Abstract

Because solid waste management (SWM) facilities should be socially accepted along with other things, and as an effort to help decision makers in assessing public supports to solid waste (SW) facilities, this study was made. By understanding the kinds of wastes being thrown, waste can be identified to contribute in waste minimization and improve resource efficiency. Type of waste affects health and environmental impacts, better waste composition information can also improve the managing and the planning of SW facilities such as recycling for example, by knowing what components in the waste can be reused.

This study is about developing an efficient mathematical model to predict the future generation rates and components of municipal solid waste in Palestinian localities in Nablus and Jenin Districts, and to assessing people's concerns and attitudes to SWM facilities.

A questionnaire was designed based on literature reviews, and distributed in the two governorates after the samples size was calculated for each governorate and each area in it (Urban, rural and refugee camps). Monthly quantities of solid waste in the two governorates were compiled for the years of 2011, 2012 and 2013, in parallel with collecting data about waste composition percentage. Statistical Package for Social Science (SPSS) and MS. Excel were employed to extract results needed.

The questionnaire respondents were generally males, 32.8% aged between 36-45years, 65.2% of respondents had bad image of waste and 25% had an experience of visiting a solid waste facility. Five principal factors were found when correlation with concerns made for the questionnaire (nuisance, pollution, planning, facility management and dwelling). The analysis showed that differences in awareness levels were found according to age, sex and locality type. The discriminant analysis showed consistency between impact and what citizens thoughts. As for attributes 67%-69% of those who had opposed attitude toward visit a facility of solid waste facility never visited one, and 51%-56% of those who had "favor" attitude toward visit a facility of solid waste facility had visited one, this indicate that "opposed" attitude decreased for those who visited a Solid Waste facility and vice versa.

The mean value of the daily generated solid waste for the whole study area was 0.95 kg/cap/day. Seven multiple-variable regression equations and models were derived for estimating the daily

generated total solid waste and its components. The indicators of valid procedures showed that the models have high reliability and highly significant in predicting the components of SW; Variance Inflation Factor (VIF) values were less than the critical value which equals 10, and the values of mean squared errors (MSE) and mean of the squared prediction errors (MSPR) were close to each other (the difference were not more than 0.001). The previous indicators showed that the relations in the models were statistically significant. The developed models' results may help the decision-makers to put better plans in SWM and for SWM facilities.