

Annex I - Terms of Reference for Individual Contractor (IC)

National or International consultant: International (home-based)

Description of the assignment (Title of consultancy): Animal Feed Expert (rendering end-products of poultry slaughterhouse waste)

Project Title: Lebanon Environmental Pollution Abatement Project (LEPAP)

Period of assignment/services: 3 months

Is this a LTA (yes/no): No

1. Background Information/Project Description

In order to ensure a smooth transition for Lebanon towards environmental sustainability, the Government of Lebanon, through the Ministry of Environment (MoE) has requested the support of the World Bank (WB) and the Italian Government to establish the Lebanon Environmental Pollution Abatement Project (LEPAP) as a national initiative to respond to the challenges for promoting the financial and environmental sustainability of the industrial sector in Lebanon.

The LEPAP was initiated by the MoE in 2014 and consists of two main components: (A) Technical Assistance Component funded by the Italian Agency for Development Cooperation (AICS), and (B) Investment Component funded by the WB. LEPAP is being implemented by the United Nations Development Program (UNDP) in close partnership with the Ministry of Finance (MoF) and Banque du Liban (BDL). The LEPAP aims at reducing industrial pollution in targeted industrial enterprises and will contribute to strengthening the monitoring and enforcement capabilities of the MoE.

Under the technical assistance component, the AICS has approved the allocation of a financial contribution to UNDP to provide technical assistance to the project's beneficiaries mainly the MoE and the concerned industries and to support in the overall management of the project's activities. These ToRs relate to the technical assistance component of the project.

UNDP is seeking to recruit an International Animal Feed Expert (referred to as "Individual Consultant (IC)") to support the LEPAP in exploring treatment options and alternative usages of rendering end-products of a poultry slaughterhouse and processing plant in Lebanon (referred to as "Industry").

2. Background Information

Through the LEPAP financing scheme, a rendering plant was installed at a poultry slaughterhouse and processing plant in North Lebanon. The slaughterhouse is designed for a maximum slaughtering capacity of 32,000 birds per day; However, the facility is currently receiving around 15,000 birds per day.

The rendering plant receives as input: (i) poultry processing waste generated from the operation of the slaughtering, scalding, de-feathering and evisceration units; (ii) blood produced during the slaughtering; and (iii) dead birds upon arrival to the facility. It consists of two main processing lines: the meat meal and fat meal line, and the feather meal line. Its main operational processes are reception, cooking and condensation.

While the blood/feather meal line was handed successfully by the supplier and can be operated normally, the operation of the meat meal and fat meal line is still contingent upon making some necessary parts available. Currently, trial blood/feather cooking sessions are being conducted on average once a week. Each cooking session corresponds to one production day of 15,000 slaughtered birds and generates around 1 tonne of rendering product. The product is mostly being applied as fertilizer to the nearby landscaped lands (ornamental trees) owned by the Industry, with minor quantities stored onsite for the batch records or sent for quality monitoring tests. Due to the current economic situation, the Industry has not been able to sell the end-products to external parties and is risking the accumulation of produced quantities onsite or the stoppage of the rendering plant's operation until a reliable market is found.

Samples of the rendering end-products from the trial cooking sessions of the blood and feather meal line were collected in previous months for proximity testing and suitability for use as compost. Results of the compost test compared to draft guidelines of the Lebanese Ministry of Environment showed that the end-product is closest in quality to compost Grade C, suitable for application only if any risks to humans and any contamination of food or agricultural soil can be excluded; e.g. in landscaping, recultivation of abandoned quarries and soil for green space along traffic roads. Results of a sample proximity test revealed the following contents in the end-product:

- Fat content: 8.4%
- Protein: 12.7%
- Ash content: 4.7%
- Moisture content: 3.8%
- Dry matter : 96.2%
- Crude fibers : 2.6%
- Total Phosphorus: 4.12 g/kg
- Calcium: 922 mg/kg

However, this quality is expected to vary based on the ratio of feather and blood applied in the cooking sessions.

3. Scope of Work, Responsibilities and Description of the Proposed Analytical Work

The scope of work is to provide technical and financial recommendations for the management of the industrial waste described in the previous section.

The Consultant will have the following responsibilities:

- Review the available documentation related to the Industry's rendering plant including the environmental and social impact assessment report, the technical design, the testing results, etc.;
- Conduct virtual meetings with the industry's team and other relevant stakeholders for a good understanding of the challenges currently faced and their needs in terms of technical support;

- Conduct a quantitative and qualitative evaluation of the rendering plant operation and more specifically the rendering end-products based on existing laboratory tests and request additional testing, if deemed necessary;
- If additional tests are being requested, provide extensive list of parameters and methodology that needs to be followed;
- Assess the various acceptable usages of poultry rendering end-products in line with international guidelines and best available techniques;
- Advise the Industry on treatment changes and improvements needed to enhance the quality of the rendering end-products in such a way that ensures wider marketing potentials while minimizing investment costs;
- Provide an analysis of the most suitable options for marketing the rendering end-products of the Industry;
- Provide a short feasibility study for each of the explored options, accounting for associated cost estimates and revenues for the industry;
- Draft a list of potential clients and markets of the rendering end-products with a description of their requirements in terms of products quality and quantity;
- Support the industry in negotiating and establishing agreements with at least three national and/or international markets for the rendering end-products;

4. Expected outputs and Deliverables

Deliverable 1: Qualitative and Quantitative Assessment of the Rendering Plant

The Consultant will submit a technical assessment report including but not limited to the following:

- Technical evaluation of the rendering plant's operation;
- Quantitative and qualitative assessment of the rendering end-products;
- Recommendations to enhance the quality of the rendering end-products in line with international markets needs and requirements and best available techniques.

Deliverable 2: Technical and Financial Feasibility Study

The Consultant will submit a feasibility study including but not limited to the following:

- The various internationally acceptable usages of poultry rendering end-products;
- The most suitable options for marketing the rendering end-products of the Industry with a financial assessment of each option;
- A detailed contact list and brief of the negotiations undertaken with the contacted national and/or international clients with which the Industry can establish agreements for the marketing of its rendering end-products.

The time needed by the UNDP to review the submitted deliverables is 2 weeks. All deliverables are to be submitted in English Language. The required deliverables under the ToRs are indicated in the table below:

Deliverables/ Outputs	Estimated Duration to Complete	Target Due Dates	Review and Approvals Required
Deliverable 1 Qualitative and Quantitative Assessment Report	10 workdays	Within 4 weeks from date of Contract Signature	UNDP M&E Officer
Deliverable 2	10 workdays	Within 12 weeks from	UNDP M&E Officer

Technical and Financial Feasibility Study		date of Contract Signature	
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5. Institutional arrangements

The Consultant will work under the direct supervision of the UNDP LEPAP/M&E Officer. During the fulfillment of the tasks under this agreement, the Consultant will ensure regular communication with the project team and will ensure a timely delivery of the expected outputs and will regularly inform the project team of the progress as well as any obstacles that might occur.

6. Duration of work

The duration of the assignment is 20 workdays spread over a period of 3 months from the date of Contract signature.

7. Duty station

The assignment requires deskwork, research, meetings and fieldwork. The consultant is expected to consider that he/she will perform his/her duties under home office arrangements. The Consultant will perform the needed work using his/her own property and technology and hold direct responsibility for the quality of delivered outputs.

8. Requirements for experience and qualifications

I. Academic Qualifications:

Master's degree or equivalent in Environmental Engineering, Chemical Engineer, Agricultural Engineering, Agro-Processing Technology, Marketing, Sales or other closely related field. PhD degree is an asset.

II. Years of experience:

The required minimum years of relevant experience is 15 years.

III. Technical experience:

- Previous experience in the animal feed processing and pet food manufacturing technologies sectors;
- Good knowledge of the slaughtering, meat processing and rendering operations and standards;
- Good knowledge of the quality and safety guidelines of slaughtering, meat processing and rendering activities;
- Proven experience in conducting feasibility studies;
- Previous experience in marketing/sales of meat and rendering products.

IV. Competencies:

- Excellent English verbal and written communication and negotiation skills;
- Excellent analytical, organization and report-writing skills.

9. Scope of price proposal

The Consultant is expected to submit a financial proposal based on a Lump Sum amount including fees and foreseeable expenses.

- Lump sum amount must be “all-inclusive”.

The UNDP shall effect payments to the consultant against each deliverable after acceptance by the Project M&E Officer and upon submission of a certificate of payments.

10. Criteria for selection of the best offers

Combined Scoring method – where the qualifications and methodology will be weighted a max. of 70%, and combined with the price offer which will be weighted a max of 30%; using the following evaluation criteria:

Criteria		Weight	Max. Point
<u>Technical Competence</u>		70%	100
<u>Academic Qualifications</u> <ul style="list-style-type: none"> - Master's degree in Environmental Engineering, Chemical Engineering, Agricultural Engineering, Agro-Processing Technology, Marketing, Sales or relevant fields: 15 points - PhD in relevant field: 20 points 			20
<u>Years of relevant experience</u> <ul style="list-style-type: none"> - Less than 15 years: 0 points - 15-17 years: 14 points - More than 17 years: 20 points 			20
<u>Technical Experience</u> <ul style="list-style-type: none"> - Previous experience in the animal feed processing and pet food manufacturing technologies sector: 15 points - Good knowledge of the slaughtering, meat processing and rendering operations and standards: 10 points - Good knowledge of the quality and safety guidelines of slaughtering, meat processing and rendering activities: 10 points - Proven experience in conducting similar feasibility studies: 10 points - Previous experience in sales of meat and rendering products as a value-chain: 15 points 			60
<u>Financial</u> (Lower Offer/Offer*100)		30%	100
<u>Total Score</u>	Technical Score * 0.7 + Financial Score * 0.3		

Note: Minimum technical score to be considered for financial evaluation is 70%