



SHORT COURSE ON SOLID WASTES  
COLLECTION AND DISPOSAL

EM/Wastes Course/C3

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SOLID WASTE PROBLEMS AND SOLUTIONS IN KHARTOUM

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In this short paper we shall discuss briefly the solid waste problems of Khartoum city and possible solutions.

Other cities and rural areas have their own problems which are influenced by:

- (a) Weather
- (b) Type of waste matter
- (c) The presence or not of industries.

In the northern regions of the Sudan where climatical conditions do not vary greatly the methods of collection and storage may differ, but final disposal may remain the same, by surface burning and dumping.

In the southern regions where rain fall is higher and in the average of 150 mm. during the rainy seasons difficulties are encountered in disposal of

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refuse because when it is spread to dry prior to burning it may get more wet due to more rains. The answer in this case is more expenses in fuel and labour to assist inefficient burning and dumping.

In rural areas where refuse could be utilized in filling borrow pits in close proximity to residential areas, the controlled tipping method is sometimes used. In this case more supervision is needed to ensure proper burying to avoid fly breeding.

### KHARTOUM CITY

Khartoum city has a population of approx. 233 000 and occupies an area of 185 sq.Km.

It is one of the three main towns forming the capital of the country, and a big centre of activity due to the presence of Government Offices, light industries, institutions, etc.

Khartoum solid waste generally is a combination of dry waste varying from tree leaves to bits of metal and wet refuse which includes food waste and the latter forms 60% of its waste matter.

### STORAGE

In private residences and institutions and food preparing places and markets, storage is maintained in closed metal receptacles having a capacity of 2-6 Cubic feet.

Street sweepings are stored in public metal refuse bins which are either of conical or square shape having a capacity of about 30 Cubic feet.

### REMOVAL

House to house collection system is maintained in closed refuse tippers of 3-5 tone capacity. Dry tree leaves are carried in open trailers.

Waste from markets is cleared daily, but in other places removal is effected every 48 hours.

### DISPOSAL

Refuse is carried to the dumps and there the incombustible waste matter is removed, broken and buried and the remains of refuse burnt and dumped or otherwise used in filling of borrow pits.

In Omdurman city, one of capital towns, refuse was efficiently used in filling most of the borrow pits created by removal of earth for building, and thus eliminated a big source of mosquito breeding places.

### PROBLEMS AND SOLUTIONS

When the time comes to improve the planning and introduce modern systems the following may be considered as the main problems:

1. Shortage of transport. Khartoum city requires double the number of existing refuse lorries to effect a daily removal.
2. Building up of refuse dumps in big cities where reclamation of land comes sooner than expected. The answer in this case is to study the possibility of utilizing the refuse economically. This includes composting and re-use of salvage material in different products.
3. More health education to increase the co-operation of the public.