

**BRIEF PROFILE OF  
INTEGRATED GEO INSTRUMENTS AND SERVICES (P) LTD**

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**IGIS OBJECTIVES:**

The Integrated Geo Instruments & Services Pvt. Ltd. (IGIS), Hyderabad, incorporated in 1981, has quickly come to the fore front and carved out a significant place in the geophysical industry in India. As an established and leading geophysical firm in the country IGIS offers expert consultancy in integrated water supply and sanitation programs, ground water and mineral explorations, geotechnical investigations, environmental impact studies and other related aspects.

IGIS imparts training in geophysical exploration techniques to graduates and post graduates.

IGIS is committed to manufacture a wide range of geophysical and geohydrological instruments with latest technologies.

The IGIS is equipped with full-fledged laboratory facilities for instrument design development, production and testing.

Based on the sound scientific and technological foundations and backed by a strong team of geophysicists, geologists and engineers, the IGIS endeavours primarily to carry out Research and Development efforts towards innovative techniques in geophysical instrumentation, data acquisition and data processing procedures.

**RESEARCH AND DEVELOPMENT EFFORTS:**

**INSTRUMENTATION:**

- Design and Development of six models of Resistivity Meters including microprocessor Based Signal Stacking Resistivity Meter.
- Logging equipment for borehole studies.
- Microprocessor based Automatic Water Level Recorder.
- Multi channel Induced Polarization system
- Multi Electrode Solution

The IGIS Instruments incorporate several innovative features as well as recent advances in digital technology. IGIS has secured the “BEST INVENTION AWARD” in All India Industrial exhibitions, Hyderabad, during the years 1983, 1988 & 1989.

**FIELD STUDIES:**

- Special profiling techniques for identifying small-scale lateral variations; Development of concept of strip resistivity.
- Special sounding technique, the Inverse Slope method for interpretation of Resistivity sounding data. This method is highly useful in identifying thin layers and is being used widely in groundwater exploration programmes, several Ph.D. students of Poona University, P.G.Centre, Sholapur and S.V.University, Tirupathi made extensive application of this technique for their research works.

## MARKETING:

IGIS has supplied more than 8000 instruments to several agencies both Government & Private sectors in India and Abroad exporting its equipment to UK, Nigeria, Nepal, Thailand, Sultanate of Oman and Bangladesh and several African Countries.

## IGIS EXPERT CONSULTANCY:

Besides the design and development of the geophysical hardware, the company is actively engaged in planning and execution of geophysical field studies for a variety of exploration studies to provide expert consultancy. For this purpose IGIS as a special wing exclusively devoted for carrying out geophysical, geohydrological and engineering geological surveys, to tackle a wide variety of problems. Some of these are:

### Major Groundwater & Bedrock Investigations:

- Groundwater investigations were carried out for state government agencies like AP State Irrigation Development Corporation Ltd., Govt. of AP, A.P Co-operative Rural Irrigation Corporation Ltd., Govt. of A.P., Integrated Tribal Development Agency, Govt. of A.P., Hyderabad Metropolitan Water Works, MCH, Hyderabad, Public Works Department, Govt. of Goa.
- Well logging for recommending tube well construction assembly for A.P. State Irrigation Development Corporation.
- Source finding, drilling and pump installation for Public Health Engineering Dept., Govt. of Meghalaya at more than 400 sites on Turn-Key basis.
- Geophysical investigations in Bakreswar Thermal Plant area including geophysical well logging (SP, PR, SN, LN, Natural gamma and density).
- Groundwater investigations for Karnataka Agro Industries Corp. Ltd.
- Groundwater investigations for Rural Water Supply in the Bidar district, Karnataka (World Bank Aided Project).
- Drilling, Pumping Test and Chemical Analysis of Water and Soil Samples at Upper Krishna Project, Karnataka.
- Permeability of Soils, Chemical Analysis of Soils & Water Samples in Upper Krishna Project, Gulburga & Bijapur Districts, Karnataka.
- Geophysical investigations in 50 villages for selection of drinking water sources and borewell construction for world Bank Assisted project, Raichur district, Karnataka, India.
- Groundwater Modelling for designing artificial recharge structure in fluoride effected area.
- Groundwater model study for artificial recharge structure to dilute the saline water aquifers in coastal districts of A.P. India.
- Construction of artificial recharge structure for diluting fluoride rich groundwater and using the same as Rural water supply for the village Jawalgera in Raichur district karnataka, India.
- Bed rock investigations for International Airport at Shamshabad, near Hyderabad.

## Consultancy Services for Water Supply and Sanitation Projects

### 1. Netherlands-assisted project for Government of Karnataka:

Integrated water supply and sanitation project was carried out successfully in Karnataka state, India during the years 1997-99. The activities included Hydrogeological investigations for source finding, geophysical logging, drilling and pumping test etc. for identification and harnessing of surface water and groundwater sources, water storage and distribution systems. About 109 villages in Dharwad district and 61 villages in Bijapur district were investigated under packages 3, 5, 6, 11 & 13.

### 2. Jal Nirmal Project – Government of Karnataka (World Bank assisted Project):

IGIS is working for Jal Nirmal Project, Government of Karnataka (World Bank assisted project) for the last four years. We have successfully completed the execution in Batch 1 & 2 villages in Uttara Kannada and Koppal districts and we are now presently working on Batch 3 villages of Koppal and Bhagalkot districts.

The main objective of the program is to plan, design and provide necessary technical, community development and supervisory services to the Gram Panchayat and Village Water Supply and Sanitation for implementation of sanitation and water supply works.

Our obligations include

- Design and provide necessary technical, community development and supervisory services to the Gram Panchayats and Village Water Supply & Sanitation Committees for implementation of water supply and sanitation works.
- Responsibility for the activities described for Planning Phase in the Scheme Cycle for the project and operational guidelines issued by the Project regarding implementation of the project from time to time.
- Responsibility for conducting training programs at the Gram Panchayat/Village level on Peoples' Participation in the program.

The activities include preparation of the following action plans:

Water Supply Plan: This comprises preparation of Base maps; feasibility reports on existing and proposed schemes; engineering, geophysical and (hydro)geological surveys; soil investigations; preparation of Preliminary Scheme Reports and Detailed Scheme Reports in consultation with the community.

Groundwater Recharge Plan: While locating the source for water supply, detailed hydrogeological and geophysical surveys are carried out, zones of aquifer and lineament joints are identified using satellite imageries and survey findings and ground water point recharge plans are prepared. The plan includes the treatments, drawings and cost estimates.

Drainage and Lane Improvement Plan: The existing situation of sanitary coverage and village internal lane position is assessed and the plans of technical options are suggested to be chosen.

Environment Management Plan: Gram Panchayat level initiatives for composting and garbage pits, solid waste management and provision of smokeless chulhas and bio-gas plants and such other initiatives are included.

Sanitary Latrines Construction Plan: Demand assessment for household latrine done for BPL and APL families, Need for Community and Industrial latrines assessed and construction plan prepared.

Women's Development Programmes Plan: Plan for Women Empowerment Training Programmes prepared, mechanism to involve women in planning, implementation and decision-making are discussed and finalized.

Sanitation and Hygiene Promotion (SHP) Plan: Base line healthy home survey completed, the results of which are used for preparation of SHP plan providing details about objectives, inputs, scheduling and likely inputs. SHP Plan prepared.

Gram Panchayat Strengthening Plan: Plan for office modernization / upgradation/strengthening and utilization of flexible funds prepared.

Community Cash and labor Contribution Plan: Plan pertaining to the household-wise cash and labor shares is decided and prepared.

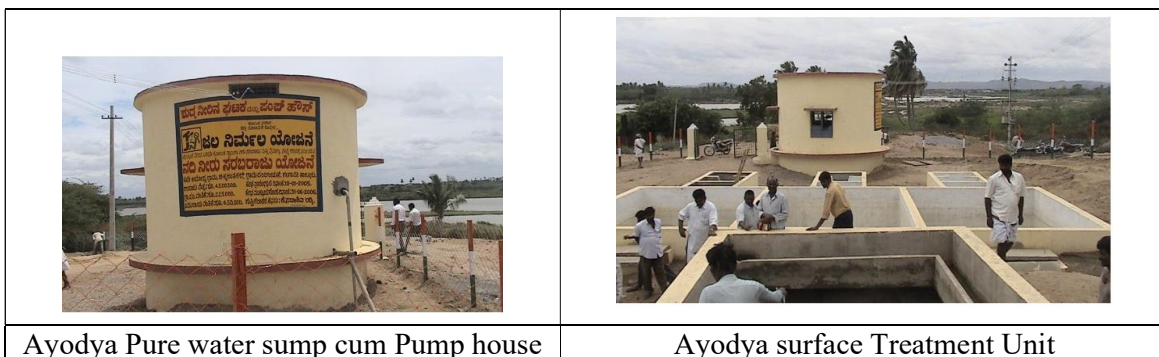
Operation and Maintenance (O&M) Plan: Likely Operation and Maintenance expenditure is calculated, water tariff fixed, institutional arrangements decided and detail O&M Plan prepared.

Monitoring and Evaluation Plan: Monitoring framework developed using simple indicators to facilitate the community monitoring of implementation of components. The Gram Panchayat shall undertake on their own, monitoring and evaluation activities, which are assigned to them and prepare progress reports and financial statements as may be specified from time to time.

### **CONSULTANCY SERVICES FOR MULTI VILLAGE SCHEME UNDER JAL NIRMAL PROJECT**

Presently working as **Supporting Agency - Engineering for Batch III villages of “Jal Nirmal”** in Koppal (9 Gram Panchayats - Multi village schemes) and Bagalkot (10 Gram Panchayats - Ground water schemes) districts of Karnataka state. The project is started in April 2006 and is nearing completion.

A few photographs showing the activities of Multi village scheme Under Jal Nirmal Project can be seen below.





Kataraki - Gudlanur Treatment Unit



Ayodhya elevated reservoir



Patlachinathi Pure water tank and Pump House



Chikkajantakal Pure water tank and Pump House



50 KL G.L.S.R Kodathageri



Nagaral 50 KL OHT



Creating Awareness through House to House visits



Creating Awareness through small group meetings



Community mobilization – through Wall Paintings



Topographic surveys-Total Station

Community mobilization – through Street Plays



Household latrine



Twin Pits (two separate pits) for HHL



Collection of Community Contribution  
SA staff house to house visit



SA Staff : Review meeting of Community  
impounding  
facilitators



Jack well-cum-pumphouse in  
reservoir in Karnataka



World Bank Team-Site visit to project villages



World Bank Team Visit :  
Interacting with the community

### **OVERSEAS CONSULTANCY:**

- Geophysical Studies for selecting areas suitable for development of agriculture estates in Bouchi State of Nigeria.
- Resistivity Surveys for selection of suitable sites for exploratory drilling of deep aquifers in Sultanate of Oman.

### **IGIS TRAINING PROGRAMME:**

Contribution to Human Resource Development by way of imparting high quality training through systematic scientific approaches in resources exploration techniques with special reference to groundwater.

### **FACILITIES FOR GROUNDWATER STUDIES**

1. Microprocessor based signal stacking resistivity meters
2. Well logging equipments
3. Magnetometer
4. Field kit for measuring Fluoride, Iron, Conductivity & pH
5. Water Level Indicators
6. In-house Softwares for interpretation of Resistivity Sounding Data, Pumping Test Data, Geophysical Well Logging Data and Seismic Refraction Data.
7. In housed infrastructure for Data Processing with latest configuration P.C's, Laser Jet printer, Copying machines, Scanners.
8. Survey instruments like Total Station equipment, Compasses, Theodolites, GPS based Range Finder DGPS, Precision farming application tools.