

**REQUEST FOR PROPOSAL (RFP) FOR
CONDUCTING A PRELIMINARY FEASIBILITY
STUDY ON KIBANGA ORGANIC MANURE
PLANT (KOMP) AT DAR-ES-SALAAM AND THE
SURROUNDING TOWNSHIPS IN TANZANIA**

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EXECUTIVE SUMMARY

Introduction

Kibanga Vision Health Services Limited (KVHSL) is a private company registered in Tanzania since 2019. It now intends to implement Kibanga Organic Manure Plant Project (KOMP) Project. A Preliminary feasibility study on Kibanga Organic Manure Plant (KOMP) is required in order to assist KVHSL leadership to determine the best way to move forward.

Thus, the following Request for Proposals (RFP) from potential bidders is hereby floated to national and international audiences so as to attract a high-quality team for conducting the study. A softcopy of the said RFP is below appended.

Commencement and closure of tendering process

The tendering process under this RFP starts on 06 November 2021, when the tender document has been revealed to the public, to 12 November 2021 at 5.59PM.

Technical proposal

The bidders are required to prepare and submit a bid document that contains both a technical and financial proposals. A technical proposal should state what shall be done, when, where, how, and by who, with justification provided. The technical proposal should be accompanied with supporting evidence such as CVs for key experts, and samples of the works done in the past, under similar assignments.

Financial proposal

And a financial proposal should state the proposed project costs. The bidders with minimum bid price and high quality technical proposal shall be given a priority when the decision to award a contract is made.

Evaluation and feedback to bidders

After receiving bid documents fast evaluations will be conducted and all bidders will be provided with written feedback by 15 November 2021 before midnight. Contacts shown in bid documents shall be used.

Modes of Bid documents delivery

The Bid documents can be submitted manually or electronically. Electronically, the bid documents should be submitted to **kvhsltd@gmail.com**. Physically, bid documents can be submitted at the following address: Kijitonyama Kiswani, Mtaa wa Bukoba, Block A, Plot No. 553, House No. KJ/AMA/938, P. O. Box 61360, DSM.

1. PREAMBLE

The name by which assignment will be identified is: “**Preliminary feasibility study on Kibanga Organic Manure Plant (KOMP) at Dar-es-salaam and the surrounding townships in Tanzania.**”

And the administrative authority responsible for sponsoring the study is **Kibanga Vision Health Services Limited (KVHSL)**.

KVHSL is a private company registered in Tanzania since 2019. Her mission is to promote public health by providing curative, preventive and environmental health services in Tanzania. It currently has two projects, namely, Kijitonyama Hospital Project and Kibanga Organic Manure Plant Project (KOMP) Project.

A Preliminary feasibility study on Kibanga Organic Manure Plant (KOMP) is required in order to assist KVHSL leadership to determine the best way to move forward. Thus, the following Request for Proposals (RFP) from potential bidders is hereby recommended for floating to national and international audiences so as to attract a high-quality team for conducting the study.

2. DETAILS TO THE ASSIGNMENT

2.1 Global background

A waste product, as opposed to a primary product, is defined as any gaseous, liquid, or solid substance which is generated by an economic activity as a byproduct which the holders discard because it is useless for them. It has economic, ecological, and social dimensions. Thus, solid waste management is a universal issue affecting every single person in the world.

Due to an increasing demographic growth, industrialization, urbanization and accumulation of economic wealth, the amounts of municipal solid wastes in developed and developing countries are rapidly growing at a faster pace than the growth rate of municipal solid waste (MSW) management services capacity.

Specifically, the world generate 2.01 billion tons¹ of municipal solid waste annually. Worldwide waste generated per person per day averages 0.74 kg but ranges widely from 0.11 to 4.54 kg per person per day. Globally most waste is currently dumped or disposed of in some form of a landfill. Around 37% of waste is disposed of in some form of a landfill, 8% of which is disposed of in sanitary landfill with collection for gas. Open dumping accounts for around 33% of waste, 19% is recovered to recycling and composting and 11% is incinerated for final disposal. It is estimated that 1.6 billion tons of Carbon dioxide (CO₂) equivalent greenhouse gas emissions were generated from solid waste treatment and disposal in 2016. This is about 5% of global emissions. Solid waste sector emissions are anticipated to increase to 2.6 billion tons of CO₂ equivalent by 2050 if no improvement is made in sector.¹

¹ 2018 - World Bank Report (2018), “What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050”

The list of top 15 waste generating countries of the world and their annual waste generation in tons for the year 2016 is as follows: India (277,136,133); United states (263,726,732); China (220,402,706); Brazil (79,081,401); Indonesia (65,200,000); Russia (59,585,899); Mexico (54,151,287); Germany (51,410,863); Japan (44,374,189); Nigeria (34,572,968); France (32,544,914); United Kingdom (32,037,871); Turkey (31,983,941); Pakistan (30,352,951); and Canada (25,666,127).²

This huge volume of waste reflects seriousness of the issue. For this purpose, national governments are always forced to formulate effective and efficient MSW Management systems and practices in order to alleviate the situation.

Against this situation, various methods of waste management waste have emerged. They include waste minimization at the source; waste recycling; waste treatment which includes composting, incineration, pyrolysis and combustion; and waste disposal to sanitary landfills. Often, these methods are implemented through a public-private partnership (PPP) framework.

2.2 Assignment justification

In Tanzania, MSW management services fall within the mandate of Local Government Authorities (LGAs), councils, municipals, and cities. Currently the performance of the MSW management system is below average.

On average, less than 50% of the waste is being collected while 3% is disposed through open burning and 30% by burying while 17% is haphazardly disposed into the environment.

Recycling of MSW, which is largely informal, is about 5-10% of the total MSW generated and primarily involves plastics, paper, scrap metal, aluminium cans and glass.

There is substantial amount of organic municipal solid waste since the organic fraction ranges from 50-70% with less than 2-5% being currently composted. Municipal organic waste available for composting amounts to 3-4 million tons per year.

More than 90% of MSW in Tanzania is disposed in an unsatisfactory manner. Most of the MSW generated is disposed of in open and poorly operated dumpsites across the country, with exception of a few municipalities having improved landfills.

Thus, the effectiveness of the MSW management system in Tanzania is generally below average with respect to waste collection, recycling, composting and disposal. This performance level has a negative impact on the implementation of SDGs agenda, the Tanzania's Development Vision 2025, and the nation's Development Plans, especially, the Third Five Years Development Plan (FYDP III) running from 2021 to 2026.

In Dar es Salaam city, about 40% of the total generated MSW is currently transferred to the Pugu Kinyamwezi landfill, located in the periphery of Dar es Salaam. This is the city's only sanitary landfill. This MSW management practice has two main problems.

² Ibid.

On one hand, there is an exponentially growing need for landfill space. It is projected that by 2030 the urban areas in the country will generate about 26 million tons of waste annually. To accommodate this amount of waste, about 10.6×10^7 cubic meter of landfill space is required and in terms of area it would be approximately 200 hectares of land per year. This necessitates the need for diverting recyclable and compostable fractions of MSW to minimize the remaining amount of MSW that requires disposal.

On the other hand, despite the landfill construction standards in place, disposed products often degrade and produce landfill gases which increase air, water and soil pollution. These realities have led to an exponentially growing environmental risk index (ERI) in the city. For an index whose values span the zero to one range, ERI stood at 0.56 in 2018. This figure must be halted or reversed if the Dar es Salaam city is to be habitable and a friend of humanity.

The higher the waste diversion rate through reuse, the more waste that is diverted from landfill. Thus, once again, this evidence shows that, there is a need for diverting wastes from reaching landfills.

Specifically, preventing waste from reaching landfill through composting benefits our health and the environment, at least in six ways.

Composting conserves landfill space by reducing our overall waste being sent to landfills, as it gets diverted to an ecosystem, hence, delaying the need for new landfill spaces. It decreases the emissions of greenhouse gases called methane and carbon dioxide by keeping organic materials out of landfills. Methane gas is produced when vegetation decomposes in a landfill.

Compost naturally enriches soil and promotes healthy plant growth by providing a better and natural alternative to chemical fertilizers for enhancing topsoil, that improves soil structure and texture. This makes it more ideal for plant growth by adding organic matter, where, higher percentages of organic matter allows soil to better retain water, nutrients, and air, hence benefiting the entire ecosystem by creating an optimal environment for plants, and by reducing runoff and erosion.

Composting reduces the need for pesticides and synthetic fertilizers because plants grown in compost-rich soil tend to be more resilient to diseases, pests, and fungi. It recycles essential nutrients back into the soil by returning to soil important vitamins and minerals that are taken up by the next round of crops grown on the land. And it promotes a prolific soil ecosystem by attracting critters and microorganisms that are good for soil and plants.

In light of these comparative benefits and the escalating ERI in Dar es Salaam, KVHSL intends to support the above stated development agendas and plans, by constructing and operating Kibanga Organic Manure Plant. The original plan is to implement this project under a public private partnership framework. To this end, it seeks to acquire the service of an individual consultant or a consultancy firm to develop a feasibility study on Kibanga Organic Manure Plant in Dar-es-Salaam, and the surrounding townships in Tanzania.

This study will analyse, assess and redesign the MSW Management network in Dar es Salaam and Pwani toward an optimized MSW supply chain. To this end, waste generation, composition, current primary and secondary waste collection operations, a financial analysis of the operations, and the review of institutional and regulatory arrangement will be addressed.

3. WORK SCOPE, OBJECTIVES, DELIVERABLES AND GEOGRAPHICAL SCOPE

3.1 Work Scope

The study shall cover all aspects pertaining to technical, financial, economic, social, regulatory sustainability of a proposed composting plant within the context of an optimized MSW Management system in Dar es Salaam and Pwani regions, where, the composting plant is a part of the government's holistic MSW management solutions towards the ultimate goal of "Zero Waste Tanzania" in the long-term.

The study will cover six Local Government Authorities (LGAs), namely: Temeke Municipality, Kigamboni Municipality, Ilala Municipality, Kinondoni Municipality, Ubungo Municipality and Kibaha Town Council.

3.2 Study Objectives

The main objective of this assignment is to analyse, assess and redesign the MSW Management network in Dar es Salaam and Pwani toward an optimized MSW supply chain which is supported by long term strategic plans and short-term action plans and participatory approach in coordination with concerned stakeholders. Specific objectives are:

- Assessment of the institutional framework and regulations concerning Solid Waste Management and its connection to Waste to Fertilizer options.
- Provisional assessment and identification of potential sites in terms of suitability of construction, waste composition, infrastructure, and operation of small-scale Waste to Fertilizer options.
- Assessment and description of the existing environmental setting of the proposed sites.
- Rapid assessment of existing waste flows and capacity of waste (such as, but not limited to waste composition and characteristics, waste quantities, calorific value) as well as consideration of potential flows to ensure sustainability (consideration of socio-economic and regulatory aspects in-country).
- Document the present MSW performance states by using key solid waste management indicators.
- Assessment of any proposed construction.
- Evaluation of initial CAPEX (capital expenses) and assessment of estimated OPEX (operating expenses).
- Development of the business case/model for the respective pilot plant to include but not limited to market analysis, energy demand, stable waste supply, etc.
- Assessment of the optimal institutional/management arrangements for the management and operation of the Waste to Fertilizer solution. In assessing the institutional/management arrangements, an assessment of potential, scale of and environment for engagement of

private sector should be examined (country experience in private-public partnerships, level of investment in waste/energy/environmental solutions, etc.)

- Assessment of socio-economic impacts of different Waste to Fertilizer solutions (e.g. potential direct or indirect livelihoods opportunities generated for women and men, etc.)
- Assessment of financial implication of different Waste to Fertilizer solutions (e.g. return on investment)
- Develop a cost effective and economically sustainable integrated approach towards MSW Management plan with a focus on the composting segment for each of the 6 Local Government Authorities (LGAs) separately based on the aspiration for achieving zero waste Tanzania in the long term.
- Explore and evaluate all possible options of each segment of MSW management cycle, with a focus on the composting segment, and recommend most suitable solutions as per actual ground realities, waste volumes and composition of each city.
- Develop viable financial and institutional models of each stage of MSW management cycle, with a focus on the composting segment, for each LGA included in the study.
- Conduct waste generation and characterization study in order to estimate the quality and quantity of MSW for each LGA.
- Develop a costed prefeasibility model that includes different scenarios and those that can be covered under the project's current cycle, including small infra-structures, land needed, micro-loan and credit facility, and capacity building of communities, local and national authorities.

3.3 Tasks for realizing the objectives

Accordingly, the scope of work for the current study will include following tasks:

(a) Study of background and gathering base-line data by doing the following: (i) Review previous studies, reports and plans, institutional framework of solid waste management of these study cities and assess demographic, economic, legal and social frameworks of existing systems. (ii) Study on ground situations of all cities including demographic, social, income levels, consumption pattern, street lengths, infrastructure support or gaps, commercial areas, public places with specific reference to solid waste generation and its management. (iii) To conduct waste generation study and its projections up to 2050 by assumption and relying on results of study. (iv) To conduct waste composition analysis to explore waste composition as of today and give its realistic projections up to 2050 keeping in view future consumption patterns. (v) Carry out the field surveys and studies for waste composition and conduct meetings and discussions with various stakeholder including relevant Waste management companies, municipalities, public and private institutions, NGOs, local people to identify existing SWM related problems and possible solutions; where, the consultation goal is to develop a MSW management strategy that is supported by the community and takes their concerns, ideas and feedback into account.

(b) Study of current waste collection practices and recommend most suitable option for waste collection with respect to: (i) Door to door collection (ii) Street sweeping and waste collection. (iii) Manual sweeping vs mechanical sweeping (iv) Promoting organic and inorganic sorting at source at household levels and collection of sorted waste at source. (v) Using colored bins for separate waste streams. Evaluate its economic and technical viability and cost effectiveness. (vi)

Equipment required for primary collection. Add Design and specifications along with diagram in recommendations. (vii) Development strategy for waste collection from narrow streets. 2.1.8 Development strategy for waste collection from wide streets. (viii) Develop a cost comparison of different model options. (ix) Submit short term, medium term and long term action plans for this segment.

(c) Study of current waste storage practices and recommend most suitable city-specific options for waste storage: (i) Study current waste storage mechanism, evaluate them socially, financially, economically and technically and propose best suitable mechanism keeping in view all technical, social, economic and financial options. (ii) Waste storage requirements in the form of Bins and containers as per available space along with routes for lifting, access of households and capacity of storage equipment. This requirement will be different for narrow and wide street areas. (iii) Monitoring of containers through chip-based sensors. (iv) Develop a cost comparison of different model options. (v) Submit short term, medium term and long term action plans for this segment.

(d) Study of current waste transportation practices and recommend most suitable option for waste transportation along with operations and maintenance plan with a focus on: (i) Available and recommended vehicles along with types, capacity and detailed specifications. (ii) Economical Routes with distance and complete, where, route plan. (iii) Cost effective measures for waste transportation (iv) Possibilities of Mini transfer stations for cost effectiveness (v) Efficient Maintenance of containers and vehicles. Analysis of existing repair and maintenance mechanism for solid waste management fleet, gaps identification and new working model for vehicle Repair and Operations will be proposed. (vi) Efficient management of petroleum, oil and lubrication (POL) consumptions (vii) IT based monitoring of vehicles movement (viii) Develop a cost comparison of different model options. (ix) Submit short term, medium term and long term action plans for this segment.

(e) Evaluate and recommend need of cost-effective transfer stations along with preliminary design options and cost with a focus on: (i) Requirement of Transfer stations – its need, potentials, cost effectiveness, design, economic life, economic impact. (ii) Number of transfer station, availability of space, permanent structure/ temporary structure. Detailed designs, equipment required with estimated cost. (iii) Develop a cost comparison of different model options. (iv) Submit short term, medium term and long-term action plans for this segment.

(f) Study of current waste sorting practices and recommend most suitable option for waste sorting with a focus on: (i) Study of current practices (ii) Evaluate technically, economically and socially at source waste sorting options. (iii) Evaluate technically, economically and socially waste Sorting at intermediate places i.e. transfer station. (iv) Evaluate Sorting options at dumpsite / landfill site (v) Identify Role of scavengers, evaluate it and propose multiple options for their legal role in sector (vi) Role of private sector to be studied and propose recommendations (vii) Options to formalize the role of scavengers. (viii) Calculate Economics of waste sorting (ix) Submit short term, medium term and long term action plans with recommended options for waste sorting and segregation.

(g) Study of current waste dumping practices and recommend most suitable option for waste dumping with a focus on: (i) Current dumping site analysis. (ii) Explore Need for development of Landfill facilities (iii) Explore cost effective options of regional landfill sites with specific reference to each city included in the study as per best practices in East Asian Countries. (iv) Mechanical and biological treatment facilities (MBT) (v) Submit recommendation along with tentative cost estimate.

(h) Study of current waste recycling practices and recommend most suitable option for waste recycling processing of different waste streams with a focus on: (i) Separate waste streams quantification (ii) Processing possibilities (iii) Value chain analysis of each waste stream (iv) Value addition possibilities of each waste stream (v) Plastic recycling – potentials, identifying & linkages with processing institutions & potential markets – Outsourcing options to private sector (vi) Paper and cardboard recycling - potentials, identifying & linkages with processing institutions & potential markets - outsourcing options. role of private sector (vii) Formalizing role of scavengers – possibilities and options for converting informal sector to formal sector (viii) Composting from organic waste – potential, nutritious values, legal framework, Branding, Marketing, Outsourcing options (ix) Processing of **Construction and Demolition** waste (x) Methane recovery (xi) **Refuse Derived Fuel** and possible options (xii) Waste to energy or other options for alternate energy with costing and calculated rate of return in environment friendly manner. (xiii) Carbon trading / emissions trading options, Interaction with Carbon Markets. (xiv) Pyrolysis options for bio-fuel or diesel generation from plastic (xv) Calculating rate of return on each investment (xvi) Exploring possibilities of Donors investments (xvii) Analysis of tipping fee.

(i) Conduct of all environmental and social impact assessments and formulate effective policy/recommendations.

(j) Study of all financial and economic aspects and devise effective policy measures with a focus on: (i) Overall costs of recommended options (ii) Economic analysis of investments required in each stage of waste cycle & analyzing rate of return. (iii) Assess the investment options from the private sector for waste management related infrastructure activities (iv) Explore Opportunities and Challenges of Private Sector Involvement specially outsourcing of solid waste management Function (v) Evaluate different options under all above listed tasks on the basis of economic rate of return. (i) Finalize most suitable option which may have higher rate of return. (vi) Complete comprehensive business model for sustainability. (vii) Legal framework for recovery and cost recovery mechanism.

(k) Summarize the complete MSW management cycle model for each LGA developed under holistic solution approach and proposed institutional arrangements with a focus on composting projects.

(l) Study of all legal aspects and recommend most effective policy measures and devise SWM Legal Framework with a focus on the following: (i) Study the different Acts and Regulations including Environment Protection Act, Environment Protection Regulation, Solid Waste Management National Policy, and others SWM related existing laws, by-laws, rules and regulations, policies, plans and strategies and propose recommendations for amendments and improvements to make them more effective. (i) Study legal aspects of all proposed solutions under

prevailing laws, rules and regulations and propose amendments if needed to strengthen legal framework (i) Evaluate Legal Environment for Private Sector Participation in waste management processes. (i) Develop SWM Legal Framework for the areas under study.

(m) Formulate Draft SWM Management Master Plan with a focus on the following: (i) Develop Strategy including current situation, identify future goals, and outline a detailed plan of action to advance the solid waste management sector in the region. (ii) Sets targets for the waste sector about composting, recycling, financial sustainability, citizen awareness, promotion of a green economy, reduction of greenhouse gases, rehabilitation of contaminated sites, etc. (iii) Recommend 5-10 years SWM Master Plan including cost impacts, with a focus on composting.

3.4 Key deliverables

The consultant will submit a combined report for all LGAs while separate reports for each city will also be submitted as progress reports. Additionally, two separate progress reports, one on Legal and Institutional Framework for MSW Management and another on Environmental and Social Impact Assessment (ESIA) are required. Specifically, the following deliverables, with percentage of allocated payment portion indicated in brackets, apply:

- (a) Inception report;
- (b) Project Description focusing on Needs Analysis, Problem Statement and Justification;
- (c) Review of international experience in comparable MSW composting sector;
- (d) Stakeholder Engagement, Site Analysis, Environmental and Social Impact Assessment (ESIA) in Kibaha District Council, around the proposed plant site;
- (e) MSW Governance network analysis, evaluation and redesign for optimal composting in Kibaha Town Council;
- (f) MSW Governance network analysis, evaluation and redesign for optimal composting in Kigamboni Municipality;
- (g) MSW Governance network analysis, evaluation and redesign for optimal composting in Ubungu Municipality;
- (h) MSW Governance network analysis, evaluation and redesign for optimal composting in Ilala Municipality;
- (i) MSW Governance network analysis, evaluation and redesign for optimal composting in Kinondoni Municipality;
- (j) MSW Governance network analysis, evaluation and redesign for optimal composting in Temeke Municipality;
- (k) Legal and Institutional Framework governing MSW Management in Tanzania;
- (l) Financial, commercial, technical and economic analysis of a typical composting project; and
- (m) Final consolidated prefeasibility report.

The deliverables will be considered accepted and cleared after their effective delivery to the designated Project Manager, unless there is a dissenting opinion expressed by the latter. The prefeasibility study contractor will be working in close coordination with the relevant the designated Project Manager as appointed by KVHSL, representatives from the host government and other key project stakeholders.

3.5 Geographical project location and time scope

The total length of the service is to be implemented over a period ranging from one to three months. The geographic scope of the study includes all five districts in Dar es Salaam region and one district in Pwani Region.

The Dar es Salaam City covers an area of 1393 km² and is divided into five administrative districts: Ilala, Kinondoni, Temeke, Ubungo, and Kigamboni. Generally, Dar es Salaam region has five districts, 12 divisions, 102 wards, 562 streets, a population of 5,781,557 persons and 1,156,311 households having an average of 5 persons each. The matrix below summarizes the administrative units and the related population.

Table 1.0: Administrative Units and Population in Dar es Salaam Region

No.	District	Area (m ²)	Divisions	Wards	Streets	Constituencies	Population		
							2012 census	2016 estimates	2017 estimates
1.	Ilala	208	3	36	159	3	1,220,611	1,528,489	1,616,901
2.	Kigamboni	444	3	9	67	1	162,932	204,029	215,830
3.	Kinondoni	321	2	20	106	2	929,681	1,164,177	1,231,516
4.	Temeke	240	2	23	142	2	1,205,949	1,510,129	1,597,479
5.	Ubungo	210	2	14	91	2	845,368	1,058,597	1,119,830
	TOTAL	1,423	12	102	565	10	4,364,541	5,465,420	5,781,557

Sources: NBS (2017a)³ and CCM(2018)⁴

The composting facility, to be installed at Kibaha in Pwani region, will receive organic wastes from sorting centers erected in Dar es Salaam, where, the transportation function from sorting centers to the composting site shall be done at times of the day when traffic density is low enough to allow effective and efficient operations.

4. STUDY METHODOLOGY

4.1 Study population and sampling

Taking into consideration the project context, the study team is expected to come up with a detailed study methodology that will document the study population, study sample, sampling technique used and data analysis plan.

4.2 Data collection methods

³ National Bureau Of Statistics (2017a), Sub-Divisional Population Projection for Year 2016/17 based on 2012 Population and Housing Census available at www.NationalBureauofStatistics.go.tz

⁴ Taarifa ya Mafanikio ya Serikali ya Awamu ya Tano katika Utekelezaji wa Ilani ya CCM, 2016-18, uk. 6. (Success stories under the fifth term government related to the implementation of the CCM Manifesto from 2016 to 2018, p.6).

The following data collection methods may be given due consideration while designing the research methodology: desk review: secondary data collection that will involve review of relevant documents; surveys; focused discussion groups; interviews; and physical observations.

4.3 Data analysis tools

The consultant should propose appropriate tools for data analysis, evaluation and reporting.

4.4 General study questions

Accordingly, the feasibility study report, should provide answers to the following high level study questions: (1) What is the background of the project, in terms of its genesis, objectives, outputs, scope and justification? (2) Is the project economically feasible? (3) What are the environmental and social impacts of the proposed project? (4) Is the project commercially feasible? (5) Is the project technically feasible? (6) Is the project financially feasible and affordable? (7) What are the critical aspects that may directly or indirectly affect the project? (8) To what extent is the project legally feasible under PPP framework? (9) To what extent is the project legally feasible outside PPP framework? (10) What is the estimated costs of the future feasibility study, if any? (11) What risks have been identified and what is the relevant mitigation matrix? (12) What are the strengths, weaknesses, opportunities, and threats associated with key stakeholders? And (13) What is the action plan of the proposed project?

4.5 Study approach

The study will require considerable literature review, quantitative analysis as well as field visits, and interviews of local officials, citizens, private sector stakeholders and existing service providers. The contractor is expected to produce assessment reports and deliver presentations. As needed, the consultant may also advise the client on how best to implement specific recommendations of the study.

5. PROJECT WORK PLAN

The estimated time required to complete the study will be three (3) months with some activities being carried out simultaneously, while the other activities would be started after the completion of the preceding activities. The following general implementation plan applies, with percentage of allocated time indicated in brackets, apply:

- (a) Inception report (7%);
- (b) Project Description focusing on Needs Analysis, Problem Statement and Justification (10%);
- (c) Review of international experience in comparable MSW composting sector (7%);
- (d) Stakeholder Engagement, Site Analysis, Environmental and Social Impact Assessment (ESIA) in Kibaha District Council (7%);

- (e) MSW Governance network analysis, evaluation and redesign for optimal composting in Kibaha Town Council (7%);
- (f) MSW Governance network analysis, evaluation and redesign for optimal composting in Kigamboni (7%);
- (g) MSW Governance network analysis, evaluation and redesign for optimal composting in Ubungo (7%);
- (h) MSW Governance network analysis, evaluation and redesign for optimal composting in Ilala (7%);
- (i) MSW Governance network analysis, evaluation and redesign for optimal composting in Kinondoni (7%);
- (j) MSW Governance network analysis, evaluation and redesign for optimal composting in Temeke (7%);
- (k) Legal and Institutional Framework governing MSW Management in Tanzania (7%);
- (l) Financial, commercial, technical and economic analysis of a typical composting project (10%); and
- (m) Final consolidated prefeasibility report (10%).

6. MINIMUM CONSULTANCY REQUIREMENTS

6.1 Key attributes of the consultant

This Request for Proposal is open to individuals and corporate contractors. The consultant to be engaged for the purpose must have relevant exposure of solid waste management sector and have at least studied and provided solid waste management solution and prepared integrated solid waste management plans of one city at least.

The firm must have engaged services of some or all of the following experts; Team leader (Solid Waste Management Expert); Solid Waste Management Expert; Environmental Engineer; Civil Engineer; Mechanical Engineer; Institutional development expert; Waste Value Chain Expert; Waste to Energy Expert; Financial analyst; Economist; Legal Expert; and GIS Expert.

Specifically, a successful Contractor should constitute a team whose members demonstrate the following attributes:

- **Team leader (Solid Waste Management Expert):** Team Leader/SWM expert should hold at least master's degree in Civil/environmental engineering with 5 years general experience in planning, civil engineering and planning projects and at least 5 years experiences in solid waste management. 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 Recycling) and various SWM technologies including composting, biogas, Reduced Derived Fuels, etc. shall be needed. Experience in periodic Plan, master plan, environmental management plan, physical infrastructure development plan etc. will be beneficial.
- **Solid Waste Management Expert:** SWM expert should hold at least master's degree in Civil/environmental engineering with 5 years general experience in planning, civil

engineering and planning projects and at least 5 years experiences in solid waste management. SWM Expert will provide expert experience on SWM plan development Provide key input in SWM study on all aspects as per need by Team Lead

- **Environmental Engineer:** Environmentalist should hold the master degree in environmental management/engineering/science with 5 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 ESIA of various projects including SWM projects will be beneficial.
- **Civil Engineer:** Should hold at least master degree in civil engineering with 5 years experience of sanitary landfill site designing and solid waste management infrastructure development experience, master plan of city solid waste management experience,
- **Mechanical Engineer:** Should hold master degree in mechanical engineering with experience of SWM Detailed Engineering Surveys and Designs of various processing facilities like Composting unit with leachate collection system, waste to energy unit compaction/packaging Including civil, mechanical and electrical components of waste processing based on best international/national practice
- **Institutional development expert:** Institutional development expert should have master's degree in management and public administration with 5 years work experience in 04 related field
- **Waste Value Chain Expert:** Value Chain expert with 5 years relevant experience of value chain analysis of different waste streams right from origin till final product.
- **Waste to Energy Expert:** Waste to energy expert with 5 years relevant experience of planning, designing and implementing waste to energy projects
- **Financial analyst:** 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.
- **Economist:** Economist with 5 years' experience in economic evaluation of different options of solid waste sector
- **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.
- **GIS Expert:** GIS Specialist should hold at least Master's degree in GIS/Spatial Science with 5 years' experience in mapping, analysis and databases of municipal services or municipal solid waste management.

6.2 General competencies

Furthermore, the study team must meet the following competence requirements:

- Appreciation for and understanding of MSW management Projects.
- Strong ability and proven experience in presenting and communicating complex development issues to national and international audiences.
- Ability to synthesize and consolidate substantive comments and views of multiple stakeholders in a balanced and concise manner
- Integrated understanding of the functioning of cities and of sustainable development programs and practices that support and strengthen the role of cities

- Good interpersonal skills and ability to work effectively with internal/external partners in a multi-cultural environment

7.0 ORGANIZATION OF THE FEASIBILITY STUDY REPORT

7.1 Summarized report structure and content

The above stated high level study questions imply that the structure and content of the final feasibility report should be organized in terms of the following broad chapters: (1) Executive Summary; (2) Background; (3) Project Description; (4) Preliminary Technical Analysis; (5) Preliminary Economic Analysis; (6) Preliminary Commercial Analysis; (7) Preliminary Financial Analysis; (8) Environmental and Social Due Diligence; (9) Preliminary Legal Due Diligence; (10) Institutional Analysis; and (11) Recommendations on further steps.

7.2 Detailed report structure and content

7.2.1 General instructions

- (a) The Pre-Feasibility Study should assess the likely viability, fiscal affordability, and value for money of the project proposed by the Contracting Authority and advise whether the project should proceed to a Feasibility Study.
- (b) The Pre-Feasibility Study should identify specific issues that require detailed analysis through a Feasibility Study, if recommended.
- (c) The Pre-Feasibility Study must meet the requirements set out in the PPP Act 2010 (as amended in 2018) and PPP Regulations (2019).
- (d) The Pre-Feasibility Study should use material from the Project Concept Note with modifications and supplemented by deeper analysis.
- (e) The Pre-Feasibility Study should be concise and present the main findings and rationale for the findings. Indicative length of the main body is 50 to 100 pages. Detailed analysis can be presented in appendices, which may be packaged into a separate volume.

7.2.2 Structure and Content of Chapter 01: The Executive Summary

- Background
- Project Description
- Preliminary Technical Analysis
- Preliminary Economic Analysis
- Preliminary Commercial Analysis
- Preliminary Financial Analysis
- Social and Environmental Due Diligence
- Preliminary Legal Due Diligence
- Preliminary Institutional Analysis
- Preliminary Assessment of Likely Viability
- Statement of Compliance with the PPP Act and Regulations
- Next Steps

7.2.3 Structure and Content of chapter 02: Background

- Introduction to the CA covering its Mandate, Vision, Mission, Strategic Objectives etc.
- Project Context: Overview of the sector, planning and development context
- Problem Need and Problem Statement
- International Experience: Review of international experience in comparable PPPs within the sector with an emphasis on lesson and good practices.

7.2.4 Structure and Content of chapter 03: Project Description

- Project Scope
- Location: Site suitability and geographic location.
- Objective and Expected Output: Rationale for the project, setting out the problem the project will solve
- Beneficiaries: Identify who will receive the development benefits of the project, covering both users and other affected persons. Also identify any potentially adversely affected persons
- Needs Analysis: Define the problem the project will solve and present a solid business case for the project, demonstrating that the project aligns with the CA's strategic objectives
- Option Analysis: Evaluation of options for achieving the project objective and rational for choosing the preferred option, including reasons for selecting PPP approach.
- Project Administration and Institutional Capability: Assessment of the readiness of the CA and other agencies for delivering the project, demonstrating their commitment and capacity

7.2.5 Structure and Content of chapter 04: Preliminary Technical Analysis

- Technical Features
- Conceptual Design

Conclude this section with the findings on likely technical viability based on the analysis above and indicate additional analysis to be undertaken during a feasibility study.

7.2.6 Structure and Content of chapter 05: Preliminary Economic Analysis

- Sector Background: Describe the sector dynamics performance, identifying key trends that will positively or negatively impact the project. Show key economic variables impacting the sector (e.g., Gross Domestic Product, inflation, interest rates trends etc.
- Sector Analysis: Use SWOT analysis to identify the strengths, weaknesses, opportunities, and threats to the sector relevant to the project, and show how the project will improve sector performance
- Project Demand: Estimate and forecast demand for the project and its main components (e.g., using survey instruments to quantify results) with an outline of the methodology used
- Economic Benefits: Identify the gain in welfare from the project and its drivers, such as income generation or productivity improvements, with an outline of the methodology used

- **Economic Costs:** Present overall project cost and its components (e.g., capital, operations, maintenance) and adjustments made to derive economic costs conclude this section with the findings on likely economic viability based on the analysis above and indicate additional analysis to be undertaken during a feasibility study.

7.2.7 Structure and Content of chapter 06: Preliminary Commercial Analysis

- **Project Structure:** Presented expected structure inclusive of financing arrangements (e.g., debt/equity options)
- **Proposed PPP Model**
- **Risk Identification, Allocation and Mitigation:** Present and explain the project's risk matrix, inclusive of probability, impact, allocation, and mitigation measures
- **Output Specification:** Explain the services to be delivered (e.g., type, volume, and quality) and the key performance standards (with indicators) used to assess the performance of the private partner. The output specification applies to the operation and maintenance phase of the Project
- **Project Revenue:** Forecasts of expected revenue by main components
- **Payment Mechanism:** Schedule of user charges that will collected, initial level of charges and escalation factors, any payments by government for services delivered are set out and benchmarked against comparable projects or services.
- **Asset Handover**
- **Likely Market Appetite:** Present results of the preliminary market assessment, setting out expectations regarding the commercial profile of potential bidders (without identifying individual businesses) and financiers and their readiness to undertake the project

Conclude this section with the findings on likely commercial viability based on the analysis above and indicate additional analysis to be undertaken during a feasibility study.

7.2.8 Structure and Content of chapter 07: Preliminary Financial Analysis

- **Financial Viability:** Results of preliminary financial analysis should be presented, including model assumptions, costing, project revenue, projected Income Statement, Cash Flow and Balance Sheet, projected financial internal rate of return (FIRR), financial net present value (FNPV), payback period and Debt service cover ratios. Compared to market benchmarks, including for unit costs and financial parameters, presenting a rationale for the benchmarks
- **Sensitivity Testing**
- **Government Support (if any):** Identify the needs, if any, of government financial support, providing a time profile of direct and contingent liabilities. The financial support needs to be considered by the PPP Steering Committee and approved by the Minister of Finance
- **Affordability Assessment:** Provide a forward-looking assessment of affordability of the project to users and the government
- **Value for Money:** Present preliminary qualitative VFM analysis and quantitative VFN analysis based on a comparison of the PPP Model with the Risk adjusted PPP Reference Model (i.e., the public-sector comparator). If concrete data is not available at this stage, only indicate the qualitative assessment based on data available, a more in-depth analysis will be done during feasibility study.

Conclude this section with the findings on likely financial viability, fiscal affordability and value for money based on the analysis above and indicate additional analysis to be undertaken during a feasibility study.

7.2.9 Structure and Content of chapter 08: Environmental and Social Due Diligence

- Community Engagement: Present results of community engagement conducted in accordance with the Guideline for Community Engagement in PPPs
- Environmental Due Diligence: Identify all positive and negative environmental impacts, proposed mitigation measures and their related costs (for input to the economic project cost) and set out likely process for securing environmental approvals
- Social Due Diligence: Identify all positive and negative social impacts and resettlement (if any), proposed mitigation measures and their related costs (for input to the economic project cost), including those arising from land acquisition, resettlement, and livelihood protection, and set out progress in securing any related approvals (e.g., compensation) and unresolved matters.

Conclude this section with the findings on likely social and environmental viability based on the analysis above and indicate additional analysis to be undertaken during a feasibility study

7.2.10 Structure and Content of chapter 09: Preliminary Legal Due Diligence

- Legal Environment: Preliminary identification and analysis of the relevant legislation, legal obstacles, and risks, permits and approvals as well as the institutional framework. Some of legislation includes that relating to PPPs, procurement, foreign investment, property, labor, land use planning, the environment and sector specific legislation under which the projects fall.
- Project Readiness: Preliminary analysis of legal and regulatory capacity, legal requirements of the Project, and the readiness for the PPP from a legal perspective. The ownership of Project land and whether title deeds are held is explained. If these items are not available the process, cost and timelines involved in securing land and title deeds is explained.

Conclude this section with the findings on likely legal viability based on the analysis above and indicate additional analysis to be undertaken during a feasibility study.

7.2.11 Structure and Content of chapter 10: Institutional Analysis

- Stakeholders: Introduce the regulators, approval authorities and other key stakeholders relevant to the PPP.
- Roles and Responsibilities: Explain who is responsible for what, the existing arrangement between these stakeholders, and how the Project can cater to their needs.
- Stakeholder Readiness: Address readiness of both the CA and key stakeholders to undertake the project.

Conclude this section with key findings based on the analysis above and indicate additional analysis to be undertaken during a feasibility study.

7.2.12 Structure and Content of chapter 11: Recommendations on the next steps

- Critical Issues: Identify key issues that need to be addressed in a Feasibility Study
- Implementation Plan: Present key steps to be taken with timelines, through to technical and financial close, and planned operation date
- Procurement Plan: Outline the proposed PPP procurement and award process

7.2.13 Annex A: Project description

7.2.14 Annex B: Project conceptual design and costing

7.2.15 Annex C: Demand and willingness to pay analysis

7.2.16 Annex D: Community engagement

7.2.17 Annex E: Environmental due diligence

7.2.18 Annex F: Social due diligence

7.2.9 Annex G: Preliminary economic and financial models and findings

7.2.20 Annex H: Value-for-money analysis

7.2.21 Annex I: Fiscal analysis (as needed)

7.2.22 Annex J: Legal and regulatory due diligence

8.0 GENERAL CONDITIONS OF THE STUDY

The study shall have a clear approach, i.e., the methods and approaches shall lead to comparable data and the evaluation of background conditions and shall enable understanding of the similarities and differences among the cities and townships.

The outputs for each township shall be reported in the same format, for ready comparison of data and findings.

The process used for data generation and analysis shall be replicable, and simple spreadsheets for data management and analysis shall be developed.

Costing conducted during the study shall clearly outline all costing factors used in a manner which readily enables comparison of costs and updating, including unit prices, percentage increases for benefits and administrative overhead, consumption rates for consumables and unit prices, interest rates, insurances, duties, economic life, downtime, and productivity assumptions.

9.0 INSTRUCTION TO BIDDERS

9.1 Commencement and closure of tendering process

The tendering process under this RFP starts on 06 November 2021, when the tender document has been revealed to the public, to 12 November 2021 at 5.59PM.

9.2 Contents of bid documents

The bidders are required to prepare and submit a bid document that contains both a technical and financial proposals. A technical proposal should state what shall be done, when, where, how, and by who, with justification provided. The technical proposal should be accompanied with supporting evidence such as CVs for key experts, and samples of the works done in the past, under similar assignments. And a financial proposal should state the proposed project costs. The bidders with minimum bid price and high quality technical proposal shall be given a priority when the decision to award a contract is made.

9.3 Modes of Bid documents delivery

The Bid documents can be submitted manually or electronically. Electronically, the bid documents should be submitted to **kvhsLtd@gmail.com**. Physically, bid documents can be submitted at the following address: Kijitonyama Kiswani, Mtaa wa Bukoba, Block A, Plot No. 553, House No. KJ/AMA/938, P. O. Box 61360, DSM.

9.4 Evaluation and feedback to bidders

After receiving bid documents fast evaluations will be conducted and all bidders will be provided with written feedback by 15 November 2021 before midnight. Contacts shown in bid documents shall be used.

10. AUTHENTICATION

Prepared by: Deusdedith Jovin Kahangwa

Checked by: Dr. Pastory Bushozi Magayane

Approved by: Dr. Wilson Tilotwa Babyebonela.