

## An analysis of municipal solid waste management emphasizing on the recovering of waste (Case study: Boukan)

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### Extended abstract

#### 1- Introduction

Mankind has always paid attention to the management of waste for millennia. In early times, waste wouldn't cause a problem entering environment because humans' population was low and lands were abundantly accessible. But cities emerged and population density increased which caused waste to increase per unit area. Consumables increased in number which caused waste to increase and enter environment. Humans must take into consideration the accurate methods of management as well as the engineering

and economic principles in order to fight such infections. Although there're various methods for dumping waste, the recovering of waste is of the utmost importance nowadays because this method not only decreases the amount of waste and prevents further environmental pollution but also saves money, energy and natural resources. The average daily amount of waste made in the city of Boukan is 150 tons. The amount of waste is never separated and is dumped in a hazardous manner.

#### 2- Methodology

The method for this applied study is descriptive, analytical and evaluative; and the data is collected from libraries, field studies, and 330 questionnaires conducted utilizing a random sampling method in 3 areas of the city. The city was divided into three parts for data to

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be analyzed. Then 30 samples of garbage were gathered from homes in each area and were analyzed physically, also hypothesis including two independent variables (the condition and improvement of management), and one dependent variable (the amount of waste decreased) were analyzed using SPSS and inferential statistics (simple linear regression, Pearson's correlation).

### 3- Discussion

The total amount of waste made in the city is 150 tons per day. The waste is mostly consisted of decaying materials which comprises 77.9 per cent of the total waste on the average, and metals comprise a total percentage of 3.1.

The amount of waste expected to be made in the city in the next 20 years i.e. 2009 to 2028 was analyzed and estimated an amount of 1296856050 kg taking into consideration the rate of population growth of 1.18.

In the city, home waste comprises the most amount of the total waste which consists of food waste and decaying materials (77.9 per cent), and can be used as compost or organic material. About 12.5 per cent of the remaining 22.1 per cent is recoverable.

One of the most important actions taken for carrying out the separation and recovering processes of waste is to foster a culture of it. According to the produced results, no necessary and satisfactory actions have been taken yet, as the training received in the decrease of waste; and seminars and training workshops held on the

recovering of waste have been evaluated 52.4 % and 69.4 % weak, respectively, also legal prosecution of violating citizens has been weak 60 % weak, but local and national media and also the city's authorities have acted appropriately 17.8 %. Also no actions have been taken to let private sector participate as 49.1 % evaluated this as a weak action.

### 4- Conclusion

In the city, 150 tons waste is made per day, 77.9 per cent of which comprises organic and decaying materials which is estimated an amount of 133 tons. Hence the amount of total waste made initially can be decreased adopting policies, and conducting cultural programs. Therefore carrying out such programs and policies and also launching plans for using compost must be the main priority of respective organization. Also the process of collecting waste and garbage throughout the city is not carried out by a sole manager as various decisions are made in different parts of the city by the authorities. These have caused citizens to participate less in the management and recovering of waste in the city. Hence people must be provided with proper basis in order to participate in the management of urban waste holding training workshops and installing information boards with the result that the plans are launched easily.

**Key words:** Municipal solid waste, waste management, recovery, Bukan

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