

Terms of Reference

Short-Term Consultancy

Consultant for the Gathering of Data for Waste Analysis and Characterization Study

Position Title: Consultant for the Gathering Data for Waste Analysis and Characterization Study

Direct Supervisor/s: Russel James Andrade

Location: Iloilo City

Classification: Consultancy

Conditions: Engagement until 2nd week of November 2021

Working hours: Output-based

Starting Date: Earliest 1st week of October

Payment: fixed total cost, payment is according to project milestones, inclusive of applicable taxes and government mandates

1. ABOUT THE PROJECT

A [report](#) by Ocean Conservancy (2015) found out that over half of land-based plastic wastes in the oceans come from five countries in Asia and four of which are in Southeast Asia (SEA) -- Indonesia, the Philippines, Thailand, and Vietnam. Interestingly, these countries maintain a relatively low plastic consumption compared to other countries like the United States, Japan, and Korea. This suggests that weak enforcement of loose policies and inadequate infrastructure on waste management especially in large coastal cities contribute to the plastic waste leakage to oceans that threaten both the environment and human health. In addition, SEA countries also deal with plastic waste imports from the United States, Canada, Australia, and Europe.

This calls for rethinking the existing plastic waste management system and shifting towards a sustainable and scientific management system which is restorative and regenerative by design and also creates economic opportunities.

In this context, the Alliance to End Plastic Waste (AEPW), ICLEI South Asia, and Southeast Asia have entered into a partnership to implement the **"Alliance + ICLEI Developing Plastic Waste-Free Cities"** programme. The programme seeks to address the needs of urban local governments, which are primarily tasked with the daunting challenge of ensuring sustainable and scientific plastic waste management.

It is being implemented in 5 Asian Cities— including 3 cities in Southeast Asia namely Jambi City (Indonesia), Iloilo City (Philippines), and Iskandar (Malaysia). Through this initiative, ICLEI Southeast Asia will provide technical support to the cities in developing a plastic waste management plan and an implementation roadmap. ICLEI will also identify a specific financially viable and scientifically sound implementation project, which would subsequently be funded by

the Alliance to End Plastic Waste, based on final approval by AEPW. The overall objective is to identify and develop investment-ready potential projects which are consistent with the AEPW's goal of effective waste management infrastructure that helps in preventing leakage of plastic in the environment and promoting circular solutions.

2. OBJECTIVES

The consultancy's overall objective is to generate comprehensive data on the quantity and composition of solid wastes generated from various sources in Iloilo City, Philippines.

Specifically, this consultancy is intended to cover the following:

- A. Preparation and Training
 - i. Coordinate relevant government and non-government offices to properly administer the activities
 - ii. Finalize the identification and preparation of the following, in consultation with the Iloilo City LGU and ICLEI:
 - 1. Sampling locations based on the identified waste generators in the municipality (*See Annex A for the list of identified waste generators.*)
 - 2. Finalize sampling schedule and work plan
 - iii. Understand and enhance capacities on the standard operating procedures (SOP) and WACS methodology to be employed
 - iv. Prepare and acquire tools, materials, and other necessary resources
 - v. Identify laboratory facilities which can conduct physical and chemical characterization (*See Annex A for the list of parameters.*) for 5 samples of plastic waste
 - vi. Orient community stakeholders
- B. Conduct of on-ground characterization and quantification of wastes, particularly plastic wastes
 - i. Characterize and quantify wastes from different point sources
 - ii. Collect waste samples to be forwarded to a laboratory for chemical analysis
 - iii. Secure results of laboratory analysis
- C. Data Processing and Analysis
 - i. Consolidate and conduct post-processing of data
 - ii. Submit report containing results and analysis
- D. Produce detailed activity and financial report

3. DURATION AND LOCATION

The short-term consultancy shall start by **5 October 2020 (earliest)** and end by **10th November**

2021. The consultancy shall be done in Iloilo City with the guidance of ICLEI SEAS and in close coordination with the City Government of Iloilo.

VII. CONFIDENTIALITY

All data, documents, reports, and any purchased equipment shall be the property of ICLEI SEAS, and shall be turned over upon completion of the assignment. The consultant shall not pass on to any third party any data, documents, reports, or other materials prepared or obtained during the assignment and three (3) years thereafter.

VIII. QUALIFICATIONS

- A firm or local individual consultant is eligible to apply for this consultancy.
- Individual consultants must have at least a bachelor's degree in urban planning, development studies, urban planning, statistics, or other related fields. A Master's degree or further studies on the environment, waste management, urban planning, or sustainable development would be an advantage.
- Firms must be legal entities in the Philippines and are composed of individuals with a background as mentioned in the preceding bullet.
- The consultant should have a minimum of 5-years of work experience or research related to waste management. Preferably, prior experience in the conduct of Waste Analysis and Characterization, and engaging with local stakeholders (e.g., household, formal and informal waste pickers, recyclers, etc).
- The consultant must be knowledgeable with the Philippines' waste management scenario, policies, and programs;
- Excellent presentation as well as oral and written communication skills; and
- Familiarity with Microsoft Office applications and tools/software relevant to this project.
- Fluency in Ilonggo (preferred), Tagalog, and English languages.

IX. REPORTING

The consultant will report directly to Russel James Andrade, project focal for Iloilo City.

XI. APPLICATION

Interested individuals/firms are requested to apply before **28 September 2021** by sending the following documents to **Russel James Andrade** via email address russel.andrade@iclei.org.

- Expression of Interest and confirmation of availability for the consultancy's duration;

- Latest CV (if an individual); one-page company profile and CVs of team members (if firm);
- Written technical and financial proposal (methodology, budget, and work plan corresponding with the required deliverables);
- A two-page summary outlining relevant previous work engagements in relation to this consultancy. Previous work engagement must be supported with a proof, e.g. project agreement, certificate of completion, website or news article, or project report.

For any queries, please contact ICLEI SEAS via russel.andrade@iclei.org or through mobile number +63 917 623 2618.

ANNEX A

List of identified waste generators

- Residential
- Street Sweeping
- Commercial areas
- Malls
- Offices
- Public Markets
- Hotels
- Restaurants
- Religious Places
- Tourist spots
- Parks
- Bodies of water where waste leakage occurs
- Black spots
- Material Recovery Facilities
- Dumpsites

List of parameters for chemical analysis

Parameters for Physico-Chemical Characterization	
Moisture: In Situ and Gravimetric Measure	
Parameters for Chemical Characterization (Proximate)	
Moisture (drying at 105C for 1 hr)	
Volatile combustible matter (Ignition at 950C in the absence of oxygen)	
Fixed Carbon	
Ash (weight of residue after combustion in an open crucible)	
Parameters for Chemical Characterization (Ultimate)	
Carbon	

Hydrogen	
Oxygen	
Nitrogen	
Sulphur	
Ash	
Total Carbon Analysis	
Total Nitrogen (Kjeldahl method)	
Calorific Value (Bomb Calorimeter) kCal/kg	
C/N Ratio	
Phosphorus as P ₂ O ₅	
Potassium as K ₂ O	
Chlorides	
Bulk density gm/cc	