



# PALLI KARMA-SAHAYAK FOUNDATION (PKSF)

www.pksf.org.bd

## Terms of Reference (ToR)

of

### Assistant Project Coordinator (Chemical Engineering)

under "Access to Safe Drinking Water for the Climate Vulnerable People in Coastal Areas of Bangladesh through Solar-generated Reverse Osmosis Water Treatment Facilities" Project

#### 1. Basic Information

<b>Title</b>	: Assistant Project Coordinator (Chemical Engineering)
<b>Number of Position</b>	: 01(one)
<b>Reports to</b>	: Project Coordinator
<b>Education</b>	: Bachelor's or Master's degree in Chemical Engineering/Chemical Engineering and Polymer Science
<b>Age</b>	: Maximum 45 years
<b>Experience</b>	: 07 years
<b>Location</b>	: Dhaka, with at least 80% time to project areas (outside Dhaka)
<b>Salary</b>	: Monthly BDT 1,20,000/- (Consolidated) and other admissible benefits.

#### 2. Background

The coastal areas of Bangladesh are more vulnerable to climate change than any other area. Globally, The Intergovernmental Panel on Climate Change (IPCC) has identified coastal areas as being highly vulnerable to climate change because sea-level rise can amplify risks such as flooding, storm surges, inundation, saline water intrusion, and erosion, particularly in developing countries where coastal management is often lacking (Details can be seen in AR6). The total length of the Bangladeshi coastline is approximately 710 km. Most of the coastal areas are part of a big delta. This delta has three distinctive features: the west part is in a moribund delta, the central part is in an active delta and the east part is in structurally dominated estuaries with a relatively high gradient, where hills are not far from the coast. The Bangladeshi coast is at the top of a funnel-shaped bay known as the 'Bay of Bengal'. It has a trench called 'the swatch of no ground' and a large number of islands and estuaries that are geomorphologically active, with huge sediment depositions, and tidal and wind action. The western and central parts of the coastal areas in Bangladesh have a very low elevation ranging from 1-2 meters below average sea level, which is prone to tidal flooding due to their low-lying geographical characteristics.

There are 2.5 million hectares of arable land in coastal areas of Bangladesh lying between 0.9 and 2.1 meters above mean sea level (MSL). Salinity affects 53% of these lands, or 1.51 million hectares<sup>12</sup>. The agricultural production system in the areas is evolving daily as a result of saline intrusion. Livelihood possibilities are increasingly dwindling, especially for the disadvantaged people. Tidal surges brought on by cyclones and heavy rains flood low-lying areas' homesteads and harm houses, including water and sanitary systems. In summary, coastal residents are mainly vulnerable due to poor human settlement conditions in low-lying areas, climate-sensitive livelihoods, and a lack of pure drinking water. Scarcity of safe drinking water is one of the most vital factors that makes the coastal people vulnerable.





## PALLI KARMA-SAHAYAK FOUNDATION (PKSF)

[www.pksf.org.bd](http://www.pksf.org.bd)

Freshwater ecosystems in the coastal region are now frequently affected by salinity, an environmental risk phenomenon. The management of freshwater ecosystems is becoming increasingly challenging in the coastal region due to the effects of climate change, including sea level rise and coastal flooding, excessive groundwater extraction, and decreased upstream flows.

Under this circumstance, to build a healthy coastal community, to reduce the income erosion due to illness, and make them financially sound by increasing the access to safe drinking water, the Adaptation Fund (AF) Board under the United Nations Framework Convention on Climate Change (UNFCCC) approved "Access to Safe Drinking Water for the Climate Vulnerable People in Coastal Areas of Bangladesh through Solar-generated Reverse Osmosis Water Treatment Facilities" a three-year project. The Palli Karma-Sahayak Foundation (PKSF) will implement the project (for details about PKSF, please visit <http://www.pksf.org.bd>) as a Direct Access Entity (DAE) of AF, state owned an apex development organization under the Financial Institutions Division of the Ministry of Finance, with a budget of \$5.00 million. The project has chosen three exposed coastal districts, namely Khulna, Bagerhat, and Satkhira, which are particularly vulnerable to safe drinking water due to salinity intrusion. The project has a target of 180,000 beneficiaries in the selected three coastal districts to supply the safe drinking water. The specific objectives of the project are:

- The project aims to ensure water security for coastal families by establishing reverse osmosis water treatment plants;
- To enhance awareness of vulnerable coastal communities on health hazard issues.

For implementing the Project, PKSF is seeking qualified candidates for the 'Assistant Project Coordinator (Chemical Engineering)' post for its Project Management Unit (PMU).

### 3. Project Duration

The duration of the project is March 2025 to February 2028. So, the position is expected to begin in June 2025 and will last until the end of the project period (February 2028) and appointed initially for one year with the possibility of annual renewal up to project periods based on the performance and availability of the budget.

### 4. Objectives of the position

The Assistant Project Coordinator (Chemical Engineering) will provide technical and coordination support to implement the project's activities through innovative methods and tools. Particularly, emphasis will be given on expertise in Reverse Osmosis (RO) plant installation, design of membrane systems, and optimization of water treatment processes. The Assistant Project Coordinator (Chemical Engineering) will ensure that the installation of RO plants have been done according to the chemical design of membrane, and drawings in full compliance with the codes using high-quality machine and accessories as indicated in the guidelines. He will also ensure the complete installation and handing over process of RO plants to the concerned community/beneficiaries within the stipulated timeframe. In addition to that Assistant Project Coordinator (Chemical Engineering) will ensure the implementation of Environmental and Social Management Plan (ESMF) of the project and report accordingly.

### 5. Key Responsibilities

The Assistant Project Coordinator (Chemical Engineering) will be responsible for the overall installation of the RO plants under the Project, including membrane design and implementing all activities under such component that contribute to all project outputs. S/he will perform the following roles and responsibilities (but not limited to):





## PALLI KARMA-SAHAYAK FOUNDATION (PKSF)

www.pksf.org.bd

- Act as the main technical person to design RO plants for the project.
- Develop and review designs for RO plants, including membrane selection, process flow diagrams, and equipment sizing.
- Supervise the installation, commissioning, and testing of RO systems to ensure compliance with design specifications and industry standards.
- Evaluate membrane performance, analyze fouling mechanisms, and recommend improvements for efficiency and longevity.
- Assess water quality parameters and optimize the RO system for improved energy efficiency, cost-effectiveness, and performance.
- Diagnose operational issues, propose corrective actions, and establish preventive maintenance programs for RO plants.
- Ensure adherence to environmental, health, and safety regulations, as well as industry best practices.
- Provide technical training to operators and maintenance staff, and develop operational manuals and reports.
- Manage, monitor, interpret, and explain the drawing, and design documents supplied by the partner organization.
- Maintain constant coordination between the PO, Entrepreneur and PMU.
- Survey the project working area, ensure that the RO plants are installed within the water scarcity area, and there is demand of salt free pure water in community.
- Maintain liaison with the local authority (where appropriate to the project) and sort out emerging issues in consultation with PMU and his assignees to ensure uninterrupted progress of the installation of RO plants.
- Ensure that all materials used and RO plants are in accordance with the specifications indicated in the contract document.
- Review and agree on the quantity, quality, and cost of the materials used to install the RO plants.
- Ensure that the work progresses to meet agreed deadlines.
- Resolve any unforeseen technical difficulties and other problems that may arise in the installation process of RO plants.
- Any other duties assigned by PKSF.

### 6. Selection criteria

#### Basic Requirements:

- Bachelor's or Master's degree in Chemical Engineering/Chemical Engineering and Polymer Science from a recognized University/Institute with at least two first-class/division/equivalent CGPA in academic career;
- Having 3rd Division/Class or equivalent CGPA in any examination will incur ineligibility;
- Minimum **07 years' experience** out of which **03 years in Reverse Osmosis** Plant design, installation and maintenance.
- Strong understanding of membrane technologies, water chemistry, and treatment processes;
- Hands-on experience with RO system troubleshooting and performance optimization;
- Knowledge of relevant industry standards, such as ASTM, ISO, and regulatory guidelines;





## PALLI KARMA-SAHAYAK FOUNDATION (PKSF)

[www.pksf.org.bd](http://www.pksf.org.bd)

### Preferred:

- Experience in implementing of desalination projects in coastal areas of Bangladesh;
- Certifications in water treatment or membrane technologies;
- Familiarity with energy recovery devices and cost-saving techniques in RO plants;
- Good command over working experience in Auto CAD 2D;
- Able to prepare BOQ (Bill of Quantities) and cost estimates;
- Updated knowledge of government water policies, acts, rules, and regulations;
- Prepare and submit monthly progress reports to PMU and quarterly progress reports, and sub-project disclosure communication to AF on all the aspects related to management in the sub-project;
- Excellent communication and presentation (oral and written) skills in Bangla and English;
- Preparation of IEE, EIA and EMP (Environment Management Plan) Report;
- Waste Water Recycle and Re-use plan preparation and approval from Department of Environment, Bangladesh;
- Develop Emergency Response plan for water management of different industry;
- Training on EIA/ESMF will be an asset;

### 7. Salary & Allowances

- Monthly consolidated salary BDT 1,20,000/- (One Lac and Twenty Thousand)
- Other admissible benefits (Festival Bonus, Bangla *Noboborsho* Allowance, Mobile Allowance, Group Insurance etc.) as per PKSF policy;
- Salary and other admissible benefits (if any) are inclusive of all applicable taxes as imposed by the Government of Bangladesh. All relevant taxes will be deducted at the source as per Government rules.

PKSF is an equal opportunity employer and seeks to employ and assign the best-qualified personnel for all our positions in a manner that does not unlawfully discriminate against any person because of their specific identities, such as race, religion, gender, physical or mental disability, or any other status or characteristic protected by the laws of the country. Women are strongly encouraged to apply.

\*\*\*\*\*