

Daira Sabz

Consulting and Engineering Group

Smart Lab

Leveraging Data for a Healthier Environment



At Daira Sabz Consulting and Engineering Group, our Smart Environmental Laboratory offers advanced environmental monitoring, laboratory testing, and advisory services to support climate action, sustainable development, and environmental compliance. Designed for precision and scalability, our lab meets the needs of public and private sector clients across infrastructure, mining, agriculture, and energy sectors—operating under ISO 9001:2015 and ISO 14001:2015 standards.

Why Environmental Data Matters



Accurate, real-time environmental data is essential for:

- Identifying pollution sources and ecological risks
- Ensuring regulatory compliance and reporting (ISO 14001, ISO 9001, EU Directives, NEPA Afghanistan)
- Enabling evidence-based project planning and adaptive environmental management
- Supporting Environmental and Social Impact Assessments (EIA/ESIA) and sustainability reporting (GRI, SDGs, IFC Performance Standards)

Our Smart Lab integrates global best practices, advanced digital tools, and quality-assured testing protocols to help organizations meet their environmental goals —whether operating in Afghanistan, Germany, or internationally.



Core Environmental Lab Services

We deliver precision-tested lab services in alignment with both international (EU, WHO, ISO 17025) and local standards (NEPA, Afghanistan National Standards Authority). Our SEO-relevant capabilities include:



Digital Transformation & Strategy

- Physicochemical and biological parameters (pH, turbidity, conductivity, heavy metals, nutrients, pathogens)
- Surface and groundwater analysis for environmental and industrial applications



Soil and Sediment Analysis

- Soil fertility, contamination assessments, and texture classification
- Sediment composition, toxicity, and pollution source tracing



Flora & Fauna Surveys and Biodiversity Monitoring

- Terrestrial and aquatic ecosystem assessment
- Species identification and biodiversity indicators



Air and Noise Pollution Monitoring

- Outdoor/indoor air quality analysis (PM2.5, PM10, VOCs, CO₂, SO₂, NO_x)
- Noise level mapping and decibel analysis (30–130 dBA)



Baseline Environmental Surveys

- Pre-project and long-term monitoring studies
- Designed for EIA, ESIA, and CSR reporting



Oceanographic and Hydrographic Monitoring

- Water column profiling, sediment mapping, and current analysis
- Real-time sensor deployment and remote survey tools



Remote Monitoring and Smart Technology Integration

- Sensor-driven real-time monitoring and GIS-enabled spatial analysis
- Drone mapping, ROV inspections, and IoT-based cloud data transfer



Multifunctional Indoor and Outdoor Air Quality Monitor Device



Sound Level Meter Audio Decibel Noise Tester 30~130dBA Digital Volume Measuring Instrument



Digital Multi-Function Water Quality Monitor Tester



Wildlife Trapping Camera

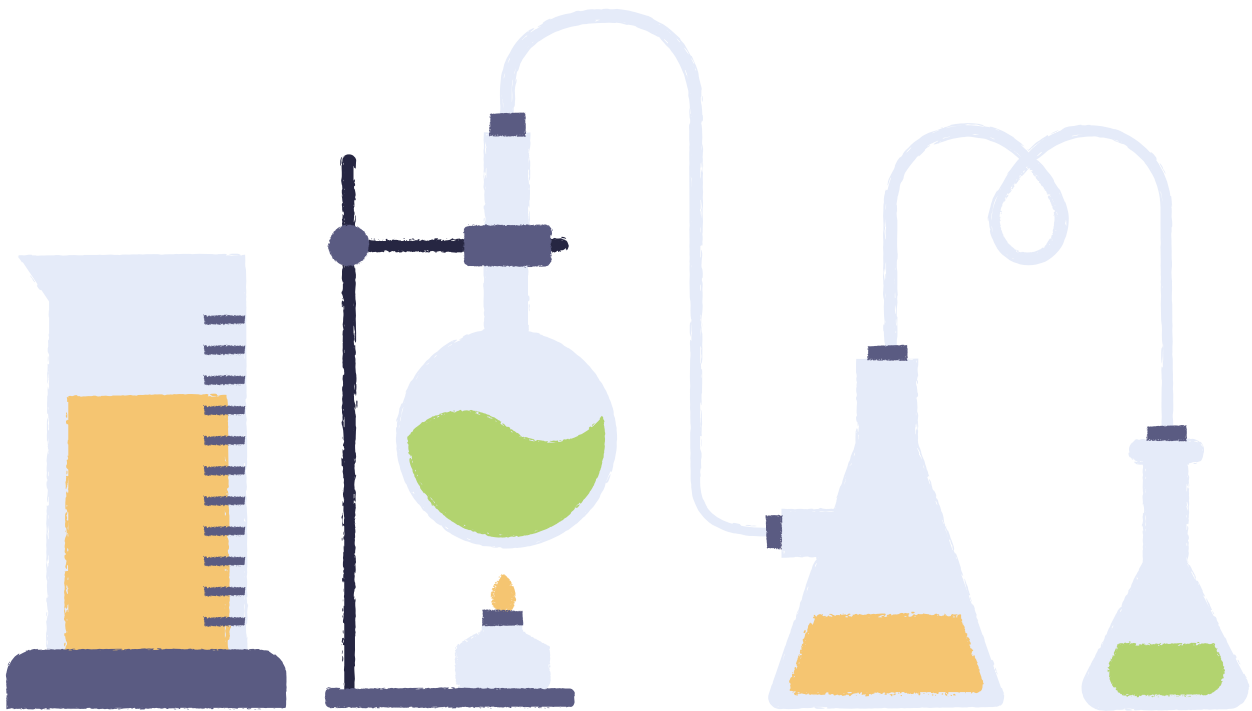


Smart Lab Equipment and Technology

Our lab is equipped with industry-leading tools, aligned with ISO 17025 standards for testing laboratories:

- Multi-parameter water quality probes (pH, TDS, EC, salinity, temperature)
- Digital noise meters, sound level analyzers (dBA range)
- Portable and continuous air quality monitors (indoor and outdoor)
- Wildlife camera traps, soil moisture sensors, and sampling kits

We ensure traceability, reproducibility, and accuracy in every environmental data point we provide.



Project Highlights: Real-World Impact

- Salang Corridor Environmental Feasibility Study

As part of the **Salang Corridor Feasibility Study** in Parwan Province, Afghanistan, Daira Sabz partnered with **SMEC International** to conduct full-spectrum environmental monitoring. The project adhered to **Asian Development Bank (ADB)** safeguard policies and **Afghanistan's NEPA** guidelines.



- Aynak Copper Mine ESIA with MCC-JCL Aynak Minerals Company (MJAM)

In collaboration with **MCC-JCL Aynak Minerals Company**, Daira Sabz provided the **full ESIA service package**, including **baseline data collection** and **environmental lab services** for the Aynak Copper Mine—Afghanistan’s most strategic mining development. Our Smart Lab contributed to:



Why Choose Daira Sabz Smart Lab?



- ✓ - ISO 9001:2015 & ISO 14001:2015 Certified testing processes
- ✓ - International operations in Germany and Afghanistan
- ✓ - Compliance with EU, UN, WHO, IFC, and Afghan NEPA standards
- ✓ - Seamless integration with EIA, ESG, and CSR reporting frameworks
- ✓ - Agile team of environmental analysts, ecologists, and field experts
- ✓ - Digital-ready, cloud-enabled reporting for fast decision-making

 **Daira Sabz**
Consulting and Engineering Group

Your strategic partner for development and sustainability