UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

THE COMPARISON BETWEEN EXPONENTIAL GROWTH AND LOGISTIC GROWTH MODEL FOR MALAYSIA'S POPULATION

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TABLE OF CONTENTS

ABSTRACT

Many countries are experiencing out of ordinary rapid demographic change. It is importance to know the human population in future. There exist many models for describing growth rates of populations over time. This project will aim to find the most suitable model between exponential growth model and logistic growth model for population growth of Malaysia using data from 1993 to 2015. The exponential growth model predict of growth rate of 0.02719 per annum and also predicted the population to be 46 790 776.21 in 2025. Logistic growth model, which describes the population that increase rapidly until it reaches carrying capacity. We find the carrying capacity by graphical trial and error procedure. Then we predicted the population to be 38 697 302.09 using the same growth rate as exponential model. For future work, logistic growth model can be used to measure human population instead of using exponential model.

1 INTRODUCTION

1.1 Introduction

The human population of the world keeps increasing rapidly. As we know, human need food and water to survive. However, food and water are limited resource come from land. If the human population keeps increasing, then the food and water are not enough for everyone. Furthermore, disease, starvation and death will occur.

In addition, there are many factors that affect human growth rate which are number of birth, death, migration, adequacy resource, surface area and government policy. Different country have differences factor that effect the growth rate and population growth.

Population growth is key factor for sustainable development. Many countries have expressed their concern about high population growth. While developed countries are raising concern about low population growth rate. This situation will lead to decrease in working-age populations, rapid population ageing and problems in reform of the labor force. Unbalanced population growth puts pressures on natural resources, human health and global warming.

Moreover, the population sizes and growth in a country directly give an impact to the situation of economy, policy, culture, education and environment of that country. It is also determine exploring and cost of natural resources. The correct idea always required from every government and selective sectors about the future size of various entities like population, resources, demands and consumptions for their planning activities. The government should work toward development of the country. This will have effect in successful its absorptive capacity for development through the population growth rate measures. If the carrying capacity is increasing, its means the more living space and food it has. However, present efforts perform to provide acceptable predictions for the Uganda population growth (Wali et al., 2012).