



DRAFT TANZANIA STANDARD

TITLE: SOLID WASTE MANAGEMENT- NON-HAZARDOUS WASTE

FOR STAKEHOLDER'S COMMENTS ONLY

0 Foreword

0.1 Solid waste from house holds, Industrial units, commercial establishments and landfills are significant source of environmental pollution. The problem of solid waste is compounded by the fact that the pollutants are discharged at ground level which is in close proximity to the habitat zones of people.

Improper discharge of solid waste contribute significantly to accumulation of items we use and then throw it away in our daily life such as product packaging,grass clippings,furnitures,clothing, bottles, food craps, newspapers,appliances, paint and battery. At sufficiently high concentration, these items can cause health problems as well as degrading the environment and quality of life. In particular, organic domestic waste poses a serious threat,since they ferment creating condition favourable to survival and growth of microbial pathogens which may result to infectious and chronic diseases.

With increasingly growing of solid waste generation, it is therefore imperative to have a stringent programme to control the discharge of solid waste in municipal to ensure ambient environment remains healthy.

0.2 In preparation of this Tanzania standard, considerable assistance was derived from the following sources:

IS 16557:2016: Solid waste management – Segregation, collection and utilization at household/community levels –Guidelines.

1 Scope

This Tanzania standard prescribes requirements to non hazardous - solid waste discharge from homes, institutions, industries and bussiness areas. It covers all stages from generation, segregation, collection, transportation, recycling and disposal.

2. Normative References

No normative references

3. Terms and definitions

For the purpose of this Tanzania Standard, unless the context specifically indicates otherwise, the following terms and phrases shall have the meanings respectively ascribed to them by this section.

3.1 solid waste

non-liquid materials arising from domestic, street, commercial, industrial and agriculture activities; and includes refuse or garbage, non-liquid materials arising from construction and demolition activities, garden trimmings and mining operations, dead animals and abandoned cars scraps

3.2 general waste

waste that are non hazardous which are neither non biodegradable nor recyclable waste.

3.3 pollution

any direct or indirect alteration of physical, thermal, chemical, biological or radioactive properties of any part of the environment by discharging, emitting, or depositing of waste so as to adversely affect any beneficial use, to cause a condition which is hazardous to public health, safety or welfare, or to animals, birds, wildlife, fish or aquatic life, or to plants or to cause contravention of any condition, limitation, or restriction.

3.4 recycling

the subjection of waste to any processor treatment to make it reusable.

3.5 non hazardous waste

any solid , liquid, gaseous or sludge waste that does not poses substantial or potential threats to public health or the environment

3.6 hazardous wastes

any solid , liquid, gaseous or sludge waste which by reason of chemical reactivity, environmental or human hazardouness, its infectiousness, toxicity, explosiveness and corrosivness is harmful to human health, life or environment.

3.7 source reduction

activities designed to reduce the volume, mass, or toxicity of products throughout the life cycle. It includes the design and manufacture, use, and disposal of products with minimum toxic content, minimum volume of material, and/or a longer useful life.

3.8 compost

substance made of one or more unprocessed waste material of biological nature (plant and animal) and may include unprocessed mineral material that has been altered through microbiological decomposition.

3.9 solid waste disposal

the final stagein solid waste management system.

3.10 door to door collection

collection of solid waste from door step of house holds, shops, commercial establishments,offices, institutional or any other non residential premises and includes collection of such waste from entry gate or a designated location on the ground floor in a housing society, multi-storied buildings or apartments, large residential, commercial or institutional complex or premises.

3.11 solid waste processing

any scientific process by which segregated solid waste is handled for the purpose of reuse, recycling or transformation into new products.

3.12 solid waste transportation

conveyance of solid waste, either treated, partly treated or untreated from a location to another location in an environmentally sound manner through specially designed and covered transport system so as to prevent the foul odour, littering and unsightly conditions.

3.13 solid waste storage

means to store segregated waste at household /community level separately.

3.14 solid waste collector

a person or groups of persons informally engaged in collection and recovery of reusable and recyclable solid waste from the source of waste generation, the streets, bins, material recovery facilities (MRF), processing and waste disposal facilities for sale to recyclers directly or through intermediaries to earn their livelihood.

3.15 solid waste segregation

sorting and separate storage of various components of solid waste namely biodegradable wastes including agriculture and dairy waste, non biodegradable wastes including recyclable waste, non recyclable combustible waste, sanitary waste and recyclable inert waste, domestic hazardous wastes, and construction and demolition wastes.

3.16 bio-degradable waste

any organic material that can be degraded by micro-organisms into simpler stable compounds.

4 Requirements

4.1 Solid waste generation

The quantity and quality of solid waste generated from residential or commercial complexes vary from place to place. The generator of solid waste should prevent and or minimize waste at source by applying cleaner production principles that is by monitoring of product cycle from beginning to the end by:

- a) Identifying and eliminating potential negative impacts of the product;
- b) Enabling the recovery and re-use of the product where possible; and
- c) Reclamation and recycling.

4.2 Waste Segregation at source

Generator shall segregate solid waste produced at source in accordance with the composition of solid waste, namely recyclable waste (paper, plastic, glass and aluminium cans / Iron/ Metal), biodegradable and general waste (dirty waste, clothes). Re-usable or saleable material from dry waste such as paper, glass materials, metallic waste, plastic waste and clothes are generally retrieved at the household level. Solid waste shall be segregated in receptacles as specified by local government authority/ council.

4.3 Storage of solid waste at source

on site storage of solid wastes should consider the type of container to use, container location, collection method, and public health and aesthetic aspects.

4.3.1 Storage of recyclable solid waste

All recyclable waste shall be kept in the blue labelled designated bins/bags which are made by either plastic or metal. Care shall be taken to keep them dry and free from pathogens or soiling with biodegradable waste or domestic hazardous waste.

4.3.2 Storage of Bio-Degradable solid waste

All biodegradable waste shall be kept in the green labelled designated bins/bags which are made by plastic that do not allow leakage . Biodegradable waste shall never be disposed off in plastic bags. In case a plastic liner is used for keeping the waste bin clean, the plastic liner shall not be thrown along with biodegradable waste. The plastic liner can be re-used after cleaning or washing.

4.3.4 Storage of general solid waste

All general waste shall be kept in the black labelled designated bins/bags which are made by either plastic or metal. Care shall be taken to keep them dry and free from pathogens or soiling with biodegradable waste or domestic hazardous waste.

4.4 Collection and transportation of solid waste from source

4.4.1 General

Methods of solid waste collection vary from one kind of waste to another. Bio-degradable waste shall be collected from houses not more than two days because of its putrescible nature. Dry waste may be collected

at longer regular intervals not more than five days, as this waste does not normally decay and need not to be collected daily. Each local government authority shall designate adequate areas to be used as solid waste transfer station, Taking into consideration of the following criteria:

- a) Should be located away from residential areas.
- b) Easily accessible for waste collection vehicles.
- c) Encourage waste separation at source.

Local government authorities may commission solid waste contractors with responsibility to handle the waste over areas. Authorised contractors should have adequate and appropriate training, working equipment, tools, and personal protective gears for waste handlers.

4.4.2 Collection and transportation

Solid waste shall be collected from door to door/collection point by staff of municipal authorities or authorized contractor/organisation. Such collection shall be pre-informed timings from all residential premises including slums and informal settlements.

The bio-digredable solid waste collected from doorstep/ collection point shall be directly transported to the processing or disposal facility. Plastic liner if used in bins, shall not be transferred with biodegradable waste.

Recyclable waste collected from doorstep/ collection point shall be directly transported to the recycling facilities.

General waste collected from doorstep/ collection point shall be directly transported to the disposal or recovery facilities.

Waste collectors shall use authorized vehicle by local government for collection of segregated solid waste without necessitating deposition of waste. Vehicles used for transportation and processing of waste shall be well covered to prevent spillage of waste hence it shall not be visible to public nor exposed to open environment to prevent scattering.

4.5 Resource recovery and recycling solid waste

Dry waste after being segregated into categories and subcategories such as paper, card board, plastics, glass, metals, biogas generation etc. shall be sent to authorised facilities for further recovery and recycling.

4.6 Disposal of solid waste

The general waste shall be disposed off in designated disposal facilities as prescribed by local government authority. Waste collectors shall follow instructions from local government authorities on the disposal method and location. The biodegradable waste shall be processed, composted or disposed off in designated disposal facilities as prescribed by local government authority.

5 Solid waste record keeping

5.1 Record keeping requirements

Each local government authority shall keep records, and in agreed time send to the Council information and data on the rate, types, composition of solid waste generated, collection methods, treatment or disposal method employed within its area of jurisdiction.

The owner or operator of solid waste facility shall be required to maintain records of demonstrations, inspections, monitoring results, categories and weights or volumes of solid waste received at the facility.

Record keeping of solid waste shall include the following:

5.1.1 Inspection records, training procedures and notification procedures

Inspection records shall include date and time wastes were received during the inspection, names of the transporter and the driver, source of the wastes, vehicle identification number, and all observations made by the inspector

5.1.2 Quantity of solid waste generated

The quantities of solid waste that will be generated by waste category shall be estimated within a community by authorized contractor. Estimates of solid waste shall be based on the amount of waste generated per person per day in kg/person/d.

5.2 Reporting requirements

Every school, office, hospital, police barracks, prisons, religious buildings, camps and other institutions that may be designated by local government authorities shall at the agreed time send to their respective local government authorities' information and data on the rate, types, composition of solid waste generated, collection methods, treatment or disposal methods employed.