

**UNHCR**United Nations High Commissioner for Refugees
Haut Commissariat des Nations Unies pour les réfugiés

Terms of Reference

Infrastructure/Civil Engineer – P4 – Bangladesh

MISSION LOCATION

Cox's Bazar, Bangladesh

DURATION

6 months

OPERATIONAL CONTEXT

The monsoon season this year has been the most testing for the entire Rohingya refugee humanitarian response. This month alone Cox's Bazar received over 1,100 mm of rain over 11 days. Since the onset of the monsoon in April, over 50,000 refugees have been directly impacted with over half impacted in the last two weeks alone. Nevertheless, the monsoon-related damaged should be placed in context of the overall response for some 960,000 refugees, *with less than one per cent of the shelter destroyed and fewer than five per cent of the households affected*. So far July has been testing but has not exceeded the level of preparedness and the capacities of the UNHCR and partners, which have been made remarkable by refugee volunteers as first responders. Nevertheless, UNHCR ability to deliver and be the provider of last resort, complementing other operational partners, is imperative to demonstrate leadership to deliver with '*one camp approach*'. There is urgent recognition on how the Kutupalong Camp infrastructure broadly manages surface water as a key component of Disaster Risk Reduction (DRR) efforts. Additionally, the window of opportunity to begin meaningful construction is from (September to April), during the dry season. The expert will support UNHCR in advising on hydrology and overall watershed management for Kutupalong camp, and coordinate implementation with various stakeholders. Candidates will require to have the ability to develop infrastructure and give knowledge on hydrological and hydraulic processes and modelling tools for improved water management in coastal zone and river basins. Thus expertise in Flood Risk Management or Sustainable Drainage Systems (SUDS) would be desirable.

AIM OF THE MISSION

Support Maintenance and Engineering Project (SMEP)¹ developing surface water management plans in Kutupalong camp.

MISSION OBJECTIVES

Reporting to the Snr Technical Coordinator, the Infrastructure Engineer will support SMEP engineering works and represent UNHCR in the inter-agency forums and provide its technical expertise accordingly. The engineer will also be required to collaborate with other technical units within UNHCR.

RESPONSIBILITIES

To ensure a coordinated response on surface water management throughout the refugee camps the Engineer is responsible for the following:

¹ Site Maintenance and Engineering Project (SMEP) is a multi-agency partnership between IOM-UNHCR-WFP address critical infrastructure in the Rohingya response

- Support the development of a thorough technical and protection assessment to ensure proper surface water management and protection of existing infrastructures in refugee camps;
- Support the Dams Specialist, Flood Management Specialist and Water Management Specialist by contributing hydrological and hydraulic information, and design parameters for their work;
- Support Disaster risk reduction (DRR) colleagues on Hydrology/hydraulic model for storm water, in particular monsoon season. These models will include storm water and wastewater, i.e. modelling of runoff and sewer systems in the camps, including different scenarios for sustainable urban drainage system (SUDS), their impact on vital infrastructure, including retaining walls, shelters, roads and culverts;
- Support Site Management Engineering Project (SMEP) in developing greater interface between secondary and tertiary drainage systems with major infrastructure works;
- Support UNHCR and SMEP facilitating a coordinated response with all stakeholders concerned in drainage and site planning;
- Monitor and support ongoing developmental plans by UNHCR/SMEP and support the measures to overcome possible challenges;
- Promote innovative ways to enhance lives of refugees and host communities' Site Development/Planning aspects of camp, using his/her expertise with appropriate linkages for site planning initiatives;
- Maintain regular collaboration and provide regular updates to other UNHCR technical units and senior management

Deliverables:

- Hydrodynamic model and vulnerability analysis of critical infrastructure within the camp and adjacent host communities.
- Floor Hazard / Risk maps for the entire camp.
- Water and flood management framework for response and adaptation of highly vulnerable areas within the Kutupalong camp and adjacent host communities that are directly affected.
- Produce technical tools, and methods to apply advanced flood risk management practices for monsoon season and flood mitigation practices.
- Community resilience to flooding by introducing climate risk management practices with in the camps and adjacent host communities.

PROFILE

Key knowledge & skills needed:

- Excellent analytical skills, including knowledge of measurement and analysis of hydrological data, assessment of return period for extreme events.
- Competent in GIS based Rainfall runoff modeling and flood frequency analysis
- Experience in 1D and 2D/3D Floodplain modeling using applicable hydro-dynamics model and conduct appropriate sensitivity analysis.
- Analysis of extreme flood estimation, including probable maximum floods.
- GIS based flood damage and evacuation capacity assessment and planning
- Experience in engineering design of flood mitigation structures
- Options assessment of floodplain management options
- Flood hazard / risk and emergency response mapping

Education

Advanced university degree (Master's degree or equivalent) in Civil or Infrastructure Engineering, or other relevant fields, specializing in surface water management or similar concepts

Work Experience

At least 10 years of progressively responsible experience in engineering field. Relevant experience in infrastructure design and supervision of civil works is required. Working in the international development and/or humanitarian system would be an advantage. Immediate availability and professional experience in the region are also highly desirable.

Language

Fluency in spoken and written English. Knowledge of Bengali is an advantage.

Competencies

- **Professionalism:** Authoritative knowledge and wide exposure to humanitarian standards and the UN system; ability to advise senior management, other senior officials, and partners on approaches to address highly complex technical issues particularly in a multi-sector aspects; conceptual and strategic analytical capacity.
- **Leadership:** Demonstrated ability to provide leadership; strong negotiating skills and ability to influence others to reach agreement on difficult issues; ability to work under extreme pressure.
- **Judgment/Decision-making:** Mature judgment and initiative; ability to assume responsibility for decisions; demonstrated original and creative thinking; independent judgment and discretion.
- **Managing Performance:** Ability to establish priorities and to plan, coordinate and monitor the work of others; ability to motivate, coach and mentor staff and encourage good performance.
- **Planning and Organizing:** Ability to effectively develop work program, direct others in the execution of the program and ensure timely delivery of results.
- **Communication:** Excellent communication (spoken and written) skills, including ability to present and defend difficult positions to senior officials.
- **Teamwork:** Excellent interpersonal skills, including ability to operate effectively across organizational boundaries; ability to bring diverse groups together towards a common goal, ability to establish and maintain effective partnerships and working relations in a multi-cultural, multi-ethnic environment with sensitivity and respect for diversity.