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Urban Runoff Quantity and Quality Control – Malaysian Perspective

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Despite significant efforts made by the government, owing to flash flood and water pollution continued to increase at the urban areas in Malaysia. Such deteriorating trend was linked to increased land conversion activities, rapid disposal concept of drainage systems, main target on the control of point pollution sources (municipal and industrial wastewater) only, illicit connections and discharge of untreated sullage (grey-water) to the drainage systems. Realizing the limitations of the past efforts, various initiatives are taken in the recent pasts to improve the flood mitigation measures and river water quality throughout the country. Quantity and quality control of urban runoff is one of the most significant initiatives taken by the government of Malaysia. The significance of urban runoff quantity and quality control is gaining recognition throughout the country since the endorsement of Urban Stormwater Management Manual for Malaysia (USMMM), which was mandated in June 2000 by the Ministry Cabinet. It is now being applied for urban land development approval. The Manual consists of detailed engineering procedures and guidelines for runoff quantity control and treatment of non-point (diffuse) source pollutants. Receiving response from various stake-holders during the last 10 years, the government has taken another initiative to further improve the USMMM and prepare Standard Books for the legal enforcement of the runoff quantity and quality control. Such initiative by the government is highly expected to assist regulatory authorities and practitioners to reduce urban runoff related problems (flash flood and diffuse pollution) from the municipalities and help achieve the target of improved in river water quality nationwide. Various types of structural and non-structural best management practices (BMPs) are proposed in the manual. All stakeholders are working together to adopt the BMPs recommended in the USMMM. Lack of nationwide data on runoff quality from various landuses and local performance data of the structural best management practices (BMPs), are the main constraints the authorities are focusing on. The initiatives taken by the government of Malaysia can be a model for other developing nations in controlling runoff quantity and quality from urban areas. This paper briefly overviews the background of the urban runoff (both quantity and quality) management practices highlighting the issues regarding its implementation and improvements.

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