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A Comparative Study of Localized Rainfall and Air Pollution between the Urban Area of Sungai Penchala with Sub-Urban and Green Area in Malaysia

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Abstract : The study had shown that Sungai Penchala (urban) was experiencing localized rainfall and hazardous air pollution due to urbanization. The high rainfall that partly added by localized rain had been seen as a threat of causing the flash floods and water quality deterioration in the area. The air pollution that consisted of mainly particulate matter (PM10), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), and ozone (O3) gave an alarming air pollution index (API) to the surrounding area. Comparison among urban area (Sungai Penchala), sub-urban (Gombak), and green areas (Jerantut plus Temerloh) with respect to the rainfall parameters and air pollutants, it was found that the degree of intensities of the parameters was positively related with the urbanization. The air pollutants especially NO2, SO2, and CO were in tandem with the increase of the rainfall. Specifically, if the water catchment area is physically near to the urban area, then the authorities need to look into related urban development program by considering the management of emitted pollutants with respect to the ecological setting of the urban area.

Keywords : urbanization, green area localized rainfall, air pollution, sub-urban area
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