



TECHNOLOGY INFORMATICS DESIGN ENDEAVOUR

Terms of Reference/Request for Proposal

Date: 13.08.2024

**Proposals are invited by Technology Informatics Design Endeavour (TIDE) for
'Developing a GIS Maps for Framework for Gender Sensitive, WASH-Focused Climate
Mitigation Planning for Small Towns of India'**

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Introduction

Technology Informatics Design Endeavour (TIDE) is a development organization based in Bengaluru that leverages technology for conserving the environment, creating livelihoods, and addressing societal issues. TIDE's work encompasses energy access and biomass-based cooking solutions, environment conservation through energy waste and water interventions, and Technology based innovative livelihoods, particularly with a focus on rural women. TIDE is currently implementing a project titled Integrated Water Management in partnership with BORDA, in different towns of Karnataka. For more information about TIDE, please visit www.tide-india.org

Title	'Developing a GIS Maps for Framework for Gender Sensitive, WASH-Focused Climate Mitigation Planning for Small Towns of India'
Location	Chintamani, Karnataka
Nature of Assignment	GIS map generation and spatial analysis link to WASH, Gender and Climate
Contract period	The contract period will be for the duration of 90 days

Background of Project

India is the third-largest emitter of GHGs globally, with urban areas contributing over 70% of these emissions. By 2030, over 600 million people may live in India's towns and cities, with up to 35% living in small towns (population < 1,00,000). While bigger cities have already built up much of their infrastructure and systems, **small towns have not yet made critical technology and infrastructure choices**. Thus, there is a chance to influence their fundamental decisions towards climate responsible yet effective and efficient solutions. While there are multiple frameworks at the international and national levels to assess climate change preparedness, these are not tailored to address the specific challenges and constraints faced by small towns in a country like India. While city-specific climate action plans are being formulated for larger cities in India, these plans cannot be readily adapted to the context of small towns. A ground-up framework is needed which will help develop

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structured climate preparedness and resilience plans for small towns in different situations.

Assessing the existing scenario and identifying hazards shall be practical when plotted on the map, providing clear demarcation of the priority areas to act upon.

Terms of Reference:

The bidder shall be responsible for the activities and roles mentioned herein, and shall also support TIDE wherever reasonable and possible, to ensure that the objectives of the assignment are met. The details of the assignment are given below:

Scope of assignment:

The GIS Organization/Consultant will perform the following tasks:

1. Task 1: Data Collection, Data Analysis and Data Management:

- Identify Data Needs: Collaborate with BORDA Climate Core team to determine the required data sets, including climate data, land use, demographics, and infrastructure for developing the Inclusive WASH Climate Action Plan for Chintamani
- Data Collection: Gather relevant spatial and non-spatial data from various sources, ensuring data quality and accuracy and be able to work around available data and source as much possible from secondary sources and online databases/data sets.
- Data Integration: Integrate collected data into a GIS platform, ensuring interoperability and ease of use.
- Manage and maintain the GIS database to support the project's requirements.
- Ensure data accuracy, consistency, and compliance with legal and ethical standards.

2. Task 2: GIS Analysis and Mapping:

- Spatial Analysis: Utilize GIS tools to conduct spatial analysis to assess climate risks such as flooding, heat island, and other environmental hazards and existing scenario mapping for WASH and services on ground.
- Weighted Analysis: Determine the factors that are relevant to the climate action plan. These could include environmental risks (e.g., flood zones, heat islands), social vulnerabilities (e.g., population density, age distribution), and economic considerations (e.g., land use, infrastructure value).
- Vulnerability Mapping: Identify vulnerable areas and populations within Chintamani town, highlighting critical infrastructure and ecosystems at risk which help in proposing spatial strategies to mitigate these risks.

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- Scenario Modelling: Develop models to simulate potential future climate scenarios and their impacts on Chintamani town.

Deliverable 1 : A draft Data Inventory Report which consists of a comprehensive inventory of all data collected and used in the project and High-quality maps illustrating one level of key findings, including climate risks and vulnerabilities.

- List of Baseline maps to be prepared for Chintamani Inclusive WASH Climate Action Plan:
 - Ward-level maps with digitized borders
 - Maps with different WASH infrastructure (different maps for water, sanitation, wastewater etc along with distribution networks)
 - Town expansion trend over past 10 years
 - Water bodies
 - Slums and low income communities
 - Land use Land cover(LULC) map
 - Elevation map
 - Land surface temperature map
 - Watershed maps
- Maps based on ward-level data assessment
 - Population density
 - Gender
 - ground water levels (past 30 years trend)
- Maps with buffer distance for services/Hazard exposure
 - Fire stations with response time buffer
 - Hazard spots (flooding area, landslide spots)
 - Access to common facilities (community taps, toilets etc)
 - Open dumping spots with buffer area
- Assessment maps
Overlay of various maps prepared previously along with suitable demarcations for vulnerable areas based on assessment

3. Task 3: Support in development of Climate Action strategies

- Develop scenarios and models to predict future climate conditions and assess potential impacts on Chintamani town.
- Guide the Climate core team to develop actionable strategies for climate mitigation and adaptation, using GIS insights.

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- Provide technical guidance on integrating GIS findings into the overall Inclusive WASH Climate Action Plan.

4. Task 4: Stakeholder Engagement and Capacity Building:

- Stakeholder Consultation: Lead/ Engage/Facilitate consultations with Chintamani town officials as and when necessary such Municipal commissioner, KUWSDB, MI and other departments involved in the Inclusive WASH CAP to gather input and foster collaboration.
- Act as a support team in presentations and discussions to gather input and build consensus on proposed actions.
- Develop user-friendly GIS tools such as Interactive/dynamic mapping and resources to facilitate ongoing community engagement and participation.

5. Task 5: Reporting and Documentation

- Prepare comprehensive reports detailing methodologies, findings, and recommendations.
- Document all GIS processes, including data sources, tools used, and analytical methods.
- Ensure all deliverables are submitted on time and meet the quality standards.

Deliverable 2 : A final summary report documenting the entire process, outcomes, analysis and lessons learned while developing the Climate Action Plan for Chintamani.

Eligibility criteria & prior experience:

- Experience working with Climate related organizations and national/International donors.
- Experience in conducting Climate audits, assessments, and evaluations in the WASH sector.
- Understand the impact of climate change across vulnerable groups in small towns in India.
- Understand the impact of climate change across vulnerable groups and genders in small towns in India

Evaluation Criteria:

The technical criteria is as follows:

No	Parameter	Criteria	Weightage	Documents Required

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1	Qualification	<p>The Organization/Individual Consultant should have a minimum of 3 years of proven experience in GIS analysis, climate action planning, Climate resilience mapping, flood risk analysis preferably with a focus on small towns or urban environments</p> <p>Advanced degree in Geomatics, Environmental Science, Urban Planning, or a related field with a focus on GIS.</p> <p>Must possess relevant professional certifications to demonstrate their expertise and proficiency in Geographic Information Systems (GIS).</p>	40%	<p>CV & Reports showing clear experience and qualification of the Individual/Organization</p> <p>Sharing Sample work of the Organization/Consultant in the projects involved.</p>
2	Experience	<p>Proven experience with minimum 2.5 years in climate modelling, and scenario analysis, vulnerability assessment.</p> <p>Proficiency in GIS software (e.g., ArcGIS, QGIS) and spatial analysis technique and data visualization.</p> <p>Strong data management and database skills.</p> <p>Communication and Collaboration -Excellent</p>	30%	<p>Assignment details (as per template in Annexure 1)</p> <p>Signed Contract/WO</p>

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		written and verbal communication skills. Ability to work collaboratively with diverse stakeholders and build consensus. Problem-Solving and Innovation Strong analytical and problem-solving skills- Ability to think creatively and propose innovative solutions to complex challenges.		
3	Financials	Assignment Fees Quoted Financial proposal- Assignment fee quoted for the assignment	30%	Assignment Fees Quoted

All the eligible bidders will be marked on the above criteria. The one with the highest marks will be awarded the contract.

The bid price should be mentioned as Lump Sum inclusive of all taxes. The bids are to be made in the template as appended in Annexure 1.

Duration of the assignment:

Maximum 35 days spread across August – November, 2024. The agency should adhere to the work plan as shown below. **(Subject to revision based on mutual consent or as per ground condition)**

Work Plan:

The deliverables of the GIS consultant are as follows:

- Deliverable 1 :** A draft report consisting of Data Inventory Report which consists of a comprehensive inventory of all data collected and used in the project and High-quality maps illustrating key findings, including climate risks and vulnerabilities.*

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2. **Deliverable 2** : A final summary report documenting the entire process, outcomes, analysis and lessons learned while developing the Climate Action Plan for Chintamani.

Timeline and Schedule of payment:

No	Key Activity	Timeline	Percentage of payment
1	Draft report	10 th September 2024	40%
2	Final summary report	20 th October 2024	60%

The payment will be made based on deliverables as verified by the Project Director.

Submission of Proposal and deliverables:

The proposal must be submitted over email to the email id: sasi.priya@tide-india.org, & iwm.accountant@tide-india.org with the following documents attached,

- Supporting documents for eligibility and evaluation criteria
- Self-certification of not being blacklisted by central/state government agencies.
- Properly filled Annexure I to VI



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Confidentiality and Intellectual and Other Property Rights

All reports, notes, statistics and other documents and data compiled and collected, or software developed by the Contractor under this Agreement shall be confidential and the property of TIDE. The Parties herein agree to keep the terms of this TOR all or any information which any or all of the parties herein shall become acquainted with shall not be disclosed, either directly or indirectly to third parties or be used in any way, or in any manner that would be detrimental to the business of the partners.

Sd/-
Director-TIDE