Corpus ID: 203082047

**Effect of Waste Dumpsite Pollutant Emission on Air Quality in the Federal Capital Territory, Nigeria**

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* Published 2019
* Environmental Science

Municipal Solid Waste (MSW) in the Federal Capital Territory has resulted in serious environmental and health problems due to improper management. Air Pollution is from waste dumpsites is one of the major environmental concerns in FCT due to the disposal system and uncontrolled burning of MSW. Effect of Waste Dumpsite pollutant emission on Air Quality in the FCT was investigated. Concentration level of six (6) air quality parameters which include methane (CH4), nitrogen dioxide (NO2), sulphur dioxide (SO2), carbon monoxide (CO), hydrogen sulphide (H2S) and carbon dioxide (CO2) were determined in the wet and dry season period in eleven (11) dumpsites and three (3) randomly selected non-dump (control) sites in the FCT were determined using a series of hand-held air quality monitoring equipment. Results indicate that levels of CH4 ranged between 0.0000 mg/m to 0.1699 mg/m and 0.0000mg/m to 0.0638 mg/m for the wet and dry seasons respectively. The wet season mean concentration range for NO2 was 0.0157 mg/m to 2.0218 mg/m, while it was 0.0000mg/m to 1.0035 mg/m for the dry season. The levels of SO2 ranged between 0.1092 mg/m to 1.8122 mg/m in the wet season and 0.0000 mg/m to 0.3639 mg/m for the dry season. Concentration level of CO ranged between 0.0862 mg/m to 1.9005 mg/m and 0.1114 mg/m to 14.0638 mg/m for the wet and dry seasons respectively. H2S ranged 0.0232 mg/m to 0.4404 mg/m during the wet season and 0.0232 mg/m to 0.4065 mg/m for the dry season. While that of CO2 ranged between 1.7669 g/m to 2.3802 g/m3 for wet season and 1.6365 g/m to 1.9923 g/m. On the whole, concentration of most measured gases was higher at the dumpsites relative to the control points. Test of Correlation analysis reveal that most of the gas pollutants showed positive significant correlation at 95% and 99% confidence interval. Fvalue was greater than F-critical at α<0.01, which indicated a significant difference in concentration of air quality parameters between the wet and dry seasons. Open dumping and uncontrolled fires in the study area could threaten the health of human life especially the dumpsite workers and the neighbourhood who are regularly exposed to these pollutants. The levels of SO2, CO, H2S and CO2 were above NESREA & FEPA permissible limits while CH4 and NO2 were within the standards in both wet and dry seasons. There is a need to develop better practices with regard to municipal solid waste open dump site operation and emission control. Collapse