

GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI,
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA
REJUVENATION
RAJYA SABHA

UNSTARRED QUESTION NO. 397

ANSWERED ON 06.02.2023

RESERVOIR SILT AND SEDIMENTATION IN DAMS

397. **DR. FAUZIA KHAN**

Will the Minister of **JAL SHAKTI** be pleased to state:

- (a) serious effects and consequences that reservoir sedimentation in dams may lead to, including stability of the structure of the dams;
- (b) whether Government has conducted any survey on Centrally-owned dams to test for the amount of reservoir silt and sedimentation contained in dams over the years;
- (c) if so, the details thereof and if not, the reasons therefor;
- (d) whether Government takes regular steps related to sediment management solutions like erosion control, bypassing, dredging, flushing, etc.;
- (e) whether all the dams owned by Government have the proper equipments to conduct such tests and analysis; and
- (f) if not, the reasons therefor?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI BISHWESWAR TUDU)

(a) Sedimentation in a dam is a natural phenomenon and it reduces the storage capacity of the reservoirs. Loss in storage capacity affects the benefits from the reservoirs. Effect of reservoir sedimentation is accounted while establishing the stability of the dam and its appurtenant structures in accordance with procedure provided in the various codes of Bureau of Indian Standards.

(b) & (c) Central Water Commission (CWC) has conducted survey of 58 reservoirs using hydrographic technique and 179 studies of different reservoirs have been conducted through remote sensing technique. Out of these, 6 dams are owned by the Central Agencies/PSUs. List of Centrally-owned dams (Central PSUs) which have been surveyed/studied by CWC (both Hydrographically and through remote sensing) is provided at **Annexure**. Moreover, CWC has prepared a “Compendium on Sedimentation of Reservoirs in India”- 2020 on the basis of studies/data of 369 reservoirs (including dams under both Central and State Governments).

The compendium is available on CWC website at <https://cwc.gov.in/sites/default/files/compendium1122020.pdf>.

Details of reservoirs for which sedimentation studies carried out by CWC are given at Appendix-I of the compendium.

Apart from this, most of the Central PSUs (such as NHPC, BBMB, THDC, DVC, NTPC etc.) are conducting the sedimentation survey of dams under their control at regular intervals.

(d) Action related to sediment management solutions like erosion control, bypassing, dredging, flushing etc. are taken up by the respective State Government/Project Authorities.

CWC has published "Handbook for Assessing and Managing Reservoir Sedimentation" in year 2019 which describes a wide range of approaches regarding the sedimentation issues and its management. This document provides array of structured information for dam owners regarding various options available for sediment management in reservoirs including erosion control, bypassing, dredging, flushing, desiltation etc.

Further, a “National Framework on Sediment Management (NFSM)” has been published by Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti, for comprehensive and holistic management of sediment including reservoirs sedimentation by the State Governments/Project Authorities/Other Ministries.

The NFSM may be accessed from the link given below: https://jalshakti-dowr.gov.in/sites/default/files/Draft_Policy_on_Sediment_Mgmt-June2017.pdf

Moreover, under the externally funded Dam Rehabilitation and Improvement Project (DRIP), Phase-II & III, there is a provision for need based de-siltation of selected reservoirs to improve the dam safety as well as restore the lost reservoir capacity. The rehabilitation and desiltation activities to be undertaken under the Scheme are formulated by the concerned State Agency.

(e) & (f) Most of the dams under the ownership of Central PSUs are having the proper equipment and facilities for conducting the sediment measurement in reservoir.

ANNEXURE

ANNEXURE REFERRED TO IN REPLY TO PART (b) & (c) OF UNSTARRED QUESTION NO. 397 TO BE ANSWERED IN RAJYA SABHA ON 06.02.2023 REGARDING “RESERVOIR SILT AND SEDIMENTATION IN DAMS”.

The list of **Centrally-owned dams** (Central PSU) which have been surveyed by CWC (both hydrographically and through remote sensing).

S.No.	Name of Dam	State	Agency	Survey
1	Kol	Himachal Pradesh	NTPC	Hydrographic Survey
2	Tilaiya	Jharkhand	DVC	Hydrographic Survey
3	Panchet Hill	Jharkhand	DVC	Hydrographic Survey
4	Konar	Jharkhand	DVC	Hydrographic Survey
5	Pong	Himachal Pradesh	BBMB	Remote sensing
6	Tehri	Uttarkhand	THDC	Remote sensing
