UNIVERSITI TEKNOLOGI MARA

THE EFFECTS OF URBAN AREA DEVELOPMENT IN MELAKA TO THE AIR POLLUTION INDEX FROM YEAR 2012 TO 2014

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Thesis submitted in fulfillment
of the requirements for the degree of
Bachelor of Engineering (Hons.) Chemical

Faculty of Chemical Engineering

July 2019

ABSTRACT

Melaka has two air pollution monitoring stations which are located in SMK Bukit Rambai, Melaka and SMK Kota Tinggi Melaka, Melaka. The research would adhere the Air Pollution Index (API) scale provided by the Malaysian Department of Environment in order to promote a better understanding on the data as it would reflect the air quality levels associated with the urban development. The objective of this study includes identifying the urban air quality and gives recommendation based on the findings as well as to investigate the relationship between urban development to the air pollution index. This research includes the study of pollutants especially the five parameters used in Malaysia which are Sulphur Dioxide (SO_2), Nitrogen Dioxides (NO_2), Carbon Monoxide (CO), particulate matter with 10-micron (PM_{10}) size in diameter and ground-level ozone (O_3). The API trends in Melaka for year 2012 to 2014 are analysed and discussed to predict the trends for the following years. Various factors are taken into consideration in discussing the API readings that shows significant increase and decrease throughout the years. Based on the studies, the API readings in Melaka are predicted to increase by years as a result of continuous development in the region.

ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my Bachelor Degree and for completing this long and challenging journey successfully. My gratitude and thanks go to my supervisor Dr Safari bin Zainal for the continuous guidance.

My appreciation goes to the Department of Environment Malaysia for providing the data necessary for my research. Special thanks to my colleagues and friends for helping me with this project.

Finally, this thesis is dedicated to both of my parents for the vision and determination to educate me and giving me full support in completing my project.

TABLE OF CONTENT

CHAPTER ONE
INTRODUCTION

1.1 PROJECT BACKGROUND

The project is to study on the effects or urban area development in Melaka to the air pollution index from 2012 to 2014. The aim of this study is to formulate the relationship between the urban development in Melaka to the air quality of urban areas in Melaka which includes Bukit Rambai and Bandaraya Melaka.

The nearness of poisonous synthetic concoctions or mixes in air at a dimension that would harm the human health is defined as air pollution. In a much more extensive context, air pollution happens when there is a nearness of polluting influences, for example, undesired synthetic compounds or mixes noticeable all around which bring down the nature of the air or cause hindering changes to the personal satisfaction, for example, the harming of the ozone layer or causing global warming [1].

A standout amongst the most genuine natural issues facing our human progress today is presumably air pollution. The significant commitment to this marvel is the human exercises, such as development, mining, transportation, mechanical work, agribusiness, purifying, and so forth. Then again, common procedures, for example, volcanic ejections and rapidly spreading fires may likewise dirty the air, however their event is uncommon and they as a rule have a local impact, not at all like human exercises that are pervasive reasons for air pollution and add to the worldwide contamination of the air each and every day [1].

Air Pollution Index (API) is utilized to depict the surrounding air quality estimation in Malaysia. The API used simple ranges of values to report the quality of air instead of using the actual concentration of air pollutants. The impact of the air pollution to the human wellbeing can likewise be reflected by the API, running from good to hazardous can be sorted by the action criteria as stipulated in the National Haze Action Plan. The Malaysian API framework closely follows the Pollutant Standard Index (PSI) created by the United States Environmental Protection Agency (US-EPA) [2].