Anam Khalid

Spatial and Temporal Distribution of Dengue

A Case Study of Lahore

Anchor Academic Publishing

disseminate knowledge

Khalid, Anam: Spatial and Temporal Distribution of Dengue. A Case Study of Lahore, Hamburg, Anchor Academic Publishing 2016

PDF-eBook-ISBN: 978-3-96067-553-2
Druck/Herstellung: Anchor Academic Publishing, Hamburg, 2016

Bibliografische Information der Deutschen Nationalbibliothek:
Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über http://dnb.d-nb.de abrufbar.

Bibliographical Information of the German National Library:
The German National Library lists this publication in the German National Bibliography. Detailed bibliographic data can be found at: http://dnb.d-nb.de

Abstract

This study was conducted to evaluate the dengue outbreaks pattern in spatial and temporal context and to identify the meteorological constraints behind the widespread so that a complete picture of the scenario may be developed. The Lahore District was selected as Study area which was the majorly affected by mosquito on a greater extent. Lahore is the second largest city of Pakistan with respect to population due to its rapidly growing urbanization. The environmental factors affecting the spread of the disease have been identified and then mapped in a GIS based environment using all the spatial and tabular data obtained from different sources. The factors affecting dengue spread were found to be Land Surface Temperature (LST), Land cover/Land use, Normalized Difference Vegetation Index (NDVI), Temperature, Rainfall, Population Density.

The results depicted some particular trends. Areas with high population density were found to be more infected as more people got affected Some areas with comparatively low population density were also found t be infected from the mosquito for the reason: they were actually the high income areas with huge houses and lower number of residents. They mostly contain lawns and swimming pools which are the most active breeding sites of the mosquitoes.

Another major factor incorporated in the study is, the temporal factor. There was a drastic change in terms of number of patients was found in the years 2011 and 2012. To investigate the reasons, all the meteorological and clinical data of both years has been compared. It concluded that through the pre-planned launch of the control activities, both from the City Government and the Civilian side, resulted in such a controlled number of the victims. Going in the same direction with the same spirit may nullify the virus.

Acknowledgements

Deep regards to The Urban Sector Policy and Management Unit, P & D Department, Govt. of the Punjab for providing all the spatial data required to make this research possible.

Deep gratitude to the Pakistan Meteorological Department, Lahore for facilitating with the climatic data regarding rainfall and temperature.

I am especially grateful to my supervisor, Dr. Syeda Aadila Batool for her most valuable guidance and advices throughout the research. I would not be able to complete my research with her diligent concern and continuous encouragement.

Lastly, I want to thank my family and my friends for their support and being patient when I was low during the toughest part of the research.

Contents