

TERMS OF REFERENCE (TOR) FOR CONSULTANTS TO BE ENGAGED FOR THE PROVISION OF MUNICIPAL SOLID WASTE MANAGEMENT SERVICES IN THE 2 ULBS AND 41 GPS IN THE BBND A AREA.

1. BACKGROUND

- i. Baddi Barotiwala Nalagarh Development Authority (BBNDA) is a Special Area Development Authority set up by the State Government vide Notification No. GAD-C (F)-5-1/2006 dated 30.11.2006 under section 67 of the H.P. Town and Country Planning Act., 1977.
- ii. BBNDA area comprises of 2 Urban settlements (MC Nalagarh and MC Baddi) and 41 gram panchayats comprising 229 revenues villages. The total population of areas under BBNDA, as per census 2001, is about 1.5 lakh. The population of the BBN area is projected to increase to persons by 2025.
- iii. BBNDA is the leading industrial area of Himachal Pradesh with an estimated presence of 1477 industrial units.
- iv. BBNDA intends to facilitate an integrated municipal solid waste management (SWM) services by creating an efficient waste segregation, collection, transportation, processing and disposal mechanism in conformity with the Municipal Solid Waste (Management and Handling) Rules, 2000.
- v. In this context, BBNDA seeks to hire a Consultant help design, structure and manage solid waste management systems with local body responsibility and private sector participation for solid waste management facilities.
- vi. The present Terms of Reference (TORs) delineate the required consulting services in order to provide integrated municipal solid waste management services in BBN area.

2. OBJECTIVES

- i) Achieving integrated Solid Waste Management in BBN area to ensure 100% collection, processing and safe disposal of solid waste generated.
- ii) To design strategic framework ensuring local bodies discharge their responsibilities efficiently with appropriate private sector participation in the design, management and operations of processing in collection transport, processing and sanitary disposal of solid waste as allocated in consultation with local bodies.

3. CURRENT SITUATION

- i) There is very little data on quantum of solid waste and the structure of its composition i.e. degradable, inert, plastic etc. This is dependent on the nature of waste generators and the amount of waste. There is lack of information regarding the profile of waste generators by type, numbers and categories and the amount of waste they generate.

- ii) The current level of service delivery in the context of integrated municipal waste management is abysmally low. There is no benchmarking of the different stages of integrated solid waste management. This can only emerge from proper understanding of the extent of waste generated and monitoring system that can track the waste at every stage. Littering and unscientific dumping is rampant at present.
- iii) There is lack of data on various indicators of SWM services such as storage at source, extent of segregation of municipal waste, efficiency of primary collection, coverage and frequency of street sweeping, functionality of storage depots, efficacy of transportation of waste, waste processing and extent of waste disposal.
- iv) A rough description of solid waste management practices at MC Nalagarh and the 41 GPs of Baddi are as under:-

Scenario of SW Management	MC Nalagarh	MC Baddi	41 GPs
Waste Generated per day	4-5 Ton per day (Estimated)	6 Ton per day (Estimated)	?
Collection Method	The SW is collected manually and then lifted through rikshaws, wheel barrows etc. to the garbage containers and thereafter lifted to dumping sites.	The SW is collected manually and then lifted through rikshaws, wheel barrows etc. to the garbage containers and thereafter lifted to dumping sites.	?
Disposal method	Being dumped near village Sarsa.	Being dumped near Balad river.	

- v) There is lack of door-to-door waste collection services. There is no well thought out transportation system to carry S.W. to transfer stations or treatment facilities. Whatever garbage is collected in dumpers or bins is carried to dumps.
- vi) There is absence of scientific processing and disposal facilities.
- vii) In effect, there little understands issues that need addressing for proper SWM as well as the roles and responsibilities of stakeholders including waste generators and local bodies in SWM. Consequently capacity and institutional mechanisms are made to deal this issue .

4. SWM PROJECT EXPECTATIONS

- i) BBNDAs expects local bodies to provide solid waste management services that are in 100% compliance with the provisions of MSW Rules, 2000. The entire system is expected to be designed keeping in view that SWM is a local body responsibility and all operational costs are to be borne by them based on their own taxes/user charges.

- ii) BBNDAs envisage creation of a “Bin Free” Baddi Barotiwala Nalagarh Area by designing a system that provides a strong door-to-door collection mechanism by the local bodies coupled with a system where the bulk generators are incentivized for in situ storage and self-transportation of waste to transfer stations/processing facilities. The integrated SWM system must ensure that there is no requirement of community bins or dumpers.
- iii) The design of the transportation mechanism should ensure that the segregation is maintained during the entire chain of waste transfer and transportation so that local body costs of SWM are minimized.
- iv) Appropriate waste processing facilities may be envisaged at the local body level so that their transportation cost for moving bio-degradable waste can be minimized.
- v) Compacting may be visualized for the residuals after bio-conversion and the inert waste so that local body transportation costs to a regional landfill site for final disposal are minimized.
- vi) A scientifically engineered landfill site, preferably regional, shall be designed, maintained and operated so as to comply with MSW (Management and Handling Rules) 2000 shall be envisaged as part of the integrated system. Options for such a regional landfill at different locations will be considered keeping in view costs of transportation vs cost of landfilling. As such options of sending waste some distance away will not be ruled out.

5. INSTITUTIONAL CHALLENGES

- i) Presently, there is a general feeling that the municipal solid waste services have to be provided *gratis* by the governance agencies. There is no concept of cost recovery or user charges. There is inadequate understanding of adverse public health implications of poor SWM from collection to safe disposal and of the costs involved in a proper SWM system. The BBNDAs realize that a general understanding must be created within the public that solid waste management is essential for public hygiene, that the costs of collection and transportation are only part of the overall costs that include safe disposal in a sanitary landfill, that SWM systems and costs have to be managed by local bodies through cost recovery from the waste quarters.
- ii) The role and responsibilities of the BBNDAs, local bodies and private sector involvement in various SWM operations have to be clearly outlined in quantifiable terms.
- iii) The lack of institutional capacity and capability may pose a formidable challenge for the working of the SWM system. The role description of relevant agencies has to be delineated in unambiguous terms and capacity enhancement issues addressed.

6. SCOPE OF WORK FOR CONSULTANT

The scope of work to be performed by qualified consulting firm (the Consultant) will include, but is not limited to, the following tasks:

Task 1: Analysis and evaluation of existing situation of municipal solid waste management services in BBN Area; and identification of relevant key weaknesses and gaps

Under this task the consultant shall review:

1. Estimate of overall waste generated and types of waste generated based on an different types of waste generators and the extent and composition of waste generated by each type.
2. Predictions on future solid waste scenario for the BBN area based upon demographic and economic growth trends.
3. Current waste management practices (including segregation, collection, storage, transportation, processing and disposal practices)
4. All existing and proposed laws, regulations and institutional framework for municipal SWM services.
5. Current costs of municipal SWM services and extent of cost recovery through user charges.
6. Current SWM policy, institutional and financial issues and weaknesses that need to be addressed at the policy level.
7. Analyze extent scope of private sector participation in existing municipal SWM services and scope for future association.

For the above task, the consultant shall:

Under this task the Consultant will:

- Carry out appropriate ‘surveys’ for collection of data on waste generated and SWM practices on a pre-determined sample size basis to cover every rural local body and every ward of urban local bodies. The survey shall include not only households but also industrial and other institutional enterprises. In addition the consultant shall review all relevant orders/notifications/bye laws /rules/associations, regulations and laws as are necessary and meet all such officials, and elected representatives as required

Task 2: Develop a detailed Action Plan for designing for an efficient SWM system that includes the optimum collection, transportation, processing and disposal arrangements in line with local body expectations and capacity.

Under this task the Consultant will:

- i) Provide ‘Alternative Options/Action Plans’ for an efficient SWM system design with a delineation of responsibilities and estimated costs for different stages of SWM for further discussion and firming up inc consultation with BBND and the local bodies involved.
- ii) At every stage, including collection, transportation, processing and treatment and disposal options for design operation with or without civil society and/or private sector involvement shall be analyzed and costed.

- iii) All the technology, equipment and designs envisaged will conform with the standards laid down by the PCB or other statutory authorities.
- iv) Consultant with the stakeholders, primarily all the local bodies of the BBNA area and firm up the institutional and technical details of the integrated SWM system for BBNDNA area.
- v) The final design of the integrated SWM shall be finalized keeping in view that the desired outcomes are:
 - Bin Free BBN Area
 - 100% collection, processing and disposal of solid waste in the most efficient manner.
 - The final disposal shall be in an engineered sanitary landfill.
- vi) For the final design of the integrated SWM system detailed specifications, drawings and costs are required will be provided and/or bid documents provided and contract documents finalized for the concerned local bodies to carry out the envisaged collection, transportation, processing and treatment, compression and transportation to landfill. In addition, detailed drawings and specifications bid documentation and contract finalization for an engineered landfill will be provided.
- vii) The final design will clearly delineate local body responsibility, the costs estimated to be borne by them and the modes of cost recovery envisaged to be adopted by local bodies.

Task 3: Design and roll-out an Awareness Campaign on SWM for BBN Areas

Under this task the Consultant shall design a campaign that:

- Focuses on the environmental and public health rationale of solid waste management.
- Emphasizes upon the necessity of safe disposal to achieve objectives
- Ensures the citizen's role in minimizing waste, segregation, household level storage, treatment possibilities, door to door collection.
- Brings in awareness about the local body role in collection, transport, treatment and safe disposal of MSW.
- Creates a holistic awareness. The consultant shall also be responsible for a successful roll-out of this campaign through appropriate media and forums in BBN Areas including both interpersonal campaigns and secondary media.

Task 4: Design and roll out an effective capacity building programme.

The Consultant shall design and implement a capacity building program that:

- i) Orients local bodies (representatives and personnel) in BBN area to understand solid waste management issues and their role in this regard.
- ii) Encourages management of solid waste in specialized and effective manner with clear budgetary allocations, designated personnel and responsibilities within the local bodies.

- iii) Enables design and conduct of appropriate base line surveys to secure information on current SWM status and its impact on health and environment.
- iv) Enables design and roll out of an effective monitoring system based on appropriate indicators for the local bodies to regularly review their own performance in SWM.
- v) Arranges study tours for representatives and personnel of local bodies in BBN area to see best practice examples of SWM in India.
- vi) Ensures that local bodies in BBN area are empowered and capacitated to frame and regulate enforcement of solid waste related bye laws within their jurisdiction.
- vii) Enable local bodies to manage contracts where civil society/private sector have been engaged in the different stage of the SWM systems

OUTCOMES AND OUTPUT SCHEDULE

- i) The Consultant shall be expected to produce a report on each of the four tasks outlined above which shall be reviewed and finalized in consultation with the BBND A.
- ii) The Consultant will be contracted by the BBND A and shall work under its overall supervision.
- iii) The total duration of the assignment will be four months. The Consultant shall begin work no later than a fortnight after the date of award of the contract and will produce the following reports.
- iv) An Inception report shall be submitted four weeks of the beginning of the study and will include the detailed approach for implementing the assignment as well as results of the entire assessment.
- v) A report covering Task 1 will be submitted within eight weeks of the beginning of the study.
- vi) An interim report covering Task 2 shall be submitted within 12 weeks of the beginning of the study. This will detail the options that will be discussed with the local bodies. A final report on task 2 with the integrated SWM design after consultation with all stakeholders will be submitted within 16 weeks of the beginning of the study A Final report summarizing the work of Consultant his findings and recommendations etc. will be submitted within twenty four weeks of the effectiveness of the contract.
- vii) Reports covering Tas 3 and 4 will be submitted within 20 weeks.
- viii) The Final report shall be submitted in ten copies in English and Hindi each. The Final report shall include an Executive Summary, working papers, datasheets, drawings etc.
- ix) The Consultant shall also provide electronic copies of all the above mentioned documents to BBND A along with hard copies.
- x) The BBND A shall retain the copyrights to the reports and documents submitted by the Consultant.

CONSULTANT SKILL AND STAFF REQUIREMENTS

- i) The consultant should be able to demonstrate experience and understanding of SWM issues in India, development communication and public private participation in infrastructure preferably SWM
- ii) The Consultant should have a Project Team that has technical competence in the rquire fields.

- iii) The Consultant is free to propose and justify the range of disciplines to be included in the project team. However, the team should include at least the following:-
- A Team Leader
 - Institutional Specialist
 - SWM Specialist with understanding of issues related to landfills
 - Communication specialist
 - Public Private Partnership Expert
- iv) All key personnel should have a demonstrable experience in the relevant fields. The Team Leader should have at least ten years of experience.
- v) Curriculum Vitae of each key personnel should be included as a part of proposal with special reference to knowledge issues related to the project. The CVs should be maximum of 4 pages focusing on skill, education and experience, especially in the field of solid waste management.
- vi) The Consultant must ensure that the Project Team is stationed at Baddi during the entire consultancy period. The office space for the Project Team shall be arranged by BBNDA at mutually agreed terms.