

Chennai Metropolitan Development Authority
Tamil Nadu Housing and Habitat Development Project

TERMS OF REFERENCE

GIS Expert

Project Implementation Unit, CMDA

I. Introduction

1. The Tamil Nadu Housing and Habitat Development Project (TNHHDP) is a World Bank financed project of the Government of Tamil Nadu (GoTN). The objective of the project is to strengthen the housing sector institutions of Tamil Nadu for increased and sustainable access to affordable housing.

2. The CMDA formed in 1975 as the nodal town planning authority for the city of Chennai and its suburbs is one of the Implementing Agencies of the TNHHDP. Under Component 2: 'Strengthening of Tamil Nadu's urban housing institutions for enhanced sustainability', the project will finance technical assistance and capacity building support to CMDA to improve its institutional performance and capacity, and to enhance the effectiveness of its programs and sustainability. Technical Assistance (TA) support to CMDA will focus on strengthening its analytical and coordination capacities for the preparation of the new Chennai Master Plan. The support to CMDA will aim to (i) develop a metropolitan growth vision for CMA, (ii) develop a multi-sectoral analytical underpinning by establishing a geo-spatial platform towards preparation of land use planning approaches that increase affordability of housing, and (iii) build capacity of the institution to coordinate and aggregate multi-sector spatial information towards preparation of the next Master Plan. This would include support to: development of a comprehensive vision for future urbanization of Chennai plugging into and supporting the proposed Chennai City Partnership program (another project proposed to be financed by World Bank); strengthening of urban planning systems including setting-up a multi-sectoral geo-spatial data system; supporting preparation of guidelines that support the Master Plan process; capacity building towards establishing modern and inclusive land use planning systems; and twinning with an international city on metropolitan planning functions. The TA also includes a climate and disaster resilience study and geo-spatial mapping to feed into the Master Plan 2046 part of the Project Implementation Unit (PIU) being set up at the CMDA, preparation process, as well as undertaking analytics on river drainage basin and flood plain mapping.

3. Component 2 also supports to strengthen the GIS cell of CMDA by devising a GIS Road map for the preparation of Third Master Plan, integrating the other information systems relevant to Urban Development into a single platform in CMDA and also to update the software, licenses and hardware necessary to equip the GIS Cell.

4. A total of US\$9 million for CMDA, upto FY2023-24 has been approved by World Bank as part of Component 2 of this project for CMDA. CMDA is hiring a GIS Expert to be part of the Project Implementation Unit (PIU) set up at CMDA, whose roles on behalf of the PIU would include the following

II. Scope of Work/Job Responsibilities

The GIS Expertis expected to be responsible for leading GIS related functions of the third master plan within CMDA, specifically:

- a) Implement the GIS roadmap prepared as part of the Master Plan Process and Capacity study.
- b) Supervise a team of GIS analysts to develop the necessary database for the third Master Plan.
- c) Coordinate and liaise effectively (including working level interaction) with various government agencies and private sector entities working in this space to analyze information systems already developed/under development including TNGIS, compatibility between the systems developed, and lead the necessary steps to integrate all information systems into a single GIS platform (tasks will also involve evaluating data received from different departments); provide necessary support to share data with other departments.
- d) Perform value-added visualization and analysis to aid in decision-making during the process of the third Master Plan preparation.
- e) Coordinate with drone vendors for surveys, high resolution satellite temporal imagery providers etc., as needed.
- f) Coordinate with concerned experts of multilateral agencies working with CMDA on strengthening the GIS system.
- g) Train the GIS staff of CMDA in using the GIS based soft wares
- h) Provide inputs to CMDA on advanced applications of GIS for area based urban management issues
- i) Assist CMDA in procurement of High quality maps/imagery, software and other equipment for the GIS Cell.
- j) Work assigned by Member Secretary, CMDA / Head of PIU from time to time.

III. Qualification

Master degree in Remote Sensing/ GIS/ Geo-informatics/ Geo-engineering.

IV. Years of Experience

At least 7 years of experience in conducting geospatial analysis in Urban Planning & Development using GIS (ArcGIS/ QGIS/ MapInfo etc.) and relevant data/ statistical approaches.

V. Work experience:

- a) Familiarity with remote sensing/ drone surveying techniques, the process of translating survey imageries into geospatial data, and performing geospatial data quality assurances and correction.
- b) Experience in managing servers, familiarity with formulation of GIS based Master Plan.
- c) Experience in creating a base map for cities/towns in the GIS platform.
- d) Proven ability to visualize spatial datasets to communicate concepts, findings and information using various presentation methods (e.g., chloropleth maps, heat maps, cluster maps etc.)
- e) Familiarity with the process of rendering geospatial data and information into interactive geospatial visualization using relevant programming tools is a plus.
- f) Familiarity with geospatial and data cleaning/ analysis tasks using algorithmic approaches and appropriate tools, such as Python, R, or other equivalent instruments is a plus.

VI. Competency

The incumbent should demonstrate:

- a) Strong conceptual, analytical skills with clarity of thought process and problem-solving skills.
- b) Ability to work under tight deadlines.
- c) Excellent organizational skills.
- d) Ability to work independently as well as in a team.
- e) Strong communication skills with the ability to clearly and concisely convey necessary information, explain reasoning, and support conclusions using data and facts.
- f) Excellent computer and document processing skills.

VII. Duty Headquarters

The duty headquarters of the GIS Expert will be the TNHHDP Project Implementation Unit located in Chennai Metropolitan Development Authority, Chennai. She / he will be required to travel frequently within and outside the city and occasionally outside the state for project purposes.

VIII. Duration

Appointment to the post will be on a contract basis initially for a period of three years and might be extended based on performance.

IX. Reporting Arrangements

The GIS Expert will report to the Head of the PIU, TNHHDP, CMDA and the Member Secretary, CMDA.