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**BEFORE THE HON'BLE NATIONAL GREEN
TRIBUNAL, PRINCIPAL BENCH AT NEW DELHI.**

Original Application No.694/2023

In re of :- News Item titled “ UN predicts groundwater level in India will reduce to ‘ low’ by 2025” appearing in Hindustan Times dated 26-10-2023.

AFFIDAVIT OF MEMBER SECRETARY HIMACHAL PRADESH GROUND WATER AUTHORITY (HPGWA)-CUM-SUPERINTENDING ENGINEER, P&I (II), TUTIKANDI SHIMLA-5 INDICATING STATUS OF GROUNDWATER RESOURCES OF HIMACHAL PRADESH AS PER GROUND WATER RESOURCES ESTIMATION COMMITTEE REPORT MARCH 2022 AND ACTION PLANS FOR GROUND WATER MANAGEMENT PURSUANT TO PREVIOUS ORDERS DATED 24-11-2023, 09-02-2024, 04-04-2024 AND 26-07-2024 PASSED IN O.A.No.-694/2023 ON BEHALF OF RESPONDENT NO. 21 BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL.

MAY IT PLEASE YOUR LORDSHIP:-

I, Sumit Sood, S/o Sh. K. L. Sood, aged about 53 yrs., presently working as Member Secretary HPGWA-cum-Superintending Engineer, P&I (II), Tutikandi, Shimla-5, H.P. do hereby solemnly declare and affirm on oath as under:

1. That the above noted O.A. is pending adjudication before the Hon'ble NGT.
2. That it is respectfully submitted that pursuant to this Hon'ble NGT orders ibid, the replying respondent department has examined the status of OCS areas i.e.,

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Over-Exploited areas, Critical and Semi-Critical areas,
and therefore the status is as under:

I. Groundwater Resource Assessment of the State

Groundwater management in the State is being implemented on the basis of the periodical estimation of the Ground Water Resources Assessment jointly carried out by State Ground Water Organisation, Jal Shakti Vibhag, Una (HP) and Central Ground Water Board under the guidance of the respective State Level Committee on Ground Water Assessment at State Level and also under the overall supervision of the Central Level Expert Group.

The assessment units are categorized based on Stage of Groundwater Extraction, which are then validated with long-term water level trends. The 'Stage of Ground Water Extraction' is computed as the ratio of 'Annual Ground Water Extraction' with respect to 'Annual Extractable Ground Water Resource' and is usually expressed in percentage. The categories are:-

Stage of Groundwater Extraction	Category
$\leq 70\%$	Safe
$> 70\%$ and $\leq 90\%$	Semi Critical
$>90\%$ and $\leq 100\%$	Critical
$>100\%$	Over - Exploited

**Categorization of Ground Water Resources, Himachal Pradesh
March 2020, 2022 & 2023 Reports**

Category	March 2020	March 2022	March 2023
Over Exploited Assessment units	0	0	0
Critical Assessment units	0	0	0
Semi - Critical Assessment units	0	0	0
Safe Assessment units	10	10	10
Total Number of Assessment units	10	10	10

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The table below gives an overall comparison of the present groundwater Scenario of the State

Particulars	March 2020	March 2022	March 2023
Annual Extractable Ground Water (BCM)	0.97	0.94	1.01
Existing Ground water extraction for all uses (BCM)	0.36	0.35	0.35
Stage of Ground water Extraction (%)	36.83	37.56	34.95

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**Main findings reported in the Groundwater Resource Estimation
Committee Report March 2023**

a. As per the report, the following are the observed decadal (2012-2022) groundwater level trend for the State of Himachal Pradesh.

Pre- Monsoon Ground Water level trend

Out of 83 National Hydrograph Stations, 43.4% of wells show rise in water levels whereas 56.6% wells show decline in water level.

Post-Monsoon Ground Water level trend

Out of 84 National Hydrograph Stations, 32% of wells show rise in water levels whereas 68% wells show decline in water level.

b. Out of 3468 sq. km recharge worthy area of the State, 100 % under 'Safe' categories of assessment units.

As compared to 2022 assessment, there is increase in the Total Annual Ground Water Recharge from 1.03 to 1.11 bcm and Annual Extractable Ground Water resources from 0.94 to 1.01 bcm. However, there is no change in Ground Water Extraction of the State. The Stage of Ground Water Extraction has decreased from 37.56 % to 34.95 %. Out of the 10 assessment units, all the ten assessment units have been categorized as 'Safe' and there is no saline assessment unit in the State.

II. Rainfall of the State

Generally rainfall increases from south to north. Beyond Kullu, the rainfall again decreases due to rain-shadow effect towards Lahaul & Spiti and Kinnaur. Spiti is the driest (below 50 cm) about 70% of

annual rainfall is received during June to September, 20% from October to March and 10% from April to May. In Lahaul and Spiti, winter and spring precipitation is greater than the summer and the autumn. Pre monsoon showers occur in June and Post monsoon showers continue till the first week of October but the total amount of both is low. Highest normal monthly rainfall may take place in July or August. Dharamshala gets maximum (1055.3mm) in July while Dalhousie (620mm) in August. Dharamshala receives the Maximum rainfall (3200mm). Shimla and Nurpur falls in rainfall zone of 1500-2000mm and Dalhousie, Dharamshala, Kangra, Palampur and Jogindernagar lie in a zone exceeding 2000mm but beyond this zone of maximum rainfall there is a gradual decrease towards Mandi, Rampur, Kulu, Kalpa and Keylong. Most of Lahaul and Spiti receive less than 500mm of rainfall. The number of rainy days varies from 48 at Keylong to 99 at Dharamshala. Precipitation is also received in the form of snow. During the last five years the average annual rainfall in the State was 1234mm out of which 68% of the rainfall occurred during monsoon period (June- September).

III. Geological Setting of Himachal Pradesh

The ground water behaviour in the State is highly complicated due to the occurrence of diverse geological formations with considerable lithological and chronological variations, ranging in age from Pre-Cambrian to Recent and complex tectonic framework, as the State is situated in the Himalayan region. The major portion of the State is

hilly terrain comprising of hard rock formations with few intermountain valleys.

The diverse physiographic, climatic, topographic and geologic conditions have given rise to diversified groundwater situation in different parts of the state. The rock formations ranging in age from Archean to Recent occupy the State and control the occurrence and movement of ground water depending upon aquifer composition, structure and deposition. Hilly and mountainous parts with steep slopes mainly constitute the run off areas and have low ground water potential. In valley and low-lying areas, unconsolidated / semi-consolidated formations form potential aquifers.

In consolidated formations the water availability is restricted to weathered mantle, joints, fractures, weak planes, bedding planes and limestone caverns. The limestone associated with phyllite and quartzite forms potential aquifers. In granites, potentiality of the aquifer is highly dependable on the fracture intensity. Groundwater in hard rock areas is either developed through bore wells or natural springs are tapped for both drinking and irrigation purposes.

In the unconsolidated formations the occurrence and movement of ground water is highly dependent on lithology particularly the presence of clay content. The unconsolidated formations are confined to valley areas, having good yield prospects that can sustain moderate to high capacity deep tube wells. The yield of the tube wells depends on the thickness of the total granular zones available within the aquifers tapped which ranges from 5-40 lps in

different valleys. These intermountain valleys comprising of the unconsolidated formations are the only areas in the state where groundwater is being used for domestic, irrigation and industrial purposes.

IV. Groundwater Extraction in Himachal Pradesh

As per the groundwater Resource estimation report 2023, total Groundwater extraction in Himachal Pradesh is 0.35 BCM and out of which (0.12 BCM) is used for domestic uses and (0.18 BCM) for irrigation. The stage of groundwater extraction for the State is calculated as 34.95 %. The stage of groundwater extraction is highest (63.97%) in Una valley (Satluj Basin) assessment unit of district Una and is lowest (4.34%) in Chauntra valley assessment unit of district Mandi.

V. Groundwater Management Plans being adopted in the State

i) Construction of Rain Water harvesting Structures (RWHS):

Under the 'Jal Shakti Abhiyan: Catch the Rain' campaign the department has taken a State wide campaign for creation of Rain Water harvesting Structures (RWHS) in the State.

ii) Ground water recharge and Conservation:

Under the Jal Bhandaran Scheme by the HP Forest department water recharge and conservation structures in association with Jal Shakti Vibhag, water recharge and conservation structures throughout the state in the forest area are being constructed for improved water availability in the forest areas.

iii) H P Parvat Dhara Yojna:

The Himachal Pradesh Government had launched the Parvat Dhara Yojna to recharge the aquifers and rejuvenate the water sources. Under this scheme, emphasis is laid on tree plantation and forest conservation as well as soil and water conservation to maintain water sources in collaboration with Forest Department, Rural Development, Soil Conservation, Agriculture and Horticulture Department.

iv) Construction of Check dams and underground dykes:

The Jal Shakti Vibhag has constructed check dams and underground dykes in various rivulets / khads in the State in the downstream side of the water supply schemes.

VI. Amendment of the Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005

The Himachal Pradesh State Government has amended the Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005 with The Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Amendment Act, 2022 (Act No 14 of 2022) which came to force w.e.f. 28th March 2023. The amended act incorporates all the guideline given by Central Ground Water Authority and provision has been included to impose any conditions as may be specified by the Central Ground Water Authority in future. Under the act the registration process of drilling agencies and private owned drilling

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rings has been made stringent in the State in order to control illegal construction of ground water abstraction structures.

VII. Granting of Permission for Extraction of Ground Water in OCS areas i.e., Over Exploited, Critical and Semi Critical Areas

In the State as per the report of Dynamic Ground Water Resources Assessment March 2023 there are no OCS areas i.e., Over Exploited, Critical and Semi Critical Areas. All the assessment units fall under the Safe Category. The conditions for granting permission for extraction of ground water in Safe Category are as per the guidelines of CGWA. All users extracting water greater than 10 KL are required to install piezometer. All Commercial and Industrial entities extracting ground water more than 100 KL are required to conduct and submit annual water audit report including an audit of water use as per the guidelines of CGWA from CGWA approved consultants. All Commercial and Industrial entities extracting ground water more than 500 KL are required to conduct and submit impact assessment report including an audit of water use as per the guidelines of CGWA from CGWA approved consultants.

VIII. Guidelines to Regulate and Control Ground Water Extraction notified vide Government of Himachal Pradesh notification no. IPH-B(A)3-1/2019-II Dated-03/05/2021 the criteria for considering Industries and mining project is given below:-

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Category	Mandatory Recycle/Reuse (for various purposes except recharge to ground water).	Withdrawal Permitted (% of proposed recharge)
Safe	Major and Medium Industries to recycle and reuse 40% of the waste water.	NOC is required for ground water withdrawal subject to adoption of artificial recharge to ground water.
Semi-Critical	Major and Medium Industries to recycle and reuse 50% of the waste water.	Withdrawal may be permitted subject to undertaking of ground water recharge measures. The withdrawal should not exceed 200% of the recharge quantity.
Critical	Major and Medium Industries should fully recycle and reuse the waste water.	Withdrawal limited to 50% of ground water recharge.
Over-Exploited	All industries to fully recycle and reuse the waste water.	No permission for industries under this category.

It is respectfully submitted that there are no OCS areas i.e., Over Exploited, Critical and Semi Critical areas in the State of Himachal Pradesh. However, the Govt. of Himachal Pradesh has issued above guidelines dated 03-05-2021 to regulate and control Ground Water Extraction in the State of Himachal Pradesh. Further pursuant to the Central Ground Water Authority Guidelines dated 24-

09-2020, the Govt. of Himachal Pradesh has amended the Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005 with The Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Amendment Act, 2022 (Act No 14 of 2022) which came into force w.e.f. 28th March 2023. The amended act incorporates all the guideline given by Central Ground Water Authority and provision has been included to impose any conditions as may be specified by the Central Ground Water Authority in future.

It is therefore respectfully prayed that the aforesaid response to the orders ibid may kindly be taken into record.


DEPONENT.

Member Secretary,
H.P. Ground Water Authority,
Jal Shakti, Bhawan, Shimla-5

VERIFICATION:

I, the above named deponent, do hereby solemnly declare that the contents as contained in above paras/ sub paras of this affidavit are true and correct to the best of my personal knowledge and information as derived from official records. No part of it is false and nothing material has been concealed therefrom.

Verified at Shimla on this ...^{6th}..... day of September, 2024.


DEPONENT.

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Jal Shakti, Bhawan, Shimla-5