Government shall constitute a **District Level Task Force (DLTF)** to develop robust institutional and legal framework for uniform monitoring mechanism
- Conduct **replenishment study for river-bed sand** in order to nullify the adverse impacts arising due to excessive sand extraction.



## **Enforcement & Monitoring Guidelines for Sand Mining, MoEF & CC, 2020 (cont.)**

**Mining Plan** approved by regulatory authorities is mandatory for mine owner before mining. At the time of review of mining plan, details of replenishment study conducted for all the years needs to be included in mining plan. In addition, following key considerations are made in the **Mining Plan** :

- **Determining removal capacity** based on width and replenishment rate of river.
- **No extraction from sites exposed to erosion**; such as concave banks.
- Using historical or gauged flow rating curve, **determine suitable period** of high flow that can replenish the **extracted volume**
- **Restricting mining depth to 3m and distance from bank should be ¼th or river width** and should greater than 7.5m.
- Preference for auction of a continuous section of parcels to **avoid professional misconduct resulting from the bidder's cartel** for the excavation of an unauctioned adjacent parcel.
- Monitoring of Sale and Purchase of Sand & RBM to be regulated by State Government, an online portal for sale and purchase of Sand & River Based Minerals (RBM) to be developed and ensuring penalization of the persons/agency buying the same from an illegal sources.

# National Framework For Sediment Management, June 2022, MoJS-DOWRR & Ganga Rejuvenation

25

Framework under development in CWC – consultation with State and Central Agencies completed.

## SEDIMENT-A RESOURCE - DISPOSAL OF DREDGED / DESILTED MATERIALS

- Dredged material is valuable resource & use planned in convergence with various concerned organisation will bring direct economic values, social & environmental merits.
- Major use of dredged material includes land reclamation, land filling, construction & protection materials (for highways, railways, flood protection embankment etc.), top soil enhancement agricultural use, habitat creation and restoration, beach nourishment, shore protection, river management
- End use of dredged material should be part of comprehensive action plan.

# National Framework For Sediment Management, June 2022, MoJS-DoWRR & Ganga Rejuvenation

<ul style="list-style-type: none"> <li>• As an integral aspect of the Sustainable Management Plan, Dredging/ desilting projects including all components and their techno-economic performances need to be evaluated</li> <li>• Comprehensive DPR to be prepared by the State Authority/ Project authority</li> </ul>	<ul style="list-style-type: none"> <li>✓ Procedure for Environmental Clearance for Mining of Minor Mineral including Cluster”, as enumerated in App XI-MOEF&amp;CC Gazette notification dt 15.01.2016</li> </ul>	<ul style="list-style-type: none"> <li>✓ To check instances of sediment removal from dams/rivers for commercial purposes, restoration of storage capacity of reservoirs, river channelization etc</li> </ul>
<ul style="list-style-type: none"> <li>✓ Sustainable Sand Mining Management Guidelines, 2016” of MoEF&amp;CC</li> </ul>		<ul style="list-style-type: none"> <li>✓ Operational Procedures for Assessing and Managing Environmental Impacts in Existing Dam Projects” CWC</li> </ul>

## EVALUATION OF SEDIMENT MANAGEMENT PROJECTS

## National Framework For Sediment Management, June 2022, MoJS-DOWRR & Ganga Rejuvenation

(27)

### COMMITTEE REQUIRED TO BE SETUP – “TAC”

- Proposes setting up a Committee for for Techno-economic appraisal of Sediment Management Schemes to be called State Technical Advisory Committee (TAC)
- Suggestive composition of a TAC:
  - Principal Secretary(Irrigation/Flood Control/ Water Resources) as Chairman
  - 10 members including those from Inland Waterways Authority of India, Dept of Mining, Engineer-in Chief (Flood control), Ministry of Earth Sciences, State Environment & Forest Department, CWC etc.

# National Framework For Sediment Management, June 2022, MoJS-DowRR & Ganga Rejuvenation

- Study of river reach to be selected for desiltation/ dredging by appropriate mathematical and/ or physical models
- Sediment flux studies and morphological studies to confirm no significant adverse effect on downstream or upstream

- Proposal for desiltation/ dredging work should also contain an environmentally acceptable, practically possible silt disposal/ utilisation plan.
- River gravels/sands/silts are a valuable resource and could be used gainfully in construction works, including housing, roads, embankments and reclamation works.
- Since it is very difficult to find lands for silt disposal, therefore it should be ensured that all silt removed from the river is utilized in some works in association with concerned State governments.
- However, in critical cases where it becomes necessary to remove silt for free flow of water, action may be taken with prior approval of Committee.

- Disposal should not create contamination of water bodies, harmful to the flora and fauna and disposed material should come back into the river again.
- Desilted material should not be used for filling up of wetlands and water bodies
- Methodology to be adopted (say use of dredgers, sediment disposal etc.) should be clearly laid down in proposal so that environmental hazards can be reviewed

## GENERAL GUIDELINES FOR CARRYING OUT DESILTATION/DREDGING WORK AND USE OF DREDGED MATERIAL

Thank You

