

**PLANNING
SUSTAINABLE CITIES
IN MALAYSIA**

Issues and Challenges



MARIANA MOHAMED OSMAN
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INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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CHAPTER 8

THE EFFECTS OF AIRBORNE PARTICULATE FROM COAL POWER PLANT TOWARDS THE RESIDENCE AT MANJUNG, PERAK

Shamzani Affendy Mohd Din and Muhammad Ihsan Shaharil

ABSTRACT

This paper provides an insight on the findings of case study and reports on the airborne particulate effects towards human health, focusing on residence at Manjung, Perak. Particulate matter has recently becomes the major factor for decreasing health condition of the residence related to respiratory and cardiopulmonary issues. It has been found that the existing coal power plant contribute the most besides industrial activities, vehicles and other sources. Later, sampling, lab works and questionnaire would be used to investigate the substances that really affect human health. Hospital Manjung's admission records also to be traced in order to investigate on the figure of patients warded because of these matters for the last 10-15 years. This paper also delivers knowledge in terms of providing, improving and producing healthy sustainable design for the better medical facilities in the future.

Keywords: air pollution, airborne particulates, coal power plant, particulate matter, hospital design

INTRODUCTION

In general, air pollution is the result of chemicals, particulate matter, and biological materials located in the air and provide harm and discomfort to human being and living things including animals and plantation. The atmosphere support life, as it is made from gaseous system. Air pollution which leads to global warming phenomenon slowly damages the atmosphere layer, and this is called ozone depletion which next will affect life and activities on the planet.

The ozone depletion caused many side effects such as increased Ultra-violet light from the Sun, which may cause skin cancer; and a biological effect where it attacks human and non-human's health. The chlorofluorocarbon (CFC) is an organic compound that contains carbon, chlorine, and fluorine, produced as a volatile derivative of methane and ethane, which are used as refrigerants, propellants (in aerosol applications), and solvents also contributes to ozone depletion.

The main sources of air pollution in Malaysia are motor vehicles, power stations, industrial fuel burning and processes, domestic fuel burning, burning of municipal and industrial