

Terms of Reference (TOR)

For

**Preparing Solid Waste Management Long Term Strategic Plan
and Short Term Action Plan of Municipalities**

Contract ID: SWMTSC/S/QCBS-073/74-V

**Ministry of Urban Development
Solid Waste Management Technical Support Centre
(SWMTSC),
Lalitpur, Nepal**

Terms of Reference

Consulting Service for Preparing Solid Waste Management Long Term Strategic Plan and Short Term Action Plan of Municipalities

Contract ID: SWMTSC/S/QCBS-073/74-V

1. Background:

Solid waste management is one of the most prioritized responsibilities of the municipalities. Yet, it largely remains a socially complex and technically ever-challenging task for municipal authorities because of their limited financial resources and lack of well trained human resources to address the adequate solutions to this issue. The quantity of solid waste is gradually increasing every year in all the municipalities and in emerging towns mainly due to fast urban population growth. Yet, resources as well as trained manpower for the needs of overall solid waste management are seriously constrained. The major portion of the annual municipal budget is expended just to sweep, collect, transport and dump the waste in some unplanned land fill site without any environmental and social measures being considered. Almost all the wastes generated in cities are often discarded indiscriminately in open places, forests or in public lands or river sides. In addition, the 'Not in My Backyard' (NIMBY) syndrome has created many social conflicts in the process of developing new waste management facilities.

Managing solid waste, even with limited adoption of current technologies and following existing environmental norms and guidelines require costly infrastructure and capital investment. It is also desired that involvement of various stakeholders, particularly local communities in waste recycling are given utmost priority. However, it is very expensive and requires extremely qualified trained manpower. Management of solid waste is extremely sensitive at the operational level, and often are labor intensive, thus resulting in high operating costs, particularly for the collection and disposal activities. There are many choices to be made: choice of waste treatment and disposal facilities, choice of technology, choice of collection system, choice of contractual arrangement, etc. Moreover, the choices should be most cost-effective in the longer terms. Yet there are no universally proven models that could be replicated and applied in developing countries like Nepal.

Most of the municipalities have been managed solid waste in temporary basis due to lack of engineered and planned solid waste management facilities. Similarly most of municipalities haven't had any periodic plan, strategic plans and action plans for solid waste management. Without systematic plan, SWM cannot be effective and sustainable. For the effective and sustainable solid waste management preparation of strategic plans and action plans is very essential. Most of the municipalities have been facing crucial problem in solid waste management due to lack of final disposal facilities. Similarly most of the municipalities haven't had any type of plane to develop the waste management facility. It means they have to need at least their SWM strategic long term plan and shot term action plan for solid waste management.

In order to provide safe, sustainable, and environmentally friendly solid waste management services at municipal level, proper SWM strategies ideally should be undertaken hierarchically. Thus, this assignment aims to develop implementable SWM long term strategic plans and short term action plans for municipalities which are listed in annex –I

2. Objectives of the Consultants Service:

The main objective of this assignment is to prepare solid waste management long term strategic plans and short term action plans in municipalities listed annex -I through participatory approach in coordination with concern municipalities and stakeholders.

The specific objectives of this project are:

- To identify the existing practices and problems of solid waste management in municipalities in listed annex-I
- To design strategic short, mid, long-term plan for the development of effective and sustainable solid waste management of selected municipalities in close coordination with concern municipality,
- To establish a sound and economically self-sustainable institutional framework within the municipalities to initiate, operate and supervise the solid waste management program,
- To identify the appropriate approach and technology for effective and sustainable SWM in said municipalities,
- To investigate the potential sources of revenue for the sustainability of SWM system,
- To study the prospects and constraints of private sector involvement in SWM,
- To incorporate continuous education and awareness campaigns to local people for sustainable SWM in municipalities,

3. Scope of works:

Based on above mentioned objective of the consultant's services, the detail scope of services will be as follows:

- Review previous reports on solid waste management, implementation activities, including the economic situation, legal framework, social conditions, etc of municipalities listed annex-I
- Review the different Acts and Regulations including Local Self Governance Act, 2055 and Local Self Governance Regulations, 2056, Solid Waste Management Act, 2068, Environment Protection Act, 2053 and Environment Protection Regulation, 2054, Solid Waste Management National Policy, 2053, and others SWM related existing laws, policies, plans and strategies,
- Carry out the field survey for waste composition and study including conduct the meetings and discussions with various stakeholder including concern municipalities, public and private institutions, NGOs, local people to identify existing SWM related problems and possible solutions. The consultation goal is to

develop a strategy that is supported by the community and takes their concerns, ideas and feedback into account.

- Carry out inventory survey of socioeconomic and environmental conditions, and identify the existing infrastructures and service centers that generate the waste within the municipality area of municipalities listed annex-I,
- Analysis includes, but not limited to, the municipalities, waste collection systems, waste reduction, reuse and recycling facilities, appropriate solid waste management technologies and landfill sites etc,
- Identify the key stakeholders including individuals, public, private institutions, NGOs/CBOs etc. currently active in the solid waste management area and describe the specific roles and responsibilities that each of these parties play in these areas and progress made so far,
- Assess the investment options from the private sector for waste management related infrastructure activities,
- Develop solid waste management long term strategic plans and short term action plans in municipalities listed annex -I through participatory approach in coordination with concern municipalities and stakeholders.
- In developing the solid waste management long term strategic plans and short term action plans the consultant will undertake a review of all potential options for the solid waste management of Municipalities for the next 30 to 50 years. It will contain recommendations for future programs, policies, capital investments and other options, as well as the social, environmental and economic implications for the solid waste management of the said municipalities
- The potential options may be comprehensive review of any new and emerging source separation techniques, mechanical biological treatment and other waste treatment technologies, energy from waste, public/private partnerships, etc.
- SWM Strategic plans should be in line with national level planning documents

4. Team Composition and Staff Inputs (Person-Days):

It is estimated that approximately 612 person days (PD) of key personnel will be required for the consultant's services collectively. The team composition will include the followings.

SN	Designation	Basic Requirements	Input (man-months)
1	Team leader/ Solid Waste Management expert	Team Leader/SWM expert should hold at least masters degree in Civil/environmental engineering with 10 years general experience in planning, civil engineering and planning projects and at least 5 years experiences in solid waste management, sewage management and pollution control. Involving in developing SWM strategies and action plans, designing sanitary landfill site, conducting SWM baseline assessment, preparing and implementing technical and financial viable SWM approach including 3R principles (Reduce, Reuse, and	5

		Recycling) and various SWM technologies including composting, biogas, Reduced Derived Fuels (RDfs) etc. shall be needed. Experience in periodic Plan, master plan, environmental management plan, physical infrastructure development plan etc. will be beneficial.	
2	Environmental list	Environmentalist should hold the master degree in environmental management/engineering/science with 7 years' work experience in related field. Experiences on environmental issues including solid waste management, water, and air pollution due to solid waste will be necessary. Experiences in IEE, EIA of various projects including SWM projects will be beneficial.	4
3	Institutional development expert	Institutional development expert should have master's degree in management and public administration with 5 years work experience in related field.	3.5
4	Sociologist	At least master degree in sociology/anthropology with 5 years work experience in related field. Preparation of sectoral master plans of the infrastructure, periodic plan, master plan and annual plan including waste management of municipalities will be beneficial.	3
5	Financial analyst Economist	Financial analyst should hold master degree in economics/commerce/business administration with 5 years experiences in related field. Experiences in public private partnership SWM and environmental related project shall be essential.	3
6	Legal Expert	Legal expert should hold at least bachelor degree in Law with 5 years experiences in environmental law sector including municipal solid waste management.	2

5. Approach and Methodology:

The consultant will prepare the SWM strategic plans and SWM action plans in close consultation with concerned municipalities and SWMTSC. The team should comprise of a Team leader/SWM Expert -1, Environmentalist-1, institutional development expert -1,

sociologist-1, financial analyst-1, legal expert-1. The consultant should have also adequate number of supporting staffs to support the team during field as well as office work.

The consultant should present a detail methodology along with clear steps for this work during the submission of proposal. The time period for completion of work shall be four months.

Overall, developing SWM strategic plan requires comprehensive data on present and anticipated waste situations, supportive policy frameworks, knowledge and capacity to develop plans/systems, proper use of environmentally and technically sound technologies, and appropriate financial situation to support its implementation.

6. Period of performance

The entire consultancy service is expected to be accomplished within 6 months from the date of signing of agreement. The consulting firm is required to develop the work schedule reflecting the tasks of each of the study experts/members to meet the target

7. Outputs and Deliverables:

Various reports related to the SWM strategic planning of municipalities listed annex -I shall be prepared by the Consultant and submitted to SWMTSC for review and approval. The various reports related to the SWM strategic planning of municipalities in annex-I separately (one report for each municipality) shall be submitted to SWMTSC according to the following schedule.

Inception Report	- 3 copies, no later than 1 month after signing the agreement
Draft Report	-3 copies, no later than 4 months after signing the agreement
Final report	-5 copies and electronic copy of each municipality within 15 days from the receipt of comments on Draft Report from the client

7.1 Contents

The contents of the various reports shall be as described below.

- **Inception Report**

The inception report includes the preparatory work such as collection and review of relevant documents, literatures, maps, photographs and preparation of checklists for the detailed field study prior to mobilize for field study.

The inception report shall be the outline of the final report. This report will help the consultants to go forward with scheduled time to achieve final goals. It should also contain the general methodology for further analysis, economic/financial analysis and scheduling of the project.

The Consultant shall submit revised inception report with finalized survey instruments and methodology incorporating the comments and suggestions from the Client, if any: Within 6 weeks from the date of signing agreement.

- **Draft Report**

The draft final report shall fully document all aspects of study. The consultant shall make a presentation of their findings of the study at concern municipalities and SWMTSC. The presentation shall help the consultant to collect feedback and comments on the submitted draft report.

The report should present following contents including the problem statement, background information, planning concept, technical and financial viability of projects etc.

A. Executive summary

B. Details of existing situation in concerned municipalities

- Socio-economic details (including urban and rural population, social and economic conditions of the people living in the municipalities),
- Physical infrastructure details in concern municipality,
- Religious / cultural details,
- Type of solid waste and composition of waste,
- Existing waste generation rate and volume,
- Waste management approach and technology,
 - Waste collection and segregation,
 - Transportation service and used equipments,
 - Use of 3R (Reduce, Reuse and Recycle) concept,
 - Final disposal/sanitary landfill site,
 - Awareness activities,
 - Private sector, community based organization involvement in solid waste management,
 - Potential options for the solid waste management
- Environmental situation,
 - Surface and groundwater pollution,
 - Air pollution,
 - Adverse effect on public health,
- Act, regulation related to solid waste management,
- Illustrations using the maps/ photographs whatever deemed necessary

C. Concept of strategic plans and action plans

- Critical review of existing strategy, policies, plan and regulation,
- Explaining the proposed land use and infrastructure planning concept,
- Explanations of sustainable solid waste management planning approach,
- Identification of short-term, mid-term and long-term action plans
- Recommendations on future policies

D. Implementation Plan

- Detail project implementation and investment Plan,
- Identification and allocation of probable resources including annual income and expenditure of the concerned municipality,
- Identification of responsible authorities (municipalities, government offices, private sector, community based organizations etc),
- Phase wise implementation plan,
- Preparation of project management and operation plan,
- Investigation of technical and financial viability of the project

E. Maps and Drawings (Minimum A3 sized of paper)

- Existing situation of physical infrastructure, service centers and settlements,
- Topographic map (Base map) showing the existing details,
- Existing land use map,
- Population density map of related municipalities,
- Proposed plans

F. Annexure

- Data, table, charts, photographs,
- Bibliography / References

• **Final Report**

On acceptance of the Draft Final Report, the Final Report shall be prepared. Comments and suggestion from concerned stakeholders on Draft Final Report should be incorporated in Final Report. A relevant comments and suggestions or rectification and suggestions are expected to incorporate. Hard copies and electronic copies of all reports, appendices, maps, drawings, records etc. are to be provided by the Consultant to SWMTSC.

8 General Requirement of Consultant's Services:

1. The consultant will perform the service to the satisfaction of SWMTSC and will provide all the requisite staffs, equipments, supplies, and logistic supports for the performance of the work,
2. During the service, the consultant will cooperate fully with SWMTSC and also work in close coordination and consultation with other stakeholders, and
3. The consultant shall always respect the interest of the client and shall carry out the services with due diligence and efficiency.

9 Mode of Payment:

The consultant shall be paid as per the following schedule.

- 20% after the submission and approval of inception report.
- 50% after the submission and approval of draft report.
- 30 % after the submission and approval of final report.

10 Facilities to be provided by the Client

SWMTSC will provide all relevant background information, including previous studies and reports, project documents, including project commitment paper and project operational manual as required. SWMTSC will also facilitate the consultant in obtaining relevant reports and data from municipalities, and in organizing stakeholder workshops. The consulting firm is required to manage all the arrangements with sufficient logistics, staff and infrastructure. No cost for such arrangements shall be borne by the Client.

11 Selection Method

The consulting firm shall be selected under Quality and Cost Based Selection (QCBS) methods set forth in Public Procurement Act, 2007 and Public Procurement Regulations, 2007. Maximum 6 firms shall be shortlisted based on the firm's qualification and experience and only to those shortlisted firms shall be requested to submit their technical and financial proposal.