

Request for quotation for a study on the waste separate collection system and operational plan management

Project title: Bethlehem green city: towards a virtuous model of environmental sustainability

Donor: Italian Cooperation Agency

Project ID: AID 012314/01/4

Project summary: The project aim is to make the West Bank's solid urban waste system more efficient through waste sorting (separate collection system at source) and circular economy initiatives and specifically to strengthen the solid urban waste management system in the District of Bethlehem by launching a separate sorting system, increasing the awareness and capacity of local institutions and the JSC for Solid Waste Management, including through support to urban circular economy initiatives. The project is aimed at the Municipality of Bethlehem and the JSCSWM responsible for waste management in the area. In order to achieve the objectives, the project strategy is developed in four components: 1) The improvement of the skills of local institutions (Bethlehem and Jericho) and the JSCSWM, circular economy and the setting up of a separate collection system in the Governorate of Bethlehem; 2) The start-up of a waste storage, treatment and recycling system through the creation of an Eco-center in the Governorate of Bethlehem; 3) Increasing the local community's awareness of environmental sustainability linked to the production of waste; 4) The activation of a circular urban economy process through the launch of a market analysis, development of a business plan, training and activation of circular urban economy start-up.

Background

In response to rapid global urbanization and industrialization, the amount and variety of generated solid waste is continuously increasing, and the disposal of the generated wastes is regarded as an urgent need for societies. There is no doubt that improper management of solid waste is a critical issue, especially given that the waste causes several public health and environmental problems.

Recycling can provide a partial solution to the increasing amount of the waste generated by communities. Moreover, it has many environmental and economic benefits; it can improve the overall situation of the solid waste management by reducing the quantities of waste and the amount of waste transferred to sanitary landfills which result in the decrease of the gas emission and leachate generation in the disposal location, which will contribute to enhancing the public health of the communities.

Waste composition data in Palestine is very limited. The main composition of municipal waste is organic (about 50%), followed by plastic (17% in average) in progression and paper/cardboard (11%) (cesvi, 2019). Despite this large portion of biodegradables and recyclables, the recovery of materials and recycling in Palestine is practiced at a very small scale. Only 3% of the generated solid waste is collected for reuse, among which about 1% is recycled. Moreover, the recycled materials are hard plastics, cardboard, and organic waste.

The Joint Service Council for Solid Waste Management (JSC-SWM) of Bethlehem was established in 2005 and is responsible for the collection, transfer, and disposal of the solid waste of all 36 LGUs in Bethlehem Governorate serving around 230,000 inhabitants. The daily quantity of collected solid waste in Bethlehem governorate is estimated by 200 ton/day.

In this study, an analysis of the operations, costs and benefits related to the enhancement and/or establishment of a separated waste collection system is intended.

Waste generation and characterization are among the most important factors to consider when selecting the most appropriate collection method, treatment technology, and final disposal. Countries in the process of urbanization experience increasing population and lifestyle changes under the impact of massive immigration from rural to urban zones and higher income, which leads to considerable increase in urban waste generation. This situation causes a great burden at landfills, especially in big urban areas with very limited landfill disposal sites.

Through the project Bethlehem Green City: towards a virtuous model of environment sustainability funded by the Italian Cooperation Agency, the separate waste collection system of the Bethlehem area will be established/improved. The present study, coupled with a comprehensive analysis of the waste composition in the target area, will inform the piloting and establishment of a separate waste collection system.

Objective

Conduction of a study on the waste collection system of the area of Bethlehem focusing on the potential costs and benefits generated by the establishment of a separate collection, recycling, processing system and on the revenues from the sale of recycled material.

The study will have to include the following elements:

- Operation assessment and collection efficiency of waste collection system in the Bethlehem area, based on data and information on practices currently in place, operations and stakeholders involved, both formal and informal (ex. informal pickers).
- Mapping of all relevant stakeholders involved in the production, collection and processing of waste in the area of Bethlehem Governorate. Regarding waste producers, particular attention will be given to private businesses (ex. restaurants, hotels, etc.) and public actors (ex. municipality and governorate premises, hospitals, etc.) which will represent the target of the piloting phase of the separate waste collection system.
- Identification of needs and gaps for the establishment and implementation of a separate waste collection system in terms of equipment, infrastructures, expertise, financial resources and logistic capacities.
- Cost modelling and scenario for the establishing and running of a separate waste collection system and the processing of the selected materials taking into account investments and running costs and potential revenues from the sale of recycled material.
- Options and criteria for the adoption of a tariff system towards the establishment of a self-sustainable separate waste collection system in line with PA national legislation.
- Identification of the most cost-effective operational solutions for the establishment of a separate waste collection system.
- Additional information/gaps regarding materials/types of waste to be collected separately and/or potential solutions for processing and recycling additional materials.
- Formulation of a management plan for separate waste collection to be piloted in Bethlehem, specifically aimed at economic targets (hotels, schools, hospitals, businesses)

Scope of Work

The study will be conducted in the area of the Bethlehem governorate, West Bank. As part of the project partner's network, the JSCWM and the Bethlehem Municipality will support the consultant in particular providing data and information on the waste collection system in place, including

economic and financial cost and revenues information. The study will be conducted in parallel with a waste composition analysis and will have to take into account its main findings and indications. The study will provide indications to the project partners and stakeholders for the establishment of a cost-effective separate waste collection system, and will be used to inform the development and further implementation of the project strategy. During the piloting phase the separate waste collection system will aim schools, public offices, hospitals and private business (ex. restaurants, shops, hotels) only. The study will need to focus on the establishment and implementation of a separate waste collection system targeting these categories of players in the Bethlehem Governorate.

The consultant will have to conduct the study using a participatory approach, involving all relevant stakeholders. The approach and methodology to be adopted will be submitted to FGPII and JSCWM for approval before the implementation.

During the conduction of the study the consultant will have to regularly report on the progress realized to the JSC and the project coordinator in Palestine.

Expected outputs and deliverables

1 study on the waste separate collection system and operational plan management, including a proposal for a tariffs system and a management plan for separate waste collection to be piloted in the Bethlehem Governorate.

Duration of work

The duration of the contract is 4 months, starting from the signature of the contract, including 1 or 2 field missions to Palestine for a total of 10 days. There might be however a period needed for review of deliverables which will be agreed upon with the consultant.

Requirements for experience and qualification

I. Academic Qualifications:

Degree (pre '99) or Master in Environmental Engineering or Environmental Sciences or equivalent or architecture.

II. Years of experience:

Minimum 7 years of relevant professional experience

III. Technical experience:

- Experience in Environment and Solid Waste Management is required
- Experience in separate waste collection system is required
- Experience treatment of Solid Waste will also be evaluated as an added value
- Knowledge of Palestine, West Bank and Bethlehem context is an advantage
- Previous experience on international environmental issues projects is an advantage
- Knowledge of Middle East and Palestine is an advantage

IV. Competencies:

- Dynamic individual with excellent interpersonal and technical skills
- Work autonomy and capacity to initiate actions in a pro-active way
- Capacity for rapid and clear analysis
- Advanced knowledge of English
- Knowledge of Arabic is a plus
- Excellent communication skills and must be flexible in approach