**Practical Action – Sudan**

**North Darfur Programme**

**Terms of Reference (TOR)**

**Construction of Water Well in WADCOTA Village council**

1. **Background**

The Wadi El Ku Catchment Management Project-Phase II (WEK-II) seeks to achieve sustainable improvements in agricultural and related livelihoods through the improved management of natural resources – mainly water, but also soils and forests.

Following the successful implementation of the first phase of the Wadi El Ku Catchment Management Project with financial support from the European Union, the second phase of UNEP’s Wadi El Ku Catchment Management Project will continue to demonstrate how effective and inclusive natural resource management, based on UNEP’s experience in Sudan in Integrated Water Resources Management (IWRM) and in catchment based natural resources management, can improve relationships over natural resources, therefore contributing to peace in a conflict affected region. The project will also improve livelihoods through enabling sustainable increases in agriculture and related value chain productivity. Participating communities will achieve sustainable increases in agricultural and related value-chain production through the rehabilitation and improved management of land, forest and water resources. UNEP and Practical Action convening power will continue to bring communities and disparate sectoral institutions together to rebuild relationships over natural resources, thereby contributing to peace. The intent is to refine and strengthen the model for inclusive and effective catchment management developed under Phase 1, which demonstrated a positive impact on the environment and livelihoods, as well as on relationships over resources. This model can be scaled up and replicated elsewhere in Darfur and Sudan.

Thus, UNEP and Practical Action Sudan has received additional funding from the European Union to continue the catchment management and livelihoods project in the Wadi El Ku catchment in North Darfur. The project will continue to strengthen livelihoods and achieve sustainable increases in agricultural and related value-chain production in a wider area of the Wadi from Umsayala upstream to Wada’a downstream (about 180 km) through the rehabilitation and improved management of its land, forest and water resources.

The project will achieve this outcome by applying UNEP and Practical Action knowledge and experience with environmental governance and integrated water resource management to the natural resource management challenges of Wadi El Ku. Concretely, the project will continue to grow and refine a catchment management system in the project area, which brings government and communities together for joint decision making over natural resources. The project will also take actions that open up and improve livelihood options and practices for farmers, agro-pastoralists and pastoralists living in or migrating through Wadi El Ku. It will help these communities to better manage their soil, water and forest resources, and to address the growing soil erosion and land degradation problem in the area. In addition, the project will use these activities to strengthen community-based decision-making and peacebuilding around natural resource management issues, and to promote community participation in an improved system of integrated catchment management and governance. Another area of emphasis will be to strengthen data driven decision-making, through focusing on generating the data and science needed to improve decision-making around water resources in the wadi. Finally, state government’s involvement will continue to be promoted, building on the capacity building programme implemented under Phase 1, to better support, scale up and replicate integrated and inclusive catchment management, at both the technical and policy levels. The project will continue to pay attention to the documentation of successes and lessons learned during implementation, with a view to informing the development of a general model of catchment management that will have wider application in the region and the country.

The WEK-II objectives are: Improve natural resource use and management in Wadi El Ku. As well as communities apply improved techniques in natural resources management and agriculture. With an overall impactof establishing climate resilient livelihoods and reducing natural resource conflicts as well as displacement due to loss of livelihoods in North Darfur.

The system of catchment management will be underpinned by UNEP and Practical Action understanding and experience of integrated water resource management. IWRM demands a holistic approach to water resource management, which takes account of the views and needs of all stakeholders, while being well informed by good science and considerations of environmental sustainability. In other words, IWRM is essentially an inclusive decision-making process built on a foundation of good science.

During the planning process through participatory approach, communities’ prioritized water points (water wells, water yards and hand pumps) as community top issue in several village council within the project area. Some criteria were used to identify UNEP proposed interventions which comprise of three new water spreading weirs, one diversion canal, and two repair structures. This TOR aims at conducting studies necessary for further development of these structures.

1. **Objectives**

The services to be rendered by the contractor under this TOR are aimed at providing functional water points in WEK II areas. Specifically, the objectives are;

1. To establish Three water wells, One at hilat Goss Elfasher locality and Two water well in the downstream area (Wadcoata and Eddelebeida villages) at Kalemendo Locality North Darfur State.
2. **Scope of Service**

The scope of work under this TOR consists of geophysical studies necessary to locate the water points in WEK II area and construct these water points.

**ANNEX 1: Schedule of Requirements**

1. **Locating, drilling, development and completion of well**

| **Item** | **Specifications** | **Unit** | **Quantity** | **unit price** | **Amount** |
| --- | --- | --- | --- | --- | --- |
| Drilling of water wells | Conduct necessary geophysical studies and Drill borehole of 12.5-inch dia, through all types of strata including disposal of excavated materials, taking any remedial measures to overcome caving in, or over drilling to accommodate sloughed material and keeping drilling records as specified. | No. | 1 |  |  |
| a) Plain casing, either threaded or welded should be (galvanized pipes) according to Ap1/ASTM standard, with dia 8 ½ inch (165 mm) with wall thickness (6.40-7.04 mm) collapse resistance (1,220 PSI). | No. | 1 |  |  |
| b) Screen, dia 6 1/2 " (165 mm) with openings (0.040 mm) 15 Bar. | No. | 1 |  |  |
| Allow for taking samples of drill cutting at (2 m) two meters interval | job | 1 |  |  |
| Provision and installation of compliant submersible pump. Supply and install of Submersible Pumps - 3 inch, 7 l/sec, H= 150m, 3 phase. Pump shall be European made subjected to the approval of the Engineer prior to supply and installation.  The cost including control panel and necessary cables. the cost includes the provision and installation of switch box (supply with ON/OFF switch and Earth wire hole, diameter of 0.5m and length of 1m, piece of copper and coal with salt) in addition this also include the cost of (Pump Security wire, Rust proof type with clamps) | No. | 1 |  |  |
| Provision and construction of pumping house (6x4 m) comprising concrete foundation, steel structure wall and roof of corrugated sheets (zinc) steel, including (1) One steel door and (3) three window, floor slap, smooth render finish, door step drainage channel and seepage basin. | No. | 1 |  |  |
| Pumping Test step draw down and constant discharge test including installation, removal of test pumping equipment, water level observation and draw down measurements | No. | 1 |  |  |
| Undertake water level observation and record on recovery | No. |  |  |  |
| Water analysis, should carry out bacteriological, physical and chemical analysis of the borehole water. | No. | 3 |  |  |
| Borehole disinfection | No. | 1 |  |  |
| Supervision of borehole drilling process and completion, should be done by specialized geologist. | job | 1 |  |  |
| Preparing of final report, including: - | No. | 1 |  |  |
| a) Data analysis |
| b) Drilling report |
| c) Borehole completion report |
| d) Pump test report |
| e) Well development and disinfection report |
| f) Water fitness certificate (water suitability for human and livestock consumption) |

**Offer to Supply services Compliant with TOR**

All other information that we have not provided automatically implies our full compliance with the requirements, terms and conditions of the RFQ.

*[Name and Signature of the Supplier’s Authorized Person]*

*[Designation]*

*[Date]*

**Stamp**

**Annex 4**

**General Terms and Conditions for Services**