



CENTRE FOR PEACE AND DEMOCRACY

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TOR for the hydrological survey Exercise in Baxdo Town

Background

The community of Baxdo has been facing significant water scarcity issues, impacting household access, livestock, agriculture, and overall community resilience. A borehole drilling project has been proposed by CPD through the approval of IRC with funding from FCDO BRCIS III project to provide a sustainable water source to restore the ecosystem and the degraded land and sustain the sandunes magnitude of the area by initiating tree planting initiatives in the area. This hydrological survey aims to assess the area's groundwater potential and identify optimal sites for drilling based on hydrological, geological, and environmental factors.

Objectives of the Hydrological Survey

The primary objectives of the survey are:

1. **Assessment of Groundwater Potential:** Evaluate the area's groundwater potential to determine the feasibility of drilling a borehole.
2. **Site Identification and Selection:** Identify and recommend suitable locations for borehole drilling based on hydrological, geological, and environmental data.
3. **Water Quality Analysis:** Assess groundwater quality to ensure it meets acceptable standards for human consumption and agricultural use.
4. **Environmental Impact Considerations:** Assess potential environmental impacts and suggest measures to mitigate any adverse effects associated with borehole drilling.
5. **Data Compilation for Sustainable Management:** Collect baseline data for sustainable groundwater management in the area.

Scope of Work

The consultancy/contractor will undertake the following tasks:

1. **Data Collection and Preliminary Assessment:**
 - Review available hydrogeological maps, topographical data, climate data, and previous borehole data within the project area.

- Conduct an initial site reconnaissance to assess current water sources and any existing boreholes.
- 2. Geophysical Survey:**
- Conduct geophysical surveys (e.g., Electrical Resistivity, Vertical Electrical Sounding) to determine subsurface water-bearing formations.
 - Generate a profile of the area's aquifers, including depth, thickness, and spatial distribution.
- 3. Water Quality Testing:**
- Collect water samples from potential sites for laboratory analysis of physical, chemical, and microbiological parameters.
 - Compare results to national or international water quality standards to determine suitability for human consumption and agricultural use.
- 4. Site Evaluation and Recommendations:**
- Based on geophysical and hydrological data, recommend the most promising locations for borehole drilling.
 - Provide an assessment of the sustainability of the water source, considering potential recharge rates and nearby water use.
- 5. Environmental Impact Assessment (EIA):**
- Identify potential environmental impacts related to borehole drilling, such as changes in groundwater levels or ecosystem disturbances.
 - Propose mitigation measures for any identified adverse impacts.
- 6. Reporting and Presentation:**
- Prepare a detailed report of findings, including data analysis, water quality results, and maps of potential drilling sites.
 - Conduct a presentation of findings to stakeholders, including technical staff and community representatives.

Deliverables

The consultancy will deliver the following:

- 1. Inception Report:**
 - Outline of methodology, work plan, and timeframe of the activity initiation.
- 2. Interim Report:**

- Summary of preliminary findings and initial site recommendations.
- Submitted through the project timeline.

3. Draft Final Report:

- Detailed findings, water quality analysis, geophysical survey data, site recommendations, and environmental impact considerations.
- Draft report to be submitted immediately after the completion of the exercise.

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