

Terms of Reference for preparation of the guidelines for implementation of Environmental Management Framework.

1) Objective:

The main objective of this assignment is to develop guidelines that support the implementation of Environmental Management Framework [EMF]. This shall provide clear, comprehensive and practical guidance to the Tamil Nadu Urban Habitat Development Board (TNUHDB) on integrating an environmental due diligence process into the housing project's implementation. These guidelines, will at a minimum, ensure that they are practically feasible and achieve sustainable goals in the building design, construction, operation and maintenance.

2) About the EMF adopted by the TNUHDB:

The EMF approved by the TNUHDB on 16.03.2020, deals with the procedures and institutional arrangements. This will ensure TNUHDB's interventions lead to environmentally sustainable outcomes and define a systematic approach to environmental management during the implementation of the TNUHDBs work program. The specific objectives of the EMF are as follows:

- i. To facilitate compliance with the legal and regulatory framework
- ii. To establish procedures for environmental screening of the project activities
- iii. To describe the environmental management guidelines and plans for mitigation of potential environmental impacts of the project activities
- iv. To describe the institutional arrangements for environmental management of the TNUHDB's housing projects
- v. To operationalize the environmental commitments of the national and state housing policies as relevant to TNUHDB

The EMF is applicable to all EWS housing projects of the TNUHDB with > 20,000 sq.m and < 1,50,000sq.m of built up area as per the EIA Notification 2006.

3) Implementation of EMF:

A step by step process will be adopted by the TNUHDB for the successful implementation of EMF. Some of the key processes include obtaining NoCs from other departments, review of Environmental / CRZ clearance requirements and obtaining clearances, Environment Management Plan preparation and inclusion in tender documents, application of EMF in different project stages and reporting system of EMF implementation

4) Detailed Task of this assignment:

The guidelines on implementation of Environmental Management Framework will include the following, (i) guidelines on sustainable environmental management in housing projects (ii) Environmental due diligence for verifying performance vis-à-vis implementation of Mitigation Measures at site level (iii) Third party monitoring of affordable housing projects and (iv) Periodic internal management review of Environmental Management Framework. These Guidelines will draw as relevant from TNUHDB's EMF, all the World Bank Group's General Environmental Health and Safety Guidelines regulations, the Bank's Operational polices and the Bank's Environmental and Social Framework (ESF).

As the GoTN is a part of its monitoring and evaluation function, it is thereby required to produce and furnish to the World Bank a number of reports on the implementation of the projects and the progress achieved at various intervals in the life of the project. These reports will include: Project Progress Report, Mid-Term Review Report and Project Completion Report.

1. Task I- Developing guidelines for Sustainable Environmental Management of Housing Projects:

- i) The consultant is expected to prepare the guidelines that shall be such that they pave way for sustainable and environmental friendly building construction, design and operation for Item 8, of the EIA Notification 2006.
- ii) The consultant is expected to develop the guidelines that shall be feasible by the TNUHDB, capturing key aspects such as energy efficiency, 4-R's concept (Reduce, Reuse, Recycle and Recharge), etc. in line with the National laws or State by laws, whichever is applicable.
- iii) The consultant is expected to cover several environmental parameters such as:
 - (1) Water- Guidelines for extraction of ground water, Storm water control and its reuse, Quantity used during construction (Curing process), preparation of water balance chart, etc.
 - (2) Waste Water Treatment- STP functioning, increasing the efficiency, etc.
 - (3) Drainage pattern- storm water disposal plans, disposal plans for sites lack storm water network, etc.

- (4) Ground Water- Rainwater harvesting plan, safety precautions, filters to be provided, etc.
- (5) Solid Waste Management-For construction phase and post construction phase.
- (6) Air Quality and Noise Levels- for construction phase, post construction phase and operation phase.
- (7) Energy- Guidelines for use of Solar / lighting LED system, optimisation of energy utilisation, solar designs, lighting within and exterior to dwelling units, etc.
- (8) Traffic movement System- Guidelines for driveways, parking provision, etc.
- (9) Disaster/Risk assessment plan- Guidelines for fire tender movement plans, etc, Socio economic plan and CSR and any other guidelines, if required.

2. Task 2: Developing guidelines for Environmental due diligence for verifying performance vis-à-vis implementation of Mitigation Measures at site level:

- i) The consultant shall develop guidelines for the Environmental Due Diligence (EDD)for monitoring and evaluation of the mitigation measures, covering process, output and outcome indicators in different intervals during the life of the housing project.
- ii) Guidelines shall also capture key monitoring indicators, frequency of monitoring and responsible agencies, etc. and will adhere to the contract and requirements of the GoTN and the World Bank.

3. Task 3 : Developing guidelines for Third party monitoring of affordable housing projects:

- i) The consultant shall develop guidelines for the procurement process of the third party M & E agency which includes the qualification criteria, the team composition with expected level of expertise, reporting outcomes and with duration or minimum commitment etc.
- ii) Besides, the consultant is expected to develop the scope of services to ensure that all the statutory requirements are being complied in each of the housing projects which includes, environmental clearance conditions, consent conditions, licence and permission requirements, etc.
- iii) The guidelines that shall be developed, will adhere to the contract and requirements of the GoTN and the World Bank.

4. Task 4- Developing guidelines for Periodic Internal Management Review:

- i) The consultant is expected to develop guidelines for internal management in reviewing the implementation of EMF that will be carried out on a continuous basis, from the commencement to the completion of the implementation with flow chart or a schematic flow plan showing the process, progress on the on performance indicators that will be reported to the World Bank semi-annually in the context of World Bank supervision missions, etc. The monitoring and evaluation will be supplemented with consultant's inputs, as and when required, and World Bank missions.
- ii) The guidelines developed shall be at minimum, addressing the duties of the technical personnel with periodic review visits that will be performed by TNUHDB or any official authorized by the GoTN or the World Bank, schedule, information to be provided, reporting requirements, etc. for all the phases in the project including demolition phase, each separately. The Information provided will include physical quantities, expenditure and pertinent issues in the monthly report and meetings as arranged with TNUHDB.
- iii) Besides, it is expected that the consultant will develop the format of the documents which should encompass the information on problems/errors, observations of risk, action taken to resolve them, records and reports of management review, etc. stipulating with the timeframe that such reports to be retained. Additional studies will be carried out and compared with the established baseline at the completion of the project (4 months before the closing of the project).
- iv) The guidelines that shall be developed, will adhere to the contract and requirements of the GoTN and the World Bank.

5) Deliverables:

The assignment is expected to be completed over 2 calendar month period. Deliverables should be submitted directly to the TNUHDB. All payments are subject to clearance of the documents from the Client.

The Finalization of the guidelines so prepared by the Consultant will be based on the comments of the World Bank and Client on the drafts.

6) *Reporting Requirements*

1. The Consultant firm shall report to the Environmental Team of the Project Monitoring Unit [PMU] of the TNUHDB for the execution of the scope of services and deliver the outputs under the direct supervision of the Environmental Consultant (EC) of the Project Monitoring Unit. Meeting and briefing shall be done with the Consultant and the Environmental Team [PMU] /TNUHDB as and when required.
2. All required reports will be submitted to the EC. The Consultant firm will coordinate closely with the EC as well as with the Environmental Team [PMU] /TNUHDB in executing all aspects of this work and in doing so, will engage in active knowledge transfer methods and procedures for the relevant activities planning and design for key stakeholders to be agreed upon at the beginning of the contract. This function, while not necessarily involving formal training sessions, is considered an important element of the Consultant's work. In addition, the Consultant firm will engage in the following:
 1. Documentation. The Consultant firm will establish and maintain a comprehensive inventory of all relevant documents and data collected. Any confidential material provided to the consultants will be returned in an organized fashion to the TNUHDB at the end of the contract.
 2. Personnel. The Consultant firm must provide and maintain all key personnel proposed. Any changes are subject to approvals from the contracting authority.
 3. Logistics. The Consultant firm will be responsible for all their logistical need in-country, including workspace, office support, communications and transportation.
3. All deliverables shall be submitted in electronic form and in hardcopy (3 copies each deliverable) in English, directly to the TNUHDB. All hardcopy documents shall be two sided printed to conserve paper. All deliverables will be considered draft upon initial receipt. The Draft documents will be reviewed and accepted or comments will be provided within two weeks of receipt.
4. The Consultant firm shall appropriately address concerns and provide final deliverables within two weeks of receiving comments unless a mutually-agreed upon arrangement stipulates otherwise. The assignment is expected to be completed over 2 calendar month period. Deliverables should be submitted. All payments are subject to clearance of the documents from the Client.

5. All reports will be reviewed by the Project Director, Environmental Cell and TNUHDB and World Bank clearance. The Finalization of the guidelines so prepared by the Consultant firm will be based on the comments of the World Bank and Client on the drafts.

7) *Payment Schedule*

The payment schedule is as follows:

| No | Work Activity | % of Contract Value |
|----|---|---------------------|
| 1. | After submission of draft guidelines for Sustainable Environmental Management of Housing Project | 20% |
| 2. | After submission of draft guidelines for Environmental due diligence for verifying performance vis-à-vis implementation of Mitigation Measures at site level: | 20% |
| 3. | After submission of draft guidelines for Third party monitoring of affordable housing projects | 20% |
| 4. | After submission of draft guidelines Periodic Internal Management Review | 20% |
| 5. | Upon Finalization of the guidelines / Clearance from World Bank | 20% |

8) *Composition of Team*

The Consultant will be required to identify Key Personnel and provide sufficient qualified personnel to ensure achievement of all objectives of these tasks.

The following minimum Key Personnel will be required for the contract:

1. Team Leader preferably with at least 15 years of national/ international experience, hold Master's Degree at minimum in Environmental Engineering, English language capacity and broad knowledge in environmental impact assessment and mitigation, long term impact planning and carrying capacity and/or limits of acceptable change methodologies, and institutional strengthening. The Team Leader should have significant experience in undertaking environmental assessments, reporting, capacity

building, and environmental advisory services.

2. Co- Team Leader - Senior Environmental Specialist, with at least 10 years of experience, hold Master's Degree in Environmental Engineering at minimum having the English language capacity and broad knowledge in Environmental Assessment and Management.
3. Key Team Members - The Consultant may combine specialists, so long as the required expertise, capabilities can be demonstrated via the qualifications and experience of the Specialists which should span over 05 years and minimum with a Master's Degree at minimum.
 - 3.1. Environmental Management Specialist
 - 3.2. Civil Engineer
 - 3.3. Hydrologist (hydrogeologist)
 - 3.4. Health and Safety Specialist
 - 3.5. Geographical Information System Expert

In addition, the Consultant firm may need to solicit additional, short term international and local assistance from senior, mid-level and junior technical professionals with the above qualities, as needed.

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THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

LABORATORY OF ORGANIC CHEMISTRY

REPORT OF RESEARCH

BY

ROBERT H. WOOD

PH.D. THESIS

1954

ADVISOR

PROFESSOR ROBERT M. WOOD

CHICAGO, ILLINOIS

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