

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

ORIGINAL APPLICATION NO.569/2023

(I.A. NOS. 719/2023, 240/2024,397/2025 & 158/2025)

IN THE MATTER OF:

ALOK KUMAR

VS

UNION OF INDIA MINISTRY OF ENVIRONMENT FOREST & CLIMATE CHANGE

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PLACE :- DELHI

DATE :- 23-06-2025

THROUGH



GIGI C. GEORGE ADVOCATE

STANDING COUNCIL(UOI)

NATIONAL GREEN TRIBUNAL

CH NO. 457, L.B-I, DELHI HIGH COURT

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, DELHI

ORIGINAL APPLICATION NO.569/2023

(I.A. NOS. 719/2023, 240/2024,397/2025 & 158/2025)

REPLY AFFIDAVIT ON BEHALF OF SURVEY OF INDIA

1. I, Ravindra Meena s/o Sh. Jagdish Prasad Meena aged about 34 years, working as Superintending Surveyor in Uttar Pradesh Geospatial Directorate (UPGD), Survey of India, Lucknow. I am competent and authorized to affirm the present reply affidavit on behalf of Survey of India.
2. That vide order dated 26.05.2025 Hon'ble Tribunal Directed this office to disclose in detail why the same methodology was not adopted for River Hindon, which was adopted for River Ganga, and how the floodplain zone with a 1:100-year Highest Flood Level, with a one-meter contour, will be ascertained using drone Survey. The copy of the said order is annexed as **Annexure-A**
3. That in compliance of the said order, the detailed reasoning for methodology adopted for River hindon to generate 1m contour interval map using drone based optical camera is as below-

(i) **Mapping Objective and Role of Survey of India:**

That this affidavit is submitted in compliance with the Hon'ble Tribunal's direction, dated 26.05.2025, seeking clarification from Survey of India (Sol) regarding the methodology used for mapping the floodplain zone of Hindon River and how 1:100-year Highest Flood Level (HFL) with 1-meter contour interval is to be determined using drone survey.



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 Survey of India, Lucknow

Sworn and Verified
 Before me

R.C. VERNIA
 Adv. & Notary
 Lucknow U.P. India
 Regd. No. 31/64/2000

Survey of India has been entrusted with generating topographic data with 1-meter contour interval through fresh survey. The floodplain zonation using hydrological criteria including HFL is the responsibility of the Irrigation Department, Government of Uttar Pradesh.

(ii) Explanation on Methodology Differences (Ganga vs. Hindon):

In the case of River Ganga and its tributaries, mapping was undertaken over large corridors under centrally sponsored missions like the National Mission for Clean Ganga (NMCG) and the National Hydrology Project (NHP) using manned aerial platforms equipped with integrated LiDAR and nadir camera systems. These platforms enabled high-density data acquisition for generating Digital Elevation Models (DEMs) of sub-meter vertical accuracy along the extensive Ganga river belt.

In contrast, the mapping area for River Hindon is approximately 850 sq. km, which is relatively limited in scale. Employing manned aircraft platforms with integrated LiDAR and camera systems for such an area would be technically excessive and financially unviable.

Further, the following practical considerations influenced the choice of methodology:

- Drone platforms provide superior agility for operations in restricted, fragmented, or urbanized environments such as Ghaziabad and Gautam Buddha Nagar;
- Integrated drone payloads combining LiDAR and nadir camera are not yet widely available or viable for short-term, mid-scale assignments like this;
- In keeping with the objective of cost-effectiveness and economy of scale, Survey of India adopted a drone-based photogrammetric approach using nadir camera and GNSS supported GCPs to generate the required 1-meter interval contours.

The adopted method is calibrated to meet the specifications of the requesting



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 Survey of India, Lucknow

department and is proportionate to the size and financial scope of the assignment.

(iii) Technical Approach for Generating 1-Meter Contour and DEM:

The drone-based methodology comprises:

- Use of survey-grade UAVs with nadir camera sensors;
- Establishment of Ground Control Points (GCPs) tied to the national geodetic reference using CORS infrastructure;
- Generation of Digital Surface Model (DSM) and filtered Digital Terrain Model (DTM);
- Production of 1-meter interval contours derived from DTM in photogrammetric software;
- Rigorous QA/QC procedures to ensure compliance with positional and vertical accuracy requirements.

This process provides vertical accuracy sufficient to support floodplain zone delineation based on 1:100-year HFL inputs to be supplied and interpreted by the Irrigation Department.

(iv) Progress and Constraints:

As previously submitted and noted:

- Approximately 200 sq. km in Green Zones has already been surveyed and data handed over;
- The remaining ~600 sq. km falls in Yellow and Red Zones near sensitive areas like Hindon Airbase, requiring DGCA/MoCA and local ATC permissions;
- Survey activities were disrupted by fog, poor visibility, and national restrictions during Republic Day , Beating Retreat and recently due ongoing restriction on Air space;
- Permissions have since been re-applied for and data acquisition shall resume immediately upon clearance.

(v) Timeframe and Deliverables:

Survey of India commits to completing the remaining area within three months of receiving final flying permissions.



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 Survey of India, Lucknow

Final deliverables to the Irrigation Department shall include:

- Ortho-rectified imagery (ORI),
- DSM and DTM,
- 1-meter contour interval maps,
- GIS layers of topographic features.

These datasets will support the department's floodplain zoning based on hydrological modeling.

(vi) Clarification of Scope and Responsibility:

In accordance with National Geospatial Policy 2022, Survey of India is responsible for the creation of core geospatial data, including terrain and elevation models. The floodplain demarcation, involving hydrological analysis and application of HFL criteria, lies within the scope of the Irrigation Department.

4. Survey of India reaffirms its full cooperation with the Hon'ble Tribunal's directions and is committed to timely and high-quality delivery of the technical outputs.

R.F.

DEPONENT
(RAVINDRA MEENA)
SUPERINTENDING SURVEYOR
UPGD, SURVEY OF INDIA
LUCKNOW



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Lucknow

VERIFICATION

I, Ravindra Meena, the above-named deponent, do hereby verify that the contents of this affidavit are true and correct to the best of my knowledge and belief, and nothing material has been concealed therefrom.

Verified at Lucknow on this 17 day of June, 2025.



DEPONENT

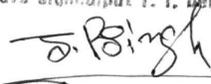
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Survey of India, Lucknow



Sworn and Verified
Before me


R.C. VERMA
Adv. & Notary
Lucknow U.P. India
Regd. No. 31/64/2000

I identify the deponent/executant
who has/have signed/put T. I. before me.


17/6/25 - J.S.

Item Nos. 08 & 09

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**Original Application No.275/2023
(I.A. Nos. 869/2023, 688/2024 & 38/2025)

Mahesh Kumar

Applicant

Versus

State of Uttar Pradesh & Ors.

Respondent(s)

With

Original Application No.569/2023
(I.A. Nos. 719/2023, 240/2024,397/2025 & 158/2025)

Alok Kumar

Applicant

Versus

Union of India & Ors.

Respondent(s)

Date of hearing: 26.05.2025

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Applicant: Mr. Satyabeer Singh, Adv. for Applicant in OA 275/2023 (Through VC)

Respondents: Ms. Garima Prasadh, AAG with Ms. Priyanka Swami, Adv. for the State
of UPMr. Ravindra Kumar, Senior Advocate with Mr. Shivam Saksena, Advs.
for GNIDAMr. Bhanwar Pal Singh Jadon, Ms. Hemlata Singh, Ms. Gargi Chaturvedi
& Ms. Anjali Sharma, Advs. for UPPCB in OA 569/2023

Mr. Gigi. C. George, Adv. for Survey of India in OA 569/2023

Mr. Ravindra Kumar, Senior Advocate with Mr. Nishi Kant Singh & Mr.
Shivam Saksena, Advs. for Noida

Mr. Yagyawalkya Singh, Adv. for GDA (Through VC)

Mr. Sumit Arora, Adv. for R - 1 in OA 569/2023 (Through VC)

Ms. Deepa Sharma, Adv. for CPCB in OA 569/2023 (Through VC)

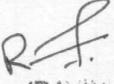
Mr. Rajesh Aggarwal & Ms. Deeksha Aggarwal, Advs. in I.A No. 38/2025

Mr. Panshul Chandra, Adv. in I.A No. 688/2024


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 Survey of India, Lucknow

ORDER

1. I.A. No. 397/2025 has been filed by the State of U.P. seeking extension of time for completing the survey and marking the flood plain zone of Hindon River in compliance with the earlier direction of the Tribunal. AAG appearing for the State of U.P. has referred to the communication dated 14.05.2025, sent by the Technical Officer, Survey of India, seeking additional time to complete the exercise using drone survey. The Respondent, Survey of India, is directed to disclose in detail why the same methodology was not adopted for River Hindon, which was adopted for River Ganga, and how the floodplain zone with a 1:100-year Highest Flood Level, with a one-meter contour, will be ascertained using drone Survey.
2. For the reasons disclosed in the I.A. the prayer for extension of time is granted. Let the affidavit in terms of the above observation be filed by the Survey of India within four weeks.
3. In O.A. No. 275/2023, in addition to the demarcation of flood plain of River Hindon the issue of demarcation of flood plain of river Yamuna is also involved.
4. Learned AAG appearing for the State has submitted that the demarcation of flood plain zone of river Yamuna for the entire stretch is complete except for 3 km, which is to be done along with the demarcation of river Hindon.
5. In this regard, she has referred to the Status Report dated 27.02.2025 page 821 wherein annexure A-1 a communication by Special Secretary, State of UP page 827 dated 21.12.2024 is enclosed, stating that the demarcation of the flood plain zone with 1:100 years Highest Flood


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Level from Asgarpur to Etawah and Shahpur to Prayagraj covering 17 District is complete and the notification is to be issued.

6. Learned AAG submits that the process of issuing the final notification is in progress. Hence, the State of U.P is directed to file further status report disclosing the issuance of the final notification.

7. The communication dated 21.12.2024 does not mention that the demarcation taken into account is one meter contour.

8. Applicant in I.A. No. 38/2025 has submitted that the detailed methodology adopted for demarcation of the flood plain of river Yamuna has not been placed on record. Learned AAG is directed to place the same on record along with the next affidavit.

9. Learned Counsel for the applicant in pending I.As are directed to supply a copy of the I.A. to counsel for all the parties if not already supplied. Counsel for the parties to the O.A. will have the opportunity to file reply to the I.A. within four weeks.

10. List on 17.09.2025.

Prakash Shrivastava, CP

Dr. A. Senthil Vel, EM

May 26, 2025
O.A. No.275/2023 and
O.A. No.569/2023
HB..


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प्रति,

अधिकासी अभियन्ता
सरयू ड्रेनेज खण्ड-2,
बलरामपुर।
ईमेल cc.sdk2.balrampur@gmail.com

सेवा में,

भारतीय सर्वेक्षण विभाग
मानवीय भवन
उत्तर प्रदेश, भू-स्थानिक निदेशालय (उत्तरी क्षेत्र)
5, विमूक्तिखण्ड, गोमती नगर, लखनऊ 226010 (उ0प्र0)

पत्रांक 301 / स0ड्रे0ख0-2/एन0जी0टी0/

दिनांक 25/03/2025

विषय मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली में विवादाधीन वाद संख्या-433/2022, पाटेश्वरी प्रसाद सिंह बनाम उ0प्र0 राज्य व अन्य में पारित आदेश के अनुपालन में जनपद बलरामपुर में सुवांव नदी के फलड प्लेन जोन के निर्धारण के सम्बन्ध में।

सन्दर्भ: आपका पत्रांक त-1200/39 C-ED/ दिनांक 24.03.2025

महोदय,

कृपया उपरोक्त विषयक सन्दर्भित पत्र का अवलोकन करने की कृपा करें, जिसके द्वारा सुवांव नदी के फलड प्लेन जोन के निर्धारण के सम्बन्ध में अवगत कराना है कि फलड प्लेन जोन निर्धारण का कार्य निदेशक नेशनल इंस्टीट्यूट ऑफ हाइड्रोलोजी, रुड़की, उत्तराखण्ड द्वारा किया जायेगा। उक्त संस्था को आपके द्वारा दिया गया सर्वेक्षण डाटा एवं खण्ड द्वारा कराये गये सर्वेक्षण का डाटा हस्तगत करा दिया गया है तथा मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली के अग्रिम तिथि 15.04.2025 से पहले फलड प्लेन जोन निर्धारण के कार्य के लिए अनुरोध किया गया है। इस कार्य हेतु उक्त संस्था को उक्त कार्य के लिए भुगतान भी किया जा चुका है।

भवदीय

(अनिल कुमार)

अधिकासी अभियन्ता,
सरयू ड्रेनेज खण्ड-2

बलरामपुर

पत्रांक - /सड्रेख-2/एन0जी0टी0/तदिनांक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है।

1. मुख्य अभियन्ता, सरयू परियोजना-2, सिंचाई एवं जल संसाधन विभाग, उ0प्र0, गोण्डा।
2. अधीक्षण अभियन्ता, ड्रेनेज मण्डल, गोण्डा।

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अधीक्षण सर्वेक्षक/Supervisor/Surveyor
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भारतीय सर्वेक्षण विभाग, लखनऊ
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अधिकासी अभियन्ता,
सरयू ड्रेनेज खण्ड-2
बलरामपुर