

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

RAJYA SABHA

UNSTARRED QUESTION NO. 589

ANSWERED ON 12.12.2022

GROUNDWATER LEVEL IN THE STATE OF PUNJAB

589 SHRI RAGHAV CHADHA

Will the Minister of JAL SHAKTI be pleased to state:

- (a) the details of groundwater level in the State of Punjab during 2020-21 and 2021-22;
- (b) measures taken to address the water scarcity and pollution problem in the State, if so, the details thereof and if not, the reasons therefor;
- (c) the steps taken by Government for revival of the Budha Nala project in Punjab; and
- (d) the details of the surplus and un-channelled water of the Ravi, the Sutlej and the Beas that goes to Pakistan and steps taken by Government to divert the same for State of Punjab?

ANSWER

THE MINISTER OF STATE FOR JAL SHAKTI

(SHRI BISHWESWAR TUDU)

(a) Central Ground Water Board (CGWB) is periodically monitoring the ground water levels throughout the Country including Punjab on a regional scale, through a network of monitoring wells. District-wise, Depth to water level and distribution of percentage of wells for the post Monsoon period November 2020 and November 2021 are given at **Annexure I and Annexure II**.

(b) Water being a State subject, addressing water scarcity and pollution problem falls under States' mandate. However, Central Government has taken a number of initiatives for sustainable management of groundwater which can be seen at http://jalshakti-dwr.gov.in/sites/default/files/Steps%20taken%20by%20the%20Central%20Govt%20for%20water_depletion_july2022.pdf

Further, Central Government works in close collaboration with States/UTs including Punjab through various initiatives/schemes like Jal Shakti Abhiyan (JSA), MGNREGA, PMKSY-Watershed development etc to supplement their efforts for sustainable management of groundwater. The JSA was launched in 2019 with the primary aim to effectively harvest the monsoon rainfall through creation of artificial recharge structures, watershed management, recharge and reuse structures, intensive afforestation and awareness generation etc. The JSA has continued during 2021 and 2022 which were launched by the Hon'ble Prime Minister and Hon'ble President of India respectively.

In addition, Hon'ble Prime Minister launched Amrit Sarovar Mission on 24th April 2022. The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country as a part of celebration of Azadi ka Amrit Mahotsav.

Central Ground Water Board (CGWB) is implementing National Aquifer Mapping Program (NAQUIM) with an aim to identify the groundwater aquifer system along-with their characterization for its sustainable management. Entire mappable area of Punjab (50,368 sq km) has been covered and the study report along with management plans have been shared with the State for suitable interventions.

Master Plan for Artificial Recharge to Groundwater - 2020 has been prepared by CGWB in consultation with States/UTs. The Master Plan envisages construction of 11 lakh structures (both rural and urban areas) in Punjab at a tentative cost of Rs. 6,773 crore. The Master Plan has been shared with the State for appropriate implementation.

Central Pollution Control Board (CPCB) in association with State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs) is implementing the provisions of the Water (Prevention & Control) Act, 1974 and the Environment (Protection) Act, 1986 to prevent and control pollution in water. CPCB has made a comprehensive programme on water pollution for controlling point sources by developing industry specific standards and general standards for discharge of effluents notified under the Environment (Protection) Act, 1986 for enforcement by SPCBs/PCCs. As per the directives of CPCB, Online Continuous Effluent Monitoring Systems (OCEMS) are installed by the industrial units in the country for getting real time information on the effluent quality and non-complying units are identified for follow-up inspections and actions.

The Central Government has notified groundwater regulation guidelines dated 24.09.2020 with pan India applicability for controlling the extraction of groundwater by various consumers/project proponents like industries, infrastructure projects and mining projects under which No Objection Certificate (NOC) for extraction has been made mandatory. The guidelines include clauses on 'Measures to be adopted to ensure prevention from pollution in the plant premises of polluting industries/projects'.

In addition, the details of some of the important steps taken by Government of Punjab for sustainable management of water are given at **Annexure III**.

(c) Buddha Nallah Rejuvenation Project was launched in December, 2020 for treatment of untreated/partially treated sewage and industrial effluents in Budha Nala in Punjab.

Further, Central Pollution Control Board (CPCB) has undertaken studies on pollution of Sutlej River, including its tributary Budha Nala, based on which the Bhakra Beas Management Board (BBMB) has prepared and implemented a Standard Operating procedure (SOP) to prevent pollution in its canal system.

(d) At present, no surplus/un-channeled water from River Ravi, Beas and Sutlej is going to Pakistan except during flood season when substantial rainfall occurs in the catchment of these rivers. Situation may arise in exceptional circumstances or, during short duration monsoons when the water levels stored by the dams become very high and there is necessity of release of water for Dam safety.

ANNEXURE I

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 589 TO BE ANSWERED IN RAJYA SABHA ON 12.12.2022 REGARDING “GROUNDWATER LEVEL IN THE STATE OF PUNJAB”.

Depth To Water Level (mbgl) in Post-Monsoon 2020 (Nov 2020) in Punjab.

| Sl.No. | District | Total wells analysed | DTWL (mbgl) | | | | | | | | | | | | | |
|--------|-----------------|----------------------|-------------|--------------|-----------|----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-----------|----------|
| | | | Min | Max | 0-2 | | 0-5 | | 5-10 | | 10-20 | | 20-40 | | >40 | |
| | | | | | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| 1 | AMRITSAR | 46 | 4.68 | 26.80 | 0 | 0 | 1 | 2 | 10 | 22 | 28 | 61 | 7 | 15 | 0 | 0 |
| 2 | BARNALA | 11 | 14.40 | 44.15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 7 | 64 | 3 | 27 |
| 3 | BATHINDA | 67 | 5.40 | 53.60 | 0 | 0 | 0 | 0 | 21 | 31 | 16 | 24 | 28 | 42 | 2 | 3 |
| 4 | FARIDKOT | 31 | 0.45 | 22.55 | 3 | 10 | 10 | 32 | 7 | 23 | 8 | 26 | 3 | 10 | 0 | 0 |
| 5 | FATEHGARH SAHIB | 30 | 2.34 | 38.95 | 0 | 0 | 2 | 7 | 0 | 0 | 6 | 20 | 22 | 73 | 0 | 0 |
| 6 | FAZILKA | 41 | 0.28 | 22.08 | 15 | 37 | 15 | 37 | 5 | 12 | 5 | 12 | 1 | 2 | 0 | 0 |
| 7 | FIROZPUR | 27 | 3.63 | 32.46 | 0 | 0 | 3 | 11 | 7 | 26 | 10 | 37 | 7 | 26 | 0 | 0 |
| 8 | GURDASPUR | 61 | 2.21 | 23.50 | 0 | 0 | 20 | 33 | 20 | 33 | 20 | 33 | 1 | 2 | 0 | 0 |
| 9 | HOSHIARPUR | 63 | 1.70 | 64.44 | 1 | 2 | 8 | 13 | 15 | 24 | 15 | 24 | 19 | 30 | 5 | 8 |
| 10 | JALANDHAR | 49 | 5.10 | 48.00 | 0 | 0 | 0 | 0 | 3 | 6 | 10 | 20 | 33 | 67 | 3 | 6 |
| 11 | KAPURTHALA | 32 | 6.70 | 36.88 | 0 | 0 | 0 | 0 | 7 | 22 | 11 | 34 | 14 | 44 | 0 | 0 |
| 12 | LUDHIANA | 71 | 3.77 | 40.44 | 0 | 0 | 3 | 4 | 9 | 13 | 24 | 34 | 34 | 48 | 1 | 1 |
| 13 | MANSA | 29 | 1.94 | 68.32 | 1 | 3 | 2 | 7 | 5 | 17 | 10 | 34 | 10 | 34 | 1 | 3 |
| 14 | MOGA | 27 | 9.92 | 50.00 | 0 | 0 | 0 | 0 | 1 | 4 | 2 | 7 | 22 | 81 | 2 | 7 |
| 15 | MUKTSAR | 26 | 0.55 | 10.99 | 10 | 38 | 13 | 50 | 2 | 8 | 1 | 4 | 0 | 0 | 0 | 0 |
| 16 | PATHANKOT | 29 | 0.48 | 24.89 | 4 | 14 | 13 | 45 | 9 | 31 | 2 | 7 | 1 | 3 | 0 | 0 |
| 17 | PATIALA | 49 | 1.40 | 70.00 | 1 | 2 | 1 | 2 | 4 | 8 | 1 | 2 | 30 | 61 | 12 | 24 |
| 18 | RUPNAGAR | 20 | 1.18 | 42.45 | 1 | 5 | 6 | 30 | 4 | 20 | 4 | 20 | 4 | 20 | 1 | 5 |
| 19 | SANGRUR | 29 | 25.10 | 46.39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 66 | 10 | 34 |
| 20 | SAS NAGAR | 21 | 1.32 | 51.00 | 1 | 5 | 4 | 19 | 1 | 5 | 5 | 24 | 8 | 38 | 2 | 10 |
| 21 | SBS NAGAR | 22 | 5.79 | 48.10 | 0 | 0 | 0 | 0 | 3 | 14 | 10 | 45 | 7 | 32 | 2 | 9 |
| 22 | TARAN TARAN | 42 | 7.72 | 27.26 | 0 | 0 | 0 | 0 | 1 | 2 | 18 | 43 | 23 | 55 | 0 | 0 |
| | Total | 823 | 0.02 | 70.00 | 37 | 4 | 101 | 12 | 134 | 16 | 207 | 25 | 300 | 36 | 44 | 5 |

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Depth To Water Level (mbgl) in Post-Monsoon 2021 (November 2021) in Punjab.

| Sl No | District | No of station | DTWL (mbgl) | | | | | | | | | | | | | |
|-------|-----------------|---------------|-------------|--------------|-----------|------------|-----------|-------------|-----------|-------------|------------|-------------|------------|-------------|-----------|------------|
| | | | Min | Max | 0 - 2 | | 2 - 5 | | 5 - 10 | | 10 - 20 | | 20 - 40 | | > 40 | |
| | | | | | No | % | No | % | No | % | No | % | No | % | No | % |
| 1 | AMRITSAR | 28 | 4.61 | 26.01 | 0 | 0.0 | 2 | 7.1 | 3 | 10.7 | 19 | 67.9 | 4 | 14.3 | 0 | 0.0 |
| 2 | BARNALA | 6 | 35.83 | 47.75 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 50.0 | 3 | 50.0 |
| 3 | BATHINDA | 51 | 4.71 | 38.44 | 0 | 0.0 | 1 | 2.0 | 14 | 27.5 | 12 | 23.5 | 24 | 47.1 | 0 | 0.0 |
| 4 | FARIDKOT | 30 | 0.30 | 23.19 | 3 | 10.0 | 10 | 33.3 | 6 | 20.0 | 8 | 26.7 | 3 | 10.0 | 0 | 0.0 |
| 5 | FATEHGARH SAHIB | 24 | 2.95 | 40.18 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 5 | 20.8 | 17 | 70.8 | 1 | 4.2 |
| 6 | FAZILKA | 29 | 1.28 | 23.87 | 3 | 10.3 | 16 | 55.2 | 6 | 20.7 | 2 | 6.9 | 2 | 6.9 | 0 | 0.0 |
| 7 | FIROZPUR | 24 | 4.07 | 32.14 | 0 | 0.0 | 3 | 12.5 | 5 | 20.8 | 10 | 41.7 | 6 | 25.0 | 0 | 0.0 |
| 8 | GURDASPUR | 45 | 2.13 | 17.59 | 0 | 0.0 | 18 | 40.0 | 14 | 31.1 | 13 | 28.9 | 0 | 0.0 | 0 | 0.0 |
| 9 | HOSHIARPUR | 52 | 1.29 | 49.11 | 2 | 3.8 | 7 | 13.5 | 11 | 21.2 | 15 | 28.8 | 14 | 26.9 | 3 | 5.8 |
| 10 | JALANDHAR | 38 | 6.13 | 39.49 | 0 | 0.0 | 0 | 0.0 | 3 | 7.9 | 9 | 23.7 | 26 | 68.4 | 0 | 0.0 |
| 11 | KAPURTHALA | 24 | 7.50 | 36.25 | 0 | 0.0 | 0 | 0.0 | 4 | 16.7 | 10 | 41.7 | 10 | 41.7 | 0 | 0.0 |
| 12 | LUDHIANA | 41 | 4.85 | 35.98 | 0 | 0.0 | 2 | 4.9 | 6 | 14.6 | 9 | 22.0 | 24 | 58.5 | 0 | 0.0 |
| 13 | MANSA | 22 | 4.02 | 33.48 | 0 | 0.0 | 2 | 9.1 | 5 | 22.7 | 7 | 31.8 | 8 | 36.4 | 0 | 0.0 |
| 14 | MOGA | 18 | 9.74 | 41.92 | 0 | 0.0 | 0 | 0.0 | 1 | 5.6 | 2 | 11.1 | 13 | 72.2 | 2 | 11.1 |
| 15 | MUKTSAR | 20 | 0.02 | 11.03 | 8 | 40.0 | 10 | 50.0 | 1 | 5.0 | 1 | 5.0 | 0 | 0.0 | 0 | 0.0 |
| 16 | PATHANKOT | 23 | 0.90 | 25.36 | 3 | 13.0 | 11 | 47.8 | 4 | 17.4 | 3 | 13.0 | 2 | 8.7 | 0 | 0.0 |
| 17 | PATIALA | 21 | 1.35 | 44.82 | 1 | 4.8 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 15 | 71.4 | 5 | 23.8 |
| 18 | RUPNAGAR | 17 | 0.47 | 42.00 | 2 | 11.8 | 4 | 23.5 | 5 | 29.4 | 4 | 23.5 | 1 | 5.9 | 1 | 5.9 |
| 19 | SANGRUR | 24 | 26.50 | 47.49 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 13 | 54.2 | 11 | 45.8 |
| 20 | SAS NAGAR | 15 | 1.14 | 41.00 | 1 | 6.7 | 2 | 13.3 | 2 | 13.3 | 4 | 26.7 | 5 | 33.3 | 1 | 6.7 |
| 21 | SBS NAGAR | 15 | 6.09 | 30.95 | 0 | 0.0 | 0 | 0.0 | 3 | 20.0 | 4 | 26.7 | 8 | 53.3 | 0 | 0.0 |
| 22 | TARAN TARAN | 33 | 7.99 | 26.86 | 0 | 0.0 | 0 | 0.0 | 1 | 3.0 | 14 | 42.4 | 18 | 54.5 | 0 | 0.0 |
| | Total | 600 | 0.02 | 49.11 | 23 | 3.8 | 89 | 14.8 | 94 | 15.7 | 151 | 25.2 | 216 | 36.0 | 27 | 4.5 |

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Some of the important steps taken by the Government of Punjab for sustainable management the ground water in the State of Punjab are:

1. As per Notification dated 25 August 2010 issued by the State government "All the building located on plot area of 400 Square Meters and above, shall have Roof Top Rain Water Harvesting System to recharge ground water.
2. The Punjab Water Resources Regulation and Development Authority (PWRDA) has been established to ensure conservation, management and regulation of water in the State.
3. Punjab Government had engaged M/s Mekorot National Water Company of Israel to prepare Water Conservation and Management Master Plan (WCMMP) for the State of Punjab for Management and Conservation of water in the State.
4. The Punjab government had launched ‘Pani Bachao, Paise Kamao’ scheme on the 14th of June 2018 which is targeted towards proper utilization and conservation of water and electricity.
5. Soil and Water Conservation Department is making efforts to encourage water conservation techniques in all districts of State so as to ensure the optimum use of the irrigation water. In addition, adoption of Micro Irrigation (Drip and Sprinkler Irrigation) system is being promoted in the State.
6. Encouragement of Resource Conservation Technology (RCT) like Laser Land Levelling, Zero Tilling, etc. is being done in farming communities. The state government provides subsidy to farmers for custom hiring of this machinery.
7. Medium/Short Duration Rice Cultivars are being promoted over long duration ones, to save water.
8. The State is implementing schemes for promoting pipeline-based irrigation system by providing financial assistance.
9. Government of Punjab has constructed low dams to provide irrigation facilities under Bharat Nirman Program. These dams facilitate in augmenting the Ground Water Resources of the State & in arresting the declining ground water table.
