

POSTER PRESENTATION

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# Spatial occurrence of dengue fever and its relationship with land use in Selangor, Malaysia

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From 7th Postgraduate Forum on Health Systems and Policies  
Phitsanulok, Thailand. 24-25 June 2013

## Background

Dengue fever has a profound impact in Malaysia, and globally, it has a strong potential to spread to new territories as a consequence of human activities and climate change that modify the environment. Environmental factors can affect the disease epidemic via their influence on vector's habitat and propagation. Among the economic costs borne in dealing with this matter related to epidemic identification and vector surveillance. The relationship between dengue fever and environmental factors namely land use and degree of urbanisation were investigated in the state of Selangor, Malaysia.

## Materials and methods

Spatial analysis of serologically confirmed dengue cases using Global Moran I and Average Nearest Neighbour methods in four districts, namely Hulu Selangor, Klang, Petaling and Sepang was done to show clustering of cases.

## Results

The clusterings of cases were statistically significant at differing range of distances. Formation of maps of case location, epidemic location, high risk areas and areas that are affected by nearby land uses were done. The land use maps were for agriculture, stagnant water bodies, housing, industry, open land and drainage in all the four districts and the affected areas were shown as hotspots of dengue cases.

## Conclusions

The result of this study is useful for application as a tool to guide health authorities in dengue fever prevention and control activities.

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Published: 29 January 2014

doi:10.1186/1471-2458-14-S1-P16

Cite this article as: Toha et al.: Spatial occurrence of dengue fever and its relationship with land use in Selangor, Malaysia. *BMC Public Health* 2014 **14**(Suppl 1):P16.

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