

“Supporting Resilient Livelihoods and Food Security in Yemen joint programme (ERRY II)”

Hydroponic Farming Solutions Terms of Reference (ToR)

Organization:	UNDP Yemen
Post Title:	TOR- Building Soilless Subsistence Farming for Sustained Income Generation Opportunities through Hydroponic Farming Solutions
Duty Station:	Sana'a with expected field missions to the targeted governorates.
Duration:	Three months

Project Title: “Supporting Resilient Livelihoods and Food Security in Yemen joint programme (ERRY II)”

Background

ERRY II and has largely focused on rebuilding the livelihoods opportunities for the conflict and war affected communities in the targeted locations. Provision of emergency employment opportunities, business and skill building training and capacity support and helping individuals to establish enterprises, are the key features of the project. Both the projects have applied the value chain approach and making an effort to expand the phase III of 3x6 approach, enabling the business and sustainable livelihood environment. Innovation and application of cutting-edge technologies such as e-commerce platform, mobile application for improving referral services, monitoring the change through micronarrative, digital socio-economic impact assessment of micro-small-medium enterprises (MSMEs). Livelihood options in Yemen are limited and few sectors are able survive and thrive in this difficult situation. The pandemic has also devastated the local market economies and has impacted more than 60-90 per cent of medium enterprises whereas the microenterprises did not appear to have same level of damage. Exploring the sustained income generation opportunities in Yemen, agriculture sector could be another area where subsistence livelihood farming can be promoted through innovation. Considering the scarcity of land and water in Yemen, Hydroponic (Hydro-water, Ponics-work) could be a game changer in supporting the conflict affected communities and households.

Over 17% of the country is classified as rangelands and forest. Less than 3% of the land is considered suitable for agriculture. However, the land and seascapes are diverse. The Al-Rub Al-Khali desert interior is hot and dry. The Yemen highlands along the Red Sea coast reach to 3,600 meters with a temperate, monsoonal climate. The entire economy has suffered due to the on-going conflict. The UN estimates that over 80% of the country's total population currently need humanitarian assistance, nearly 15 million people lack access to basic health care. Only 21% of the rural population has access to safe drinking water. Yemen is one of the world's most food insecure nations. Over 10 million people currently rely upon food aid for their survival with over 80% of all food-insecure people living in rural areas. FAO estimates that 50% of Yemeni children are chronically malnourished.

Although urbanization is occurring, over 70% of the population still live in rural areas. The rural economy is based upon fisheries, agriculture and livestock rearing. Agriculture generates only 17% of total GDP. However, the agricultural sector employs more than 50% of the population. There are more than one million private farms, most of these are small-holder private enterprises. Crops include a variety of cereals, fruits, coffee and expanding khat production. Much of Yemen's production is for subsistence. Productivity is very low. As a result, over 80% of all food availability is imported. The country imports 70% of all cereals, 90% of wheat and 100% of rice. Yemen's rural communities are highly vulnerable to climate change impacts. These vulnerabilities are heightened by the conflict induced humanitarian crisis. Rural communities rely upon sustainable access to natural resources and associated ecosystem services for production and subsistence. They require natural resources for basic household needs such as drinking water, fuelwood and medicinal plants. Unfortunately, land, water, fisheries, and forest resources that are already under great strain and generally degraded have limited resilience to rapidly advancing climate change impacts.

With a stressed water resources and burden on agricultural soil, hydroponic could strike a balance in building the subsistence farming to improve livelihoods opportunities. The innovation such as hydroponic could tackle the food security, malnutrition, and lack of income generation opportunities on one hand and water resource management, promotion of organic farming and sustained employment opportunities on the other.

Objectives of the consultancy

The objective of the intervention is to focus on building livelihood opportunities in urban and semi-urban and rural communities under the ERRY II project. The pilot initiative is to support the targeted communities in building the livelihood solutions through soilless farming. The initiative would also promote the homestead organic farming.

Methodology

There are four targeted governorates under ERRY II in the south. A firm with the expertise on hydroponics would be hired to support the implementation of the pilot initiatives. The contracted firm would work closely with 10 beneficiaries who would be clustered in groups business as well as individuals. The firm team would follow the scope of work and support the beneficiaries. The team would work for three months over the period of four months of the desired contract.

Scope and key tasks of the consultancy

The projects would hire a firm to support the identified beneficiaries to establish micro enterprise for income generation. Below is the scope of the work of the firm.

1. Develop the list of crops that can be grown in Taiz; target location of ERRY II.
2. Design the hydroponic techniques for group and individual businesses which includes neutral film technique (NFT), deep water culture (DWC), rain tower and aquaponic.
3. Develop BOQ for the suitable structures considering the seed grant allocation for individual and group beneficiaries.
4. Design a tailor-made hydroponic capacity building training including business opportunities, marketing, operation and management of hydroponic structures, availability of nutrients solutions components for growing plants in local market and additional inputs needed to build

hydroponic structures, pest management, water solution management including TDS, PH and EC.

5. Train and build capacities of identified beneficiaries (semi-literate or literate- women and youths) on hydroponic solutions (2 weeks training).
6. Identify community technicians for the support of pilot hydroponic projects in the targeted location and support UNDP in procuring the basic minimum tools for technicians (PH meter reader, TDS reader, water temperature and weather temperature);
7. Support beneficiaries in developing the poly-net house for hydroponic structures and building stations including water storage tank (pvc) for irrigation. The provision of polyhouse or net house should consider preventing the attack of locust and other pests.
8. Support beneficiaries to install solar facility to run the hydroponic structure 24/7.
9. Support beneficiaries in germination of suitable plants, transplantation of germinated plants in the hydroponic structures.
10. Support beneficiaries to stock the micronutrients solutions, fruttee and other necessary elements to condition water and weather.
11. Support beneficiaries through tele services on managing and monitoring of the hydroponic structures.
12. Support beneficiaries in first and second harvesting, packaging and marketing.
13. Link the beneficiaries with B2B online platform and near markets, suppliers and traders for the future expansion of the businesses.
14. Organize lessons learned workshop with UNDP, beneficiaries, suppliers, traders, and online business platform- Yemeni Dukkan;
15. Submission of final report.

Geographical areas

#	Governorate	Districts
1	Taiz	Ashamayeeten

Expected key deliverable and Payment Modality

Milestone 1: Suitable crops for homestead farming identified and appropriate hydroponic technology is designed (Dutch bucket/NFT/DWC). **Timeline-** 3 days after contract signing.

Milestone 2: 20 beneficiaries are grouped according to their wiliness and interest to develop business and bill of quantity for identified hydroponic structure is developed and provided to beneficiaries.

Timeline- 5 days after milestone 1.

Milestone 3: Capacity building training material developed in easy learning format for the identified beneficiaries and delivered to beneficiaries and community technicians. **Timeline-** 7 days after milestone 2.

Milestone 4: Supported in the installation of polyhouse or net house structure including stations and other accessories such as channels, volcanic turf, zeolite, nutrients solutions, fruttee solutions (depending on the adopted crops) and installation of solar panels for motors and lighting. **Timeline-** 7 days after milestone 3.

Milestone 5: Supported beneficiaries in germination and plantation in the hydroponic structures and provided chart for regular monitoring, operation and maintenance including pest management. **Timeline-** 10 days after milestone 4.

Milestone 6: Support beneficiaries in harvesting, developing packaging and marketing of produces through linking e-commerce solution, other market networks.

Milestone 7: Organized lessons learned workshop with UNDP project teams and submission of final reports by individual consultants.

Reporting: The firm would direct report to National Field Coordinator (ERRY II) and National Field Coordinator responsible for overall delivery. The firm would closely work with livelihood consultants and solar energy specialists to ensure the income generation and business establishment process and activities as per the UNDP policy and practice.

Scope of Service Price and Schedule of Payments

- In accordance with the contractual terms and conditions for payment and contract modality used.
- 10% after the completion of milestone 1 and 2.
- 30% after the completion of milestone 3 and 4.
- 30% after the completion of milestone 5.
- 20% after the completion of milestone 6.
- 10% after the completion of milestone 7.

Contract duration period:

The assignment is expected to start on mid-October for an estimated duration of 3 months and will end no later than Feb 2022.

Duty station:

Based in Sanaa/Aden with travel to Taiz governorate.

Documents to be submitted by the firm

- Company profile
- Business registration document.
- Quality assurance procedure and risk mitigation measures
- Methodology
- CVs

Qualifications of the Successful Firm

We are looking for a firm with a strong record in conducting similar assignments. Firm will need excellent knowledge of hydroponics, livelihood, micro and macro economy and value chain development

The firm is expected to have the following expertise and experience:

- Essential requirements
- At least 3 years of experience in of hydroponics, livelihood, micro and macro economy and value chain development projects in Yemen.
- Capacity to provide programming recommendations in the field of Livelihoods
- Experience working with locals/international organizations.

- Knowledge of the general situation and similar working experience in the Yemen;
- Experience working on market and private sector development preferred
- Working experience in crisis context and organization of focused group discussions and consultation meetings.
- Gender experience is preferred

Quality assurance procedures, risk and mitigation measures

- Describe the potential risks for the performance of the TOR that may impact achievement and timely completion of expected results as well as their quality.
- Relevance of Specialized Knowledge and Experience on Similar Projects
- Detail any specialized knowledge that may be applied to performance of the TOR. Include experiences in the region.
- Describe the experience of the organization performing similar services. Experience with other UN organizations/ major multilateral / or bilateral programmes is highly desirable.
- Provide at least 3 references

Project	Client	Contract value	Period of performance	Reference Contact Details (Name, Phone, Email)

Proposed Work Plan and Approach (methodology)

The firm should submit a clear methodology for the required task according to the following points as outlined in the beginning of the document section on methodology, scope of the work and key tasks.

Team Composition and Roles and Responsibilities

The firm should provide detail of the team composition and their roles and responsibilities. It is also advisable to have team leader who will be in direct contact with ERRY Project Manager. It is expected that:

UNDP Yemen ERRY project will provide the overall strategic guidance and decision-making for the exercise to the Team Lead, in consultation with ERRY Project manager;

The team leader is to provide overall leadership, strategic framing of the exercise, including development of the methodology, relevant and necessary tools, and provide guidance and oversight for analysis. S/he will set up the necessary team of national experts (2, one male and one female) in place to carry out the analysis. S/he will lead the overall analysis and produce the consolidated reports, with the findings and recommendations, and will lead the consultations with UNDP Yemen ERRY Programme Team. S/he will report to the UNDP Yemen ERRY Programme Team;

Qualification for the team leader

1. Masters' degree in development with 3 years' experience or Bachelor with 5 years' experience, , Agriculture, social study, International Development, Development Economics/Planning, Economics, International Relations or any other relevant university degree;
2. A minimum experience of 3 years of work proven experience at national or international level in hydroponics, economic empowerment, livelihoods, and agriculture studies.
3. Excellent command of English;
4. Gender experience is preferred

Institutional Arrangements

The awarded firm will report directly to the ERRY Project Manager and work in close collaboration with livelihood specialist.

Manner of submission:

The vendor requested to submit the proposal through the following e-tendering system.

<https://etendering.partneragencies.org>

PLEASE NOTE: Any proposal sent to the private email addresses or any other email address of any procurement staff or UNDP staff will not be accepted.

EVALUATION CRITERIA

Highest Combined Score (based on the 70% technical offer and 30% price weight distribution)

Technical Proposal (70%)

- ☒ Expertise of the organization **30%**
- ☒ Methodology, Its Appropriateness to the Condition and Timeliness **40%**
- ☒ Management Structure and Qualification of Key Personnel **30%**

A proposal is selected based on *cumulative analysis*; the total score is obtained by combining technical and financial attributes.

A two-stage procedure will be utilized in evaluating the proposals:

The **technical proposal** will be evaluated with a minimum pass requirement of 70% of the obtainable 700 points assigned for technical proposal. A proposal shall be rejected at this stage if it fails to achieve the minimum technical threshold of 70% of the obtainable score of 700 points prior to any price proposal being opened and compared.

Financial Proposal (30%)

Contractor must identify in the proposal professional fees, travel allowances and any operational costs. according to the breakdown template in the bid document.

To be computed as a ratio of the Proposal's offer to the lowest price among the proposals received by UNDP.

The **financial proposal** will be opened only for those entities whose technical proposal achieved the minimum technical threshold of 70% of the obtainable score of 700 points and are determined to be compliant. Non-compliant proposals will not be eligible for further consideration.

300 points will be allocated based on financial proposal. In this methodology, the maximum number of points assigned to the financial proposal is allocated to the lowest price proposal. All other price proposals receive points in inverse proportion.

A formula is as follows:

$$p = y (\mu/z)$$

Where:

p = points for the financial proposal being evaluated

y = maximum number of points for the financial proposal

μ = price of the lowest priced proposal

z = price of the proposal being evaluated

The contract shall be awarded to the proposal obtaining the overall highest score after adding the score of the technical proposal and the financial proposal.

The total number of points ("maximum number of points") which a firm/institution may obtain for its proposal is as follows:

Technical proposal: 700

Financial proposal: 300

Total number of points: 1,000

TECHNICAL EVALUATION CRITERIA

Summary of Technical Proposal Evaluation Forms		Points Obtainable
1.	Bidder's qualification, capacity and experience	400
2.	Proposed Methodology, Approach and Implementation Plan	400
3.	Management Structure and Key Personnel	200
	Total	1000

Section 1. Bidder's qualification, capacity and experience		Points obtainable
1.1	Reputation of Organization and Staff Credibility / Reliability	50
1.2	Relevance of specialized knowledge and experience on similar engagements done in the required fields 5 years and above 150 3-5 years 80-120	250

	1-3 years 20-80	
1.3	Quality assurance procedures and risk mitigation measures	100
Total Section 1		400

Section 2. Proposed Methodology, Approach and Implementation Plan		Points obtainable
2.1	Understanding of the requirement: Have the important aspects of the task been addressed in sufficient detail? Are the tasks of the assignment adequately weighted relative to one another?	100
2.2	Description of the approach and methodology for meeting or exceeding the requirements of the Terms of Reference	100
2.3	Details on how the tasks shall be organized, controlled and delivered	50
2.4	Description of available performance monitoring and evaluation mechanisms to track the task	50
2.5	Work plan proposed including whether the activities are properly sequenced and if these are logical and realistic	50
2.6	Demonstration of ability to plan, integrate and effectively implement gender mainstreaming and gender equality measures in the execution of the contract	50
Total Section 2		400

Section 3. Management Structure and Key Personnel			Points obtainable
3.1	Composition and structure of the team proposed. Are the proposed roles of the management and the team of key personnel suitable for the provision of the necessary services?		100
3.2	Qualifications of key personnel proposed		100
3.2 a	Team Leader		100
	Masters' degree in development with 3 years' experience or Bachelor with 5 years' experience, social study, Agriculture, International Development, Development Economics/Planning, Economics, International Relations or any other relevant university degree;	20	
	A minimum experience of 3 years of work proven experience at national or international level in hydroponics, economic empowerment, livelihoods, and agriculture studies.	20	
	Excellent command of English;	10	

	Gender experience is preferred	10	
Total Section 3			300

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