

Former regulators. Now on your side.

Groundwater consultants for CGWA NOC, impact assessment, mining hydrogeology and groundwater modelling, led by former Chairmen of the Central Ground Water Board.



249+

assignments completed

19

states & UTs, plus
Nigeria

26

mine studies

20

in-house tools

Company profile · October 2026 · CGWA/RGI-accredited Ground Water Professional · RGI-certified Water Auditor

About us

Hydro Geo Solutions LLP is a consortium of scientists and engineers based in Faridabad, Haryana, led by former Chairmen of the Central Ground Water Board and former CGWB and CGWA scientists. We provide groundwater investigation, regulation and management services: field surveys with modern instruments, GIS and remote sensing, geophysics and numerical groundwater modelling, from hard-rock terrain to alluvium and coastal aquifers. We help clients meet groundwater regulations, secure the approvals they need, and use groundwater within what the aquifer can sustain.

Mission: Innovate, Conserve & Sustain. **Typical timeline:** 45–60 days from site data to final report; long-term monitoring and multi-season studies up to 2 years.

Services

INDUSTRY · INFRASTRUCTURE

CGWA NOC & Impact Assessment

NOC applications, Impact Assessment Reports with or without groundwater modelling, renewals and compliance.

MINES

Mining Hydrogeology

Comprehensive Hydrogeological Reports, mine seepage and dewatering estimates, EAC and CGWA support.

ALL SECTORS

Groundwater, Flood & Climate Modelling

MODFLOW, SEAWAT and transport models, HEC-RAS flood modelling and climate change impact on water availability.

FIELD

Geophysical Investigations

2D/3D Electrical Resistivity Tomography and VES for aquifer geometry, fractures and well siting.

FIELD

Hydrogeological Surveys, Drilling & Aquifer Mapping

Exploratory drilling, aquifer mapping, pumping tests, water quality and resource assessment.

CORPORATE · COMPLIANCE

Water Audit, Neutrality & ESG

RGI-certified water audits, water neutrality and water risk assessment, and ESG reporting support.

SUSTAINABILITY

Recharge & Water Security

Rainwater harvesting, managed aquifer recharge, water-body revival and water security plans.

Also: Exploratory drilling, HEC-RAS flood modelling, Climate change impact, Drone (UAV) surveys, Remote sensing & GIS, Flood inundation studies, Urban water management, Seepage into underground structures, Capacity building, Coastal aquifer management, Aquifer remediation, Conjunctive use, Underground taming of floods, Lake restoration, Ecological restoration & land reclamation, Green belt & landscaping, Solid waste management, Geothermal & green buildings, Community engagement & water literacy.

Portfolio

271 assignments in our project register (249 completed) across 19 states and union territories of India, and Nigeria.

Vertical	No.	Typical scope	Clients include
Industry	155	CGWA Impact Assessment Reports with and without modelling, NOC filing, renewals and self-compliance	Beverages, automobiles, pharma, textiles, chemicals, distilleries, paper, cement, fertilisers
Water audits	36	Water audits and site water balance for CGWA compliance and corporate water stewardship	Automobiles, beverages, distilleries, fertilisers, pharma, power, textiles
Mines	26	Comprehensive Hydrogeological Reports, groundwater models, seepage studies, water management plans, NOC renewal and compliance	Coal, limestone, zinc-lead, iron ore, silica sand
Infrastructure	18	Dewatering management plans, hydrogeological studies for EIA, rainwater harvesting reports	Townships, SEZs, real estate, an electronics city, a medical complex, a cantonment
Special studies	36	Water availability for thermal power plants, SEAWAT saline-interface models, water-body revival, watershed and sustainability studies, pumping tests, feasibility reports	Power, renewables and biofuels, public authorities, coastal industry

Case studies



MINES • JHARKHAND

Tasra opencast coking coal mine: how much water, and from where?

Challenge. A 4 Mtpa opencast coking coal mine in the Jharia Coalfield, going down to 260 m beside the Damodar River, needed year-by-year seepage estimates and a dewatering plan.

What we did. Well inventory, pumping tests, ERT surveys, water quality and stable isotope analysis of 20 samples, and a calibrated five-layer MODFLOW model (RMS error below 1 m) run for each mine stage.

Result. Isotopes showed that 70–80% of sump water is groundwater from the fractured Barakar sandstone. Seepage rises from about 2,950 m³/day in year 1 to 12,300 m³/day in year 5, with a phased plan for dewatering, slope safety and monitoring.



MINES • MAHARASHTRA

Surjagarh iron ore mine: stopping seepage before it reaches the crusher

Challenge. Persistent seepage on the northern wall of a new infrastructure terrace at Lloyds Metals' Surjagarh mine, Gadchiroli, threatened the foundations of a crushing facility.

What we did. Four 2D ERT lines across the benches, 15 VES, well inventory, recharge and runoff analysis for 37 micro-watersheds, and a conceptual groundwater model.

Result. We traced the water to a perched zone 3–7 m deep feeding NW–SE fractures, and designed a five-tier plan: surface capping to cut infiltration by 70–80%, horizontal drains and relief wells, garland drains, foundation protection and piezometer monitoring.



MINES • NIGERIA

Groundwater baseline for a greenfield iron ore mine

Challenge. A new iron ore mine in Nasarawa State needed a groundwater baseline before planning dewatering and community water supply.

What we did. Exploratory drilling, pumping and slug tests, infiltration tests, VES surveys, stream flow measurement and water sampling, run by our own field team.

Result. Aquifer parameters, a hydrogeological framework for mine planning, and recharge options for nearby communities.



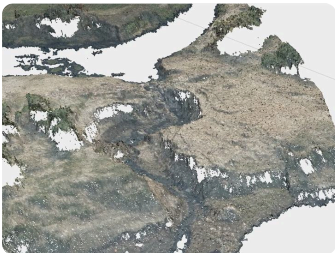
SPECIAL STUDIES • UTTAR PRADESH

Will the aquifer sustain a new bio-energy plant?

Challenge. A compressed biogas plant at Shahjahanpur needed proof that its groundwater source would last through the life of the project.

What we did. Two field campaigns: well inventory, water level and quality surveys, step and constant-rate pumping tests, and climate change impact on recharge.

Result. A source sustainability assessment for the plant's water planning, now the template for our work at other bio-energy sites.



INFRASTRUCTURE • HARYANA

Buriya Nallah drainage feasibility and DPR

Challenge. Faridabad Metropolitan Development Authority needed a feasible alignment and design for the Buriya Nallah drain.

What we did. Drone photogrammetry, DGPS survey, field investigation, hydrological analysis and hydraulic design.

Result. Feasibility study and detailed project report with tender documents for FMDA.

Leadership and team



Dr. P. Nandakumaran

Advisor · Former Chairman, CGWB & CGWA

Former Chairman of the Central Ground Water Board and Central Ground Water Authority, and the first Project Director of Atal Bhujal Yojana. Nearly 36 years in government service covering groundwater exploration, development, regulation and augmentation, and national groundwater policy. Specialises in risk assessment and water security plans. Recipient of the National Geoscience Award 2019.



Sunil Kumar

Advisor · Former Chairman, CGWB & CGWA

M.Tech in Applied Geology from the University of Roorkee (now IIT Roorkee). Instrumental in operationalising India's modified groundwater regulatory regime and in shaping national groundwater policy. Works on sustainability and water neutrality, with expertise in remote sensing, GIS and groundwater modelling. Lifetime Achievement Award, IME Journal Awards 2022.



Anand Kumar Agarwal

Advisor · Former Chairman, CGWB

More than three decades in the Central Ground Water Board. Expert in groundwater governance, with a specialisation in stochastic hydrology, and a capacity-building specialist.



K. C. Naik

Advisor · Exploration & Hydrogeological Surveys · Former Chairman, CGWB

Chairman, CGWB (2017–2020) and later Chairperson, J&K Water Resources Regulatory Authority. M.Tech in Applied Geology (University of Roorkee). Three decades of groundwater exploration and hydrogeological surveys; led the National Aquifer Mapping programme and the Master Plan for Artificial Recharge. 15+ papers, 50+ technical reports.



Dr. Uma Kapoor

Director · Former Regional Director, CGWA

Doctorate in Geology from Delhi University and over 35 years in groundwater exploration, recharge, pollution studies and impact assessment. Contributed to the National Aquifer Mapping programme, Atal Bhujal Yojana and groundwater regulation. Former member of the MoEFCC Expert Appraisal Committee.



Durjoy Chakraborty

Director · Former Senior Scientist, CGWB

More than three decades in CGWB and CGWA. PG in Geology (Delhi University) and Masters in Hydrology (IIT Roorkee). Expert in groundwater targeting, watershed planning, participatory management, 3D ERT surveys and mining hydrogeology.



S. K. Sinha

Director · Former Senior Scientist, CGWB

34 years in CGWB. M.Tech in Applied Geology (IIT Roorkee) and Masters in Hydrology. Former team lead, Atal Bhujal Yojana; worked on the National Aquifer Mapping & Management Programme. Expert in groundwater modelling, network optimisation and aquifer rejuvenation.



Anuradha Bhatia

Hydrogeologist & Water Auditor · Former Senior Scientist, CGWB

Nearly 35 years in CGWB and an M.Tech in Hydrogeology (IIT Roorkee). Expert in recharge, impact assessment and resource assessment with remote sensing and GIS. Water Auditor certified by the Rajiv Gandhi National Ground Water Training & Research Institute.



Baldev Raj Chugh

Director · Business Development

MBA, with more than 25 years in water resources: rainwater harvesting systems across India, water wells and piezometers. Leads finance and business development.

Technical team: Rekha Singh (Senior ESG Expert), Manisha (Senior GIS & Remote Sensing Expert), Dr. Ekbal (Water Resources Specialist), Shikha Jaswal (Business Development & Financial Expert), Sneha Mehta (Water Resources Specialist), Dr. Sachin Kania (Water Expert), Dr. Firoz Khan (Water Expert).

In-house tools

FIELD & AQUIFER TESTS

- HGS Field App
- Aquifer Test Analysis
- Step Drawdown Test
- Slug Test Calculator
- Horton's Infiltration
- Hydrograph Generator
- Water Quality Sampling

GEOPHYSICS

- ERT Data Interpreter
- PQWT Data Interpreter

MINING & DEWATERING

- Mine Seepage Calculator
- Foundation Dewatering
- Analytical Drawdown & RoI

SURFACE WATER & RECHARGE

- Khosla Runoff Estimator
- Watershed Flood Modelling
- Runoff & Recharge Structures
- Water Balance Calculator

CLIMATE & SUSTAINABILITY

- Climate Change Impact Tool
- CRVA Toolkit

MODELLING & GIS

- VMPPTool — Pre & Post Processor
- Elevation → DEM / Surfer Grid

Registrations and accreditation

Ministry of Corporate Affairs	Limited Liability Partnership Incorporated 31 December 2021	LLPIN ABA-0787
Goods & Services Tax	GST registered, Haryana Principal place of business: Faridabad	GSTIN 06AA0FH5573K1ZU
Ministry of MSME	Udyam registered, Micro enterprise Professional, scientific and technical services (NIC 74909)	UDYAM-HR-05-0041129
DPIIT, Startup India	Recognised startup Valid up to 30 December 2031	Certificate DIP112109
RGNGWT&RI, Ministry of Jal Shakti	Certified Water Auditor Valid five years from 19 June 2023	Certificate RGI/WA/2023-10
Accreditation Board of CGWA	Ground Water Professional accreditation Impact Assessment Reports and mining Hydrogeological Reports, with and without modelling. Validity extended to December 2026.	CGWA/RGI/2022/ACC/133

Contact

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