**Terms of Reference (ToR)-PR006**

**Provision of assessment and studies for Wadaa dam**

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’s 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 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 UNEPs 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’s 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 spreading structures (weirs) 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, 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 consultant under this ToR are aimed at providing comprehensive assessment necessary for revealing the functional status of an existing dam and conduct necessary studies to expand the embankment with new spillway and irrigation openings in Wadaa area including suggestions for rehabilitation, modification or redesign and construction. Specifically, the objectives are;

1. To conduct necessary assessment to the dam, spillway and embankment its crest, side slopes and foundation.
2. To conduct environmental and social impact assessment and prepare a complete and detailed EIA and community consultation report.
3. To conduct Geotechnical surveys and soil investigations for the selected sites and prepare a complete and detailed geotechnical and soil analysis report including construction material borrow areas.
4. To conduct topographical survey at the weir sites to produce necessary cross sections:
5. To conduct hydrological and hydraulics studies to determine the mean annual yield and maximum probable flood (MPF)
6. To produce bill of quantities for the rehabilitation or modification works
7. To design and produce drawings of the extended embankments with new spillway and irrigation opening and other necessary gates and outlet works and produce bill of quantities including any rehabilitation works on the existing dam and its components.
8. **Scope of Service**

The scope of work under this ToR consists of comprehensive assessment necessary for revealing the status of the dam, spillway and embankment which include and not limited to social and environmental impact assessment, geotechnical surveys and soil investigations, topographical survey, hydrological studies, rehabilitation works of the dam and its components including design of the embankment extension, bill of quantities, etc.

The main purpose of these assessment is to rehabilitate of modify the weir to perform its objectives properly.

* 1. **Assessment of the existing dam and extension**

The consultant shall conduct assessment on the embankment to reveal its status. The assessment aims to quantitatively evaluate the structural and engineering conditions of the dam and its spillway and embankments. The assessment should include the following components:

1. Crest
The embankment crest should be evaluated for Cracks, Settlement, Erosion, Vegetation, etc.

2. Upstream slope, Downstream slope and toe

Assess the upstream/downstream slopes for Cracks, Settlement, Erosion, Slope stability, Sliding and Vegetation

1. Spillway
Assess the spillway for the following:

Channel obstructions, condition of side wall, condition of floor, capacity of the spillway, etc.

1. Seepage and/or leakage
2. The overall integrity and functionality of the dam

	1. **Environmental and social impact assessment**

The consultant shall conduct environmental and social impact assessment to deliver an approved EIA report that is developed in accordance with Government EIA requirements, with information including, but not limited to the following:

* + - Whether and/or how the construction of weirs would not cause degradation of the river habitat along the catchments
		- Social and environmental impacts (including but not limited to equity and gender issues) through the construction of the weirs and the surrounding communities understanding and acceptance/feedback regarding the risks.
		- Suggested mechanisms and plans to mitigate and/or monitor potential risks during project implementation
		- Concerns related to land tenure associated with weir construction

The consultant shall conduct Community Consultations in all communities directly or indirectly affected by the construction of weirs. The objective of the consultation should include (but not limited to):

* + - Sharing information gathered from environmental and social impact assessment
		- Feedback and reflection on any risks/impacts not included in the assessment (including risks and impacts that may be particular to women, children, and any other vulnerable groups)
		- Feedback and recommendations on how to mitigate/avoid potential risks (including strategies that may be particular to women, children, and any other vulnerable groups)

The consultant shall deliver a report on community consultations, with information regarding, but not limited to:

* Participant list (gender disaggregated)
* Agenda and topics of discussions
* Summary or key discussion points
* List of recommendations and inputs (including those particular to women, children and vulnerable groups)
	1. **Geotechnical surveys and soil investigations**

The consultant shall drill at least three (3) test pits for a depth not less than 2m to be decided on site at locations selected by the UNEP/PA engineer to show the foundation conditions at certain locations namely; at wadi bed level i.e maximum section of earth fill embankment, at the wadi right bank and at the wadi left bank abutment. This should be repeated at each of the three sites.

Field tests of undisturbed soil samples should be collected at 0. 5 m interval to produce soil profiles for the test pits at different locations.

The Consultant shall produce a detailed geotechnical report containing the field exploration data, laboratory testing results, evaluations, recommendations, calculations and descriptive supporting text. Information in the report shall include, but not be limited to:

1. Existing geotechnical (e.g. surface and subsurface) conditions of the site. Laboratory test results of the existing site surface samples should be taken at the intervals specified by the UNEP/PA Engineer.
2. Subsurface (substrata) exploration logs, location of exploration points, soil bearing capacity, etc. and recommendations.
3. Conducting all field and laboratory tests for determining the strength and compressibility characteristics of the soil. This should include:
4. Conduct the laboratory examinations to define the physical/mechanical characteristics of the soil’s layers. The examinations need to include:
* Classification laboratory investigations
1. Grain size distribution;
2. Specific gravity;
3. Limits of consistency;
4. Natural moisture content;
5. Bulk density in natural condition;
6. Organic materials and carbonates.
* Strength characteristics

The strength parameters of the soil materials to be determined using direct shearing test on undisturbed or modeled samples (modeled in natural conditions) with dimensions of 60x60x20mm and using three axial compression on consolidated undrained type with cellular pressures of 100, 200 and 400 kN/m2.

* Compressibility characteristics

The compressibility characteristics of the soil materials to be determined using edometar test on undisturbed cylinder samples with diameter of 70 and 100 mm with different levels of loading: 50, 100, 200, 400, 50, 400 Kpa.

1. Geophysical exploration, if necessary.
2. Locate the borrow areas and their suitability for use in embankment.
3. Slope and rock stability evaluation, protection measures.
4. Preparation of drawings and charts.
5. Analysis of the results of the tests.
6. Topsoil stripping requirements cuttings
7. Materials proposed for inclusion in embankment
8. Prepare the final report from the geotechnical and soil investigations in a format previously agreed with the UNEP engineer

All geotechnical engineering design parameters shall be developed by a geological engineer or geotechnical firm responsible to the Consultant. The geological engineer or geotechnical firm shall be qualified by; education in geotechnical engineering; professional registration; a minimum of ten (10) years of experience in geotechnical engineering.

* 1. **Topographical survey**

The consultant shall conduct topographical survey at the proposed weir sites to produce:

* Longitudinal section at the weir axis and selected section at 100 m intervals and produce contour maps for the reservoir and covering outlet works and spillway channel.
* Cross section for the wadis with detailed readings to measure area, wetted perimeter and the water marks.
* Longitudinal profile along the wadis and determine ground slope, hydraulic gradient, etc.

All survey work shall be connected to a temporary B. M. given a value and locate it in the contour map.

* 1. **Hydrological studies**

The consultant shall use appropriate hydrological method for data scarce areas to conduct hydrological studies necessary to obtain the following:

* The average annual yield of the catchment up to the weir point
* The maximum probable flood (MPF) for spillway sizing
	1. **Consolidation of the rehabilitation work and design of embankment extension**

The consultant shall use appropriate hydrological methods to conduct design of the embankment extension with a new spillway and/or other associated structures accounting for stability, safety and durability. The design shall clearly obtain the following:

* Height of the embankment
* Top width
* Free board
* Upstream and downstream slopes
* Central Impervious core if any
* Downstream Drainage system
* Embankment length, width and height
* Spillway size
* Foundation of the different components
* Stability issues
	+ Stability of embankment against hydrostatic action, weight of the fill and seepage forces
	+ overall stability of the weir section, stability of the U/S portion of the weir under sudden drawdown and stability of the D/S portion of the weir.

The consultant shall provide a report showing all the necessary calculations for the different weir components along with working drawings with all necessary cross sections and details.

The consultant shall prepare bill of quantities for all the work required for the extension and its associated structures as well as specifications for the implementation.

The consultant shall provide a report showing all the necessary calculations for the rehabilitation of the different components along with working drawings with all necessary cross sections and details. The consultant shall prepare bill of quantities for all the rehabilitation works required for the dam and its associated structures as well as specifications for the implementation.

1. **Deliverables**

The Consultant shall develop and submit the following report reflecting all the activities shown in section 3 above

* Report showing the status of the dam regarding stability and functionality
* EIA final report developed in accordance with Government EIA requirements
* Community consultations report
* Geotechnical report from the geotechnical and soil investigations
* Topographical survey report showing the different cross sections
* Hydrological report showing mean annual yield and maximum probable flood
* Design report including drawings and detailed cross sections along with specifications
* Bill of quantities including rough estimate of dam rehabilitation and extension total cost

**Evaluation criteria**

Consultant will be awarded the services contract based on the criteria based below if he scores at least 70% and offers the lowest offer.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Company** | **Mandatory requirements for required expertise** | **Weight** |
| 1 | Experience | A record of at least 5 projects where the company conducted geotechnical investigations as follows:* Completed consulting services of size, complexity and technical specialty comparable to job under consideration, including quality of performance
* Other completed consulting services related to the job under consideration
* Known cases of prior performance, including quality of work conforming to obligations and cost of services
 | 20% |
| 2 | Qualification of Personnel  | Qualification of key personnel that may be assigned to the job* University degree in Civil/Geotechnical, Surveying Engineering and Social Studies
* At least 7 years of professional experience in the respective field
* Previous experience from at least 4 relevant projects which include the relevant field
* At least 7 years of experience in design of dams and other relevant hydraulic structures
 | 40% |
| 3 | List of equipment  | List of equipment for geo-technical and surveying investigations | 10% |

## General Terms and Conditions for Services

**1.0 LEGAL STATUS**:

The Consultant shall be considered as having the legal status of an independent Consultant vis-à-vis the Practical Action The Consultant’s personnel and sub-Consultants shall not be considered in any respect as being the employees or agents of Practical Action

**2.0 SOURCE OF INSTRUCTIONS**:

The Consultant shall neither seek nor accept instructions from any authority external to Practical Action in connection with the performance of its services under this Contract. The Consultant shall refrain from any action that may adversely affect Practical Action and shall fulfil its commitments with the fullest regard to the interests of Practical Action.

**3.0 CONSULTANT'S RESPONSIBILITY FOR EMPLOYEES:**

The Consultant shall be responsible for the professional and technical competence of its employees and will select, for work under this Contract, reliable individuals who will perform effectively in the implementation of this Contract, respect the local customs, and conform to a high standard of moral and ethical conduct.

**4.0 ASSIGNMENT:**

The Consultant shall not assign, transfer, pledge or make other disposition of this Contract or any part thereof, or any of the Consultant's rights, claims or obligations under this Contract except with the prior written consent of Practical Action.

**5.0 SUB-CONTRACTING:**

In the event the Consultant requires the services of sub-Consultants, the Consultant shall obtain the prior written approval and clearance of Practical Action for all sub-Consultants. The approval of Practical Action of a sub-Consultant shall not relieve the Consultant of any of its obligations under this Contract. The terms of any sub-contract shall be subject to and conform to the provisions of this Contract.

**6.0 OFFICIALS NOT TO BENEFIT:**

The Consultant warrants that no official of Practical Action has received or will be offered by the Consultant any direct or indirect benefit arising from this Contract or the award thereof. The Consultant agrees that breach of this provision is a breach of an essential term of this Contract.

**7.0 INDEMNIFICATION**:

The Consultant shall indemnify, hold and save harmless, and defend, at its own expense, Practical Action, its officials, agents, servants and employees from and against all suits, claims, demands, and liability of any nature or kind, including their costs and expenses, arising out of acts or omissions of the Consultant, or the Consultant's employees, officers, agents or sub-Consultants, in the performance of this Contract. This provision shall extend, inter alia, to claims and liability in the nature of workmen's compensation, products liability and liability arising out of the use of patented inventions or devices, copyrighted material or other intellectual property by the Consultant, its employees, officers, agents, servants or sub-Consultants. The obligations under this Article do not lapse upon termination of this Contract.

**8.0 INSURANCE AND LIABILITIES TO THIRD PARTIES:**

**8.1** The Consultant shall provide and thereafter maintain insurance against all risks in respect of its property and any equipment used for the execution of this Contract.

**8.2** The Consultant shall provide and thereafter maintain all appropriate workmen's compensation insurance, or the equivalent, with respect to its employees to cover claims for personal injury or death in connection with this Contract.

**8.3** The Consultant shall also provide and thereafter maintain liability insurance in an adequate amount to cover third party claims for death or bodily injury, or loss of or damage to property, arising from or in connection with the provision of services under this Contract or the operation of any vehicles, boats, airplanes or other equipment owned or leased by the Consultant or its agents, servants, employees or sub-Consultants performing work or services in connection with this Contract.

**8.4** Except for the workmen's compensation insurance, the insurance policies under this Article shall:

**8.4.1** Name Practical Action as additional insured;

**8.4.2** Include a waiver of subrogation of the Consultant's rights to the insurance carrier against the Practical Action;

**8.4.3** Provide that the Practical Action shall receive thirty (30) days written notice from the insurers prior to any cancellation or change of coverage.

**8.5** The Consultant shall, upon request, provide the Practical Action with satisfactory evidence of the insurance required under this Article.

**9.0 ENCUMBRANCES/LIENS:**

The Consultant shall not cause or permit any lien, attachment or other encumbrance by any person to be placed on file or to remain on file in any public office or on file with the Practical Action against any monies due or to become due for any work done or materials furnished under this Contract, or by reason of any other claim or demand against the Consultant.

**10.0 TITLE TO EQUIPMENT:**

Title to any equipment and supplies that may be furnished by Practical Action shall rest with Practical Action and any such equipment shall be returned to UNEP at the conclusion of this Contract or when no longer needed by the Consultant. Such equipment, when returned to Practical Action, shall be in the same condition as when delivered to the Consultant, subject to normal wear and tear. The Consultant shall be liable to compensate Practical Action for equipment determined to be damaged or degraded beyond normal wear and tear.

**11.0 COPYRIGHT, PATENTS AND OTHER PROPRIETARY RIGHTS:**

**11.1** Except as is otherwise expressly provided in writing in the Contract, the Practical Action shall be entitled to all intellectual property and other proprietary rights including, but not limited to, patents, copyrights, and trademarks, with regard to products, processes, inventions, ideas, know-how, or documents and other materials which the Consultant has developed for the Practical Action under the Contract and which bear a direct relation to or are produced or prepared or collected in consequence of, or during the course of, the performance of the Contract, and the Consultant acknowledges and agrees that such products, documents and other materials constitute works made for hire for the Practical Action.

**11.2** To the extent that any such intellectual property or other proprietary rights consist of any intellectual property or other proprietary rights of the Consultant: (i) that pre-existed the performance by the Consultant of its obligations under the Contract, or (ii) that the Consultant may develop or acquire, or may have developed or acquired, independently of the performance of its obligations under the Contract, the UNEP does not and shall not claim any ownership interest thereto, and the Consultant grants to the UNEP a perpetual license to use such intellectual property or other proprietary right solely for the purposes of and in accordance with the requirements of the Contract.

**11.3** At the request of the Practical Action; the Consultant shall take all necessary steps, execute all necessary documents and generally assist in securing such proprietary rights and transferring or licensing them to the Practical Action in compliance with the requirements of the applicable law and of the Contract.

**11.4** Subject to the foregoing provisions, all maps, drawings, photographs, mosaics, plans, reports, estimates, recommendations, documents, and all other data compiled by or received by the Consultant under the Contract shall be the property of the Practical Action, shall be made available for use or inspection by the UNEP at reasonable times and in reasonable places, shall be treated as confidential, and shall be delivered only to Practical Action authorized officials on completion of work under the Contract.

**12.0 USE OF NAME, EMBLEM OR OFFICIAL SEAL OF UNEP OR THE UNITED NATIONS:**

The Consultant shall not advertise or otherwise make public the fact that it is a Consultant with Practical Action, nor shall the Consultant, in any manner whatsoever use the name, emblem or official seal of UNEP or the United Nations, or any abbreviation of the name of Practical Action in connection with its business or otherwise.

**13.0 CONFIDENTIAL NATURE OF DOCUMENTS AND INFORMATION:**

Information and data that is considered proprietary by either Party and that is delivered or disclosed by one Party (“Discloser”) to the other Party (“Recipient”) during the course of performance of the Contract, and that is designated as confidential (“Information”), shall be held in confidence by that Party and shall be handled as follows:

**13.1** The recipient (“Recipient”) of such information shall:

**13.1.1** use the same care and discretion to avoid disclosure, publication or dissemination of the Discloser’s Information as it uses with its own similar information that it does not wish to disclose, publish or disseminate; and,

**13.1.2** use the Discloser’s Information solely for the purpose for which it was disclosed.

**13.2** Provided that the Recipient has a written agreement with the following persons or entities requiring them to treat the Information confidential in accordance with the Contract and this Article 13, the Recipient may disclose Information to:

**13.2.1** any other party with the Discloser’s prior written consent; and,

**13.2.2** the Recipient’s employees, officials, representatives and agents who have a need to know such Information for purposes of performing obligations under the Contract, and employees officials, representatives and agents of any legal entity that it controls it, or with which it is under common control, who have a need to know such Information for purposes of performing obligations under the Contract, provided that, for these purposes a controlled legal entity means:

**13.2.2.1** a corporate entity in which the Party owns or otherwise controls, whether directly or indirectly, over fifty percent (50%) of voting shares thereof; or,

**13.2.2.2** any entity over which the Party exercises effective managerial control; or,

**13.2.2.3** for the UNEP, an affiliated Fund.

**13.3** The Consultant may disclose Information to the extent required by law, provided that, subject to and without any waiver of the privileges and immunities of the United Nations, the Consultant will give the Practical Action sufficient prior notice of a request for the disclosure of Information in order to allow the Practical Action to have a reasonable opportunity to take protective measures or such other action as may be appropriate before any such disclosure is made.

**13.4** The Practical Action may disclose Information to the extent as required pursuant to the Charter of the Practical Action, resolutions or regulations of the General Assembly, or rules promulgated by the Secretary-General.

**13.5** The Recipient shall not be precluded from disclosing Information that is obtained by the Recipient from a third party without restriction, is disclosed by the Discloser to a third party without any obligation of confidentiality, is previously known by the Recipient, or at any time is developed by the Recipient completely independently of any disclosures hereunder.

**13.6** These obligations and restrictions of confidentiality shall be effective during the term of the Contract, including any extension thereof, and, unless otherwise provided in the Contract, shall remain effective following any termination of the Contract.

**14.0 FORCE MAJEURE; OTHER CHANGES IN CONDITIONS**

**14.1** In the event of and as soon as possible after the occurrence of any cause constituting force majeure, the Consultant shall give notice and full particulars in writing to the Practical Action, of such occurrence or change if the Consultant is thereby rendered unable, wholly or in part, to perform its obligations and meet its responsibilities under this Contract. The Consultant shall also notify the Practical Action of any other changes in conditions or the occurrence of any event that interferes or threatens to interfere with its performance of this Contract. On receipt of the notice required under this Article, the UNEP shall take such action as, in its sole discretion; it considers to be appropriate or necessary in the circumstances, including the granting to the Consultant of a reasonable extension of time in which to perform its obligations under this Contract.

**14.2** If the Consultant is rendered permanently unable, wholly, or in part, by reason of force majeure to perform its obligations and meet its responsibilities under this Contract, the Practical Action shall have the right to suspend or terminate this Contract on the same terms and conditions as are provided for in Article 15, "Termination", except that the period of notice shall be seven (7) days instead of thirty (30) days.

**14.3** Force majeure as used in this Article means acts of God, war (whether declared or not), invasion, revolution, insurrection, or other acts of a similar nature or force.

**14.4** The Consultant acknowledges and agrees that, with respect to any obligations under the Contract that the Consultant must perform in or for any areas in which the UNEP is engaged in, preparing to engage in, or disengaging from any peacekeeping, humanitarian or similar operations, any delays or failure to perform such obligations arising from or relating to harsh conditions within such areas or to any incidents of civil unrest occurring in such areas shall not, in and of itself, constitute force majeure under the Contract..

**15.0 TERMINATION**

**15.1** Either party may terminate this Contract for cause, in whole or in part, upon thirty (30) days notice, in writing, to the other party. The initiation of arbitral proceedings in accordance with Article 16.2 (“Arbitration”), below, shall not be deemed a termination of this Contract.

**15.2** Practical Action reserves the right to terminate without cause this Contract at any time upon 15 days prior written notice to the Consultant, in which case UNEP shall reimburse the Consultant for all reasonable costs incurred by the Consultant prior to receipt of the notice of termination.

**15.3** In the event of any termination by Practical Action under this Article, no payment shall be due from UNEP to the Consultant except for work and services satisfactorily performed in conformity with the express terms of this Contract.

**15.4** Should the Consultant be adjudged bankrupt, or be liquidated or become insolvent, or should the Consultant make an assignment for the benefit of its creditors, or should a Receiver be appointed on account of the insolvency of the Consultant, the Practical Action may, without prejudice to any other right or remedy it may have under the terms of these conditions, terminate this Contract forthwith. The Consultant shall immediately inform the Practical Action of the occurrence of any of the above events.

**16.0 SETTLEMENT OF DISPUTES**

**16.1** **Amicable Settlement**: The Parties shall use their best efforts to settle amicably any dispute, controversy or claim arising out of this Contract or the breach, termination or invalidity thereof. Where the parties wish to seek such an amicable settlement through conciliation, the conciliation shall take place in accordance with the Practical Action Conciliation Rules then obtaining, or according to such other procedure as may be agreed between the parties.

**16.2** **Arbitration:** Any dispute, controversy, or claim between the Parties arising out of the Contract or the breach, termination, or invalidity thereof, unless settled amicably under Article 16.1, above, within sixty (60) days after receipt by one Party of the other Party’s written request for such amicable settlement, shall be referred by either Party to arbitration in accordance with the Practical Action Arbitration Rules then obtaining. The decisions of the arbitral tribunal shall be based on general principles of international commercial law. For all evidentiary questions, the arbitral tribunal shall be guided by the Supplementary Rules Governing the Presentation and Reception of Evidence in International Commercial Arbitration of the International Bar Association, 28 May 1983 edition. The arbitral tribunal shall be empowered to order the return or destruction of goods or any property, whether tangible or intangible, or of any confidential information provided under the Contract, order the termination of the Contract, or order that any other protective measures be taken with respect to the goods, services or any other property, whether tangible or intangible, or of any confidential information provided under the Contract, as appropriate, all in accordance with the authority of the arbitral tribunal pursuant to Article 26 (“Interim Measures of Protection”) and Article 32 (“Form and Effect of the Award”) of the Practical Action Arbitration Rules. The arbitral tribunal shall have no authority to award punitive damages. In addition, unless otherwise expressly provided in the Contract, the arbitral tribunal shall have no authority to award interest in excess of the London Inter-Bank Offered Rate (“LIBOR”) then prevailing, and any such interest shall be simple interest only. The Parties shall be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of any such dispute, controversy, or claim.

**17.0 PRIVILEGES AND IMMUNITIES**:

Nothing in or relating to this Contract shall be deemed a waiver, express or implied, of any of the privileges and immunities of the United Nations, including its subsidiary organs.

**18.0 TAX EXEMPTION**

**18.1** Section 7 of the Convention on the Privileges and Immunities of the United Practical Action provides, inter-alia that the Practical Action, including its subsidiary organs, is exempt from all direct taxes, except charges for public utility services, and is exempt from customs duties and charges of a similar nature in respect of articles imported or exported for its official use. In the event any governmental authority refuses to recognize the United Nations exemption from such taxes, duties or charges, the Consultant shall immediately consult with the Practical Action to determine a mutually acceptable procedure.

**18.2** Accordingly, the Consultant authorizes Practical Action to deduct from the Consultant's invoice any amount representing such taxes, duties or charges, unless the Consultant has consulted with the Practical Action before the payment thereof and the Practical Action has, in each instance, specifically authorized the Consultant to pay such taxes, duties or charges under protest. In that event, the Consultant shall provide the Practical Action with written evidence that payment of such taxes, duties or charges has been made and appropriately authorized.

**19.0 CHILD LABOUR**

**19.1** The Consultant represents and warrants that neither it, nor any of its suppliers is engaged in any practice inconsistent with the rights set forth in the Convention on the Rights of the Child, including Article 32 thereof, which, inter alia, requires that a child shall be protected from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical mental, spiritual, moral or social development.

**19.2** Any breach of this representation and warranty shall entitle Practical Action to terminate this Contract immediately upon notice to the Consultant, at no cost to Practical Action.

**20.0 MINES:**

**20.1** The Consultant represents and warrants that neither it nor any of its suppliers is actively and directly engaged in patent activities, development, assembly, production, trade or manufacture of mines or in such activities in respect of components primarily utilized in the manufacture of Mines. The term "Mines" means those devices defined in Article 2, Paragraphs 1, 4 and 5 of Protocol II annexed to the Convention on Prohibitions and Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects of 1980.

**20.2** Any breach of this representation and warranty shall entitle Practical Action to terminate this Contract immediately upon notice to the Consultant, without any liability for termination charges or any other liability of any kind of Practical Action.

**21.0 OBSERVANCE OF THE LAW:**

The Consultant shall comply with all laws, ordinances, rules, and regulations bearing upon the performance of its obligations under the terms of this Contract.

**22.0 SEXUAL EXPLOITATION:**

**22.1** The Consultant shall take all appropriate measures to prevent sexual exploitation or abuse of anyone by it or by any of its employees or any other persons who may be engaged by the Consultant to perform any services under the Contract. For these purposes, sexual activity with any person less than eighteen years of age, regardless of any laws relating to consent, shall constitute the sexual exploitation and abuse of such person. In addition, the Consultant shall refrain from, and shall take all appropriate measures to prohibit its employees or other persons engaged by it from, exchanging any money, goods, services, offers of employment or other things of value, for sexual favours or activities, or from engaging in any sexual activities that are exploitive or degrading to any person. The Consultant acknowledges and agrees that the provisions hereof constitute an essential term of the Contract and that any breach of this representation and warranty shall entitle Practical Action to terminate the Contract immediately upon notice to the Consultant, without any liability for termination charges or any other liability of any kind.

**22.2** The Practical Action shall not apply the foregoing standard relating to age in any case in which the Consultant’s personnel or any other person who may be engaged by the Consultant to perform any services under the Contract is married to the person less than the age of eighteen years with whom sexual activity has occurred and in which such marriage is recognized as valid under the laws of the country of citizenship of such Consultant’s personnel or such other person who may be engaged by the Consultant to perform any services under the Contract.

1. **AUTHORITY TO MODIFY**:

Pursuant to the Financial Regulations and Rules of Practical Action, only the Practical Action Authorized Official possesses the authority to agree on behalf of UNEP to any modification of or change in this Contract, to a waiver of any of its provisions or to any additional contractual relationship of any kind with the Consultant. Accordingly, no modification or change in this Contract shall be valid and enforceable against UNEP unless provided by an amendment to this Contract signed by the Consultant and jointly by the UNEP Authorized Official.