UNIVERSITI TEKNOLOGI MARA
FACULTY OF ADMINISTRATIVE SCIENCE & POLICY STUDIES

A STUDY OF URBAN POLLUTION AT KAMPUNG MORTEN

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Declaration

We hereby declare that the work contained in this research proposal is our own except those which have been duly identified and acknowledged. If we are later found to have committed plagiarism or other forms of academic dishonesty, action can be taken against us under the Academic Regulations of UiTM's.

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Abstract

The process of the urbanization has contributed to several types of pollution. It happens because of the fast developing process of urbanization. Besides the increasing numbers of natural disasters happened now days contributes to the study of this research. The study examines the major factors of the urban pollution, the effect of the pollution and the level of the awareness towards the implementation of urbanization process. The researchers choose Kampung Morten as examples of the case study based on criteria that fulfill the research requirement and objective. A random sample of 95 respondents that representatative house of Kampung Morten has been selected to answer the research questionnaires. They were asking on several of question in the questionnaire that related to their perception of the urban environment, the effect and their level of the awareness of environment care. The multi stage sampling are been choose to representative data in this study. As the result most of the respondents choose air pollution as the main factors that affected by the urban environment based on vehicles smoke. Meanwhile the level of awareness is good among the respondents but need to be developing from time to time in order to make the place in the good condition and free from any pollution. Based on the overall study regarding the urban environment in Kampung Morten, there's a lot urbanization development that made by the Malacca local Government Council in way to well develop Kampung Morten as one of main attraction in Tourism Industry in Malacca as the historical state of Malaysia.

CLEARANCE FOR SUBMISSION OF THE RESEARCH BY THE SUPERVISOR

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I have reviewed the final and complete research proposal and approve the submission of this report for evaluation.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Melaka, dubbed as The Historical State and also *Negeri Bersejarah* amongst locals, is the third smallest Malaysian state, after Perlis and Penang. It is located in the southern region of the Malay Peninsula, on the Straits of Malacca. It borders Negeri Sembilan to the north and the state of Johor to the south. The state's capital is Malacca Town. This historical city centre has been listed as a prominent World Heritage Site of UNESCO since 7th July 2008. Today Melaka possesses a charm that is all its own. Hail a trishaw for a ride along little streets that wind through a colorful mishmash of architectural styles. Its historical influence has bequeathed Melaka with a delightful mixture of people and cultures, all of whom contribute to the charm of this day.

Kampung Morten which located in the middle of Melaka city, are the only traditional Malay village in Melaka City. This village, considered as a living museum because most of the villagers still applying the living style as the stay there beside the uniqueness of their house design.

The village is name as the name of J.F Morten, the land commissioner when the commission establish in early 1920. Morten has play the role to develop this village which before that a marsh.

1.2 Problem Statement

The problems of interest can be and often are viewed from different standpoints or perspective by different people. Kampung Morten Melaka is surrounded by the Melaka city, whereby development is carried out. The urban pollution which arise are affected the Kampung Morten. The problem of Urban pollution in Kampung Morten are to investigate in order to identify the major contribute or resources of the pollution. This includes the daily activity of waste management of the kampong Morten villagers. Therefore we will go for identify the cause and effect of the urban pollution in Kampung Morten Melaka.

1.3 Research question

1.3.1 What is the urban pollution at Kg. Morten

1.3.2 What is the contributor for the urban pollution

1.3.3 Is there any effect to the Kg.Morten villagers and surrounding from the urban pollution

1.3.4 Is there any relationship between environmental level of awareness and gender

1.3.5 Is there any relationship between environmental level of awareness and age

1.4 Research Objectives

1.4.1 To identify the major factor that contributes to urban pollution in Kampung Morten

1.4.2 To study the effect of urban pollution and identify the major effect of urbanization among the villagers of Kampung Morten and its surroundings.

1.4.3 To study the level of awareness towards urban pollution and environment protection among Kg Morten villagers based on gender and age

1.5 Hypothesis

1.5.1 There is difference between male and female level of awareness regarding the environment and pollution.

Ho : There are have difference between male and female level of awareness regarding the environment and pollution.

Ha : There are no difference between male and female level of awareness regarding the environment and pollution.

1.5.2 There is no difference between various age range for the level of awareness regarding the environment and pollution.

Ho: There are having difference between various age ranges for the level of awareness regarding the environment and pollution.

Ha: there are no difference between various age ranges for the level of awareness regarding the environment and pollution.

1.6 Scope of the Study

The study will cover the Kampung Morten Melaka area. There is 95 lot of house at Kampung Morten.

1.7 Significance of the Study

1.7.1 In order to take proper steps to reduce the urban pollution, the factors which contributed to the urban pollution must be known. This research will help to identify the factors that contribute to urban pollution.

1.7.2 The people of Kampung Morten are the group of people that knows the factors that lead to urban pollution at their place. This research will provide the public people with the means where they can give feedback, express their opinion and their recommendation regarding the issue of urban pollution.

1.7.3 This study will become a basis for recommendation to relevant authorities on how they can reduce the urban pollution.

1.8 Definition of Terms or Concepts

The terms used in this study are defined for ease of understanding.

1.8.1 Urban

Urban area is an area with an increased density of human-created structures in comparisons to the areas surrounding it. Urban areas may be cities, towns or conurbations, but the term is not commonly extended to rural settlements such as village and hamlets.

1.8.2 Pollution

Pollution is the introduction of contaminants into an environment that causes instability, disorder, harm or discomfort to the physical systems or living organisms they are in.

1.8.3 Air

The Earth's atmosphere is a layer of gases surrounding the planet Earth that is retained by the Earth's gravity. It contains roughly 78.08% nitrogen, 20.95% oxygen, 0.93% argon, 0.038% carbon dioxide; trace amounts of other gases, and a variable amount (average around 1%) of water vapor. This mixture of gases is commonly known as air.

1.8.4 Water

Water is a common chemical substance that is essential for the survival of all known forms of life. In typical usage, water refers only to its liquid form or state,

but the substance also has a solid state, ice, and a gaseous state, water vapor or steam.

1.8.5 Perception

Perception is the process of attaining awareness or understanding of sensory information.

1.8.6 People

People denote a group of humans, either with unspecified traits, or specific characteristic.

1.8.7 Environmental

Is a terminology that comprises all living and non-living things that occur naturally on Earth pr some part of it.

1.8.8 Solid Waste

Solid waste, also called urban solid waste, is a waste type that includes predominantly household waste.

1.8.9 Waste Management

Waste management is the collection, transport, processing, recycling or disposal of waste materials. The term usually relates to materials produced by human activity, and is generally undertaken to reduce their effect on health, the

environment or aesthetics. Waste management is also carried out to recover resources from it. Waste management can involve solid, liquid, gaseous or radioactive substances, with different methods and fields of expertise for each. Waste management practices differ for developed and developing nations, for urban and rural areas, and for residential and industrial, producers.

1.8.10 Sanitation

Sanitation is the hygienic means of preventing human contact from the hazards of wastes to promote health. Hazards can be physical, microbiological, biological or chemical agents of disease. Wastes that can cause health problems are human and animal feces, solid wastes, domestic wastewater, industrial wastes, and agricultural wastes.

1.8.11 Sound

Sound is vibration transmitted through a solid, liquid, or gas; particularly, sound means those vibrations composed of frequencies capable of being detected by ears.

CHAPTER 2

2.0 Literature Review

This chapter provides a review of the literature on the urban pollution and also the conceptual framework of the study.

2.1 Introduction

Pollution is the action of environmental contamination with manmade waste. This includes mainly land water and air. Pollution can come in many various form including the lesser-known noise, light and thermal pollution. Of all the First World countries, the United States is the most polluting nation on the Earth according to various statistical indications. According to Louis P. Pojman (2005) Environmental concerns are global issue. The air we breathe may have been polluted by corporation on another continent while the air we contaminate reaches Africa and Asia. The chlorofluorocarbon (CPCs) we use which breakdown the ozone layer, affect everyone in the world. A nuclear disaster causes radiation fallout that spreads thousands of miles from its source.

According to Hafiz Noor Shams in his blog, Malaysia is in the 2006 Environmental Performance Index's top ten list. And water shortage is increasingly becoming a major issue in Malaysia. Malaysia scores badly in renewable energy, sitting at the 98th place. This shows how Malaysia relies heavily on carbon-based fuel. This is even more apparent given that Malaysia emits 352 tones of carbon per GDP - that's worse than the worst polluter in the world, United States. In Asia Pacific, only mainland China, Mongolia and Vietnam are less efficient than Malaysia.

2.1.2 Urban Air Pollution

Air pollution is the action environment contamination with manmade waste into air. The air we breathe is composed of a mixture gases: 78% nitrogen, 21% oxygen and small percentage of other gases like argon, carbon dioxide and water vapor. The earth's air also contains pollutions, we may also breathe. Some of these air pollutions may be odorless and colorless. Other air pollutions may be apparent that it surrounds us like smog, which is a cloud or haze of air pollution. Many times we can see smog hanging over the skyscrapers in urban areas. Cities have tendency to have greater portion of industrialized areas. Industry is the main contributor to air pollution (Donald Vandeveer, 2003). Many times factories release greenhouse gases like carbon dioxide, chlorofluorocarbon (CFCs).

Air pollution in Malaysia falls into three main categories: air pollution due to exhaust gas from mobile emission sources such as motor vehicles, principally in urban areas; haze caused by the weather and by forest fires in neighboring Indonesia; and pollution caused by industrial activities. Of these three problems, air pollution from mobile emission sources is of greatest concern. In 1997, there were roughly 8.5 million registered motor vehicles in Malaysia, climbing at the rate of 10 percent or more every year. According to 1997 figures, the estimated quantities of air pollutants released by these vehicles were 1.9 million tons of carbon monoxide (CO), 224,000 tons of nitrogen oxides (NOx), 101,000 tons of hydrocarbons (HC), 36,000 tons of sulfur dioxide (SO2) and 16,000 tons of particulate matter. Mean values for

the years 1993 to 1997 show that the amount of air pollutants from mobile emission sources accounts for 81 percent of all air pollution occurring in Malaysia. The problem will clearly become even more critical as the number of motor vehicles keeps on increasing. As a result of these forms of pollution, Kuala Lumpur and its outskirts, which have heavy motor vehicle traffic, are exposed to high levels of NOx and SO2, and of particulate matter measured as PM10. Air pollution due to particulate matter, although still below the environmental standard at present, is growing more severe as time goes on. Another problem is black smoke from diesel motor vehicles, the subject of numerous complaints from the public. In response, the government has launched a campaign to crack down on vehicles that violate the regulations. In regard to lead pollution, the government in 1991 introduced incentives to use unleaded gasoline, and since 1996 it has been obligatory for gasoline-fueled vehicles to have catalytic converters. These policies have been successful in reducing the level of lead in the atmosphere year by year. Haze is another major problem in Malaysia. There were minor haze incidents in 1993 and 1994, years that recorded low rainfall, but haze on an unprecedented scale occurred from the summer of 1997 due to the huge forest fires that blazed in Sumatra and Kalimantan in Indonesia. The haze that year continued for five months, from mid-July to November. In late September, when the haze was most severe, air pollution readings in Sarawak exceeded the "hazardous" level of 500 on the Air Pollutant Index (API). As well as affecting health and causing an increase in respiratory complaints, the 1997 haze incident had major economic costs, impacting on transportation services, tourism, and the fishing industry among others. The disaster prompted the government to

subsequently ban all open burning within Malaysia. Air pollution caused by industrial activities is still low in Malaysia. Including industrial fuels and industrial processes, the industrial sector contributes only 7 to 8 percent of total air pollution in the country. Except for special industries such as quarry and rubber production, industrial activities are not a major factor. There is currently 29 air quality monitoring stations in Malaysia, continuously taking air pollution readings. As with water quality, the results are published according to an API. The API consists of five parameters (PM10, CO, NO, SO2, and ozone (O3)), and readings are classified in five rankings (good, moderate, unhealthy, very unhealthy and hazardous).

2.1.3 Urban Water Pollution

Water pollution is the action of environmental contamination with man-made waste into water. The source of this waste would be raw sewage, chemicals, trash or fertilizer. Water pollution has severe human consequences since less 3% of the earth contains water that potable or safe for drinking. Also water is important for human survival because we cannot live without it. When source for drinking become contaminated with untreated sewage it is possible to spread diseases through the water like Giardiasis a diarrhea diseases caused by the parasitic protozoa Giardia Lambia. These types of diseases can also be caused by bacteria, viruses and other microorganism. Another type of water pollutions usually occurs when water is contaminated with fertilizer. The Eutrophication promotes excessive growth of algae and aquatics plants which then chokes the open-water areas thus decreasing the amount of oxygen available in the water. Consequently fish

and other organism may die off due to the lack of oxygen. Other types of the water pollution include trash that is dumped into a body of water. These two types of water pollution can have harmful side effects for human and different organism.

2.1.4 Causes of Air and Water Pollution

Environmental pollution problems in Malaysia have a long history. River pollution by mine wastewater and sludge began with the rapid development of tin mining, a traditional industry that started at the turn of the century about 100 years ago. In later years, other traditional industries such as natural rubber and palm oil production began in earnest, and wastewater from the factories caused further pollution of rivers and seas. From the late 1960s, Malaysia pursued rapid industrialization supported by foreign investment, but the result of industrialization was a raft of pollution problems, caused by industrial wastewater and other wastes, which became very apparent from the 1970s. In recent years, air pollution caused by the tremendous increase in road traffic that has accompanied economic development and water pollution from household wastewater, have become obvious problems that particularly affect urban areas. Another recent problem is haze (smoke and fog caused by particulate matter), which occurred on a large scale for several months in 1997 and caused respiratory complaints and other health problems in the community. In this incident, the haze was caused by the huge forest fires on Kalimantan Island and in other parts of Indonesia, across the sea from Malaysia. It is therefore a unique environmental problem that will not be easy to solve. Other problems noted in Malaysia are oil

pollution of the sea and deforestation due to regional development of various kinds. Although Malaysia has a host of environmental problems that demand solution, including those associated with scheduled wastes, the government is implementing more effective pollution controls than other Southeast Asian nations. It is also committing resources to construction of environmental infrastructures, such as sewerage systems to deal with household wastewater.

Water pollution is arguably the most fundamental environmental issue in Malaysia, since the country's pollution problems began with water pollution caused by the three traditional industries of tin mining, natural rubber, and palm oil, as mentioned above. The government's environmental programs therefore give high priority to control of water pollution. Malaysia does not publish exact values of river water quality measurements for individual monitoring sites. Instead, water quality status is published under three rankings (clean, slightly polluted, and polluted), using a Water Quality Index (WQI) based on six parameters: pH, dissolved oxygen (DO), biochemical oxygen demand (BOD), chemical oxygen demand (COD), ammonia nitrogen, and suspended solids (SS). At present, water quality is monitored regularly at 908 sites on the 117 rivers in the country. Looking at results for 1997, which are the most recent published data, 24 of the 117 rivers were classified as clean, 68 as slightly polluted, and 25 as polluted. Comparing these results with the previous year (1996), the number of polluted rivers increased from 13 to 25, and the number of slightly polluted rivers increased from 61 to 68. Low rainfall, which resulted in reduced flow rates in the rivers, was cited as one of the reasons for the increased pollution. Sources of pollution identified as

contributing to BOD loading include the agriculture-based industries (natural rubber and palm oil production, for instance), manufacturing industry, and livestock industry. Similarly, the livestock industry and domestic wastewater are cited as causes of worsening ammonia nitrogen pollution, and civil engineering works and land cultivation are blamed for the deterioration in SS status. Overall trends, however, if weather conditions and other such factors are excluded, show an improvement in river water quality brought about by Malaysia's adoption of wastewater regulations and development of sewerage systems. In addition, the 1997 results identify a total of 4,932 factories as sources of river water pollution. By industry type, the polluters included 966 food and beverage manufacturing factories (20%), 559 paper factories (11%), and 419 electrical and electronics plants (8%). The breakdown by state shows that Selangor had the highest number of industrial sources of pollution (1,668 factories), followed by Johor (945) and Negeri Sembilan (371). In terms of individual rivers, the basin of the Klang River which flows through Selangor had the highest number of industrial pollution sources. Rivers in Malaysia generally appear to have high organic pollution loads and high SS concentrations. However, because water pollution status is published as an index (WQI), we were unable to obtain accurate information about concentrations of river pollutants over recent years for this research. Nor could we get a precise picture of the severity of river pollution in Malaysia. In moves to solve these water pollution problems, Malaysia is putting sewerage services in place to deal with household wastewater which is a leading source of pollution. Unlike sewerage systems in Japan, the projected wastewater treatment systems will handle household wastewater only. In 1993, Malaysia

passed the Sewerage Service Act, paving the way for privatizing the sewerage systems. The task of privatization was undertaken by Indah Water Konsortium Sdn. Bhd., which aims to deliver services to 79 percent of the population within the year 2000. In regard to marine pollution, 794 samples were collected and analyzed from 226 locations in 1997. Of these, 87 monitored locations, or 34 percent of the total, were found to have contaminant levels exceeding the Proposed Marine Interim Standards. Oil and grease exceeded the limit (0 mg/l), as did total suspended solids (50 mg/l), and Coliform bacteria (100 MPN/100ml). Detected copper levels were above the Proposed Marine Interim Standard (0.1 mg/l) in Sarawak, and mercury and arsenic exceeded the limits (0.001 mg/l and 0. 1 mg/l, respectively) in Negeri Sembilan. In 1996 the Malaysia government began monitoring groundwater in the Malay Peninsula with the aim of preventing possible contamination.

2.1.5 Effected of the air and water pollution

According to the National Institute of Environmental Health Science-National Institute Air Pollution can affected evidence suggests that exposure to air pollution has long term effects on lung development in children. Reductions in lung functions have been observed in studies in Europe and the United States. To further investigate these effects, this NIEHS-supported research team performed a prospective epidemiologic study on 1,759 children from 12 communities in Southern California.

(JerryPhelps,http://www.ehponline.org/docs/2004/11217.niehsnews.html#airp)

The findings of the current study suggest that exposure to high levels of air pollutants is associated with inflammation in the brain and accumulation of toxic proteins. Inflammation and protein accumulation are two causes of neuron dysfunction that show up before classic signs of Alzheimer's disease in humans. Although this result needs to be confirmed in larger studies, the findings have identified a potential public health risk of great importance. The authors conclude that "The findings suggest a clear need for epidemiological and toxicological studies that can be more fully characterize the association between chronic exposure to air pollutions and the risk of developing Alzheimer's disease.

(LilianCalderon,http://www.niehs.nih.gov/research.supported/sep/2004/inflam.cfm)

He results suggest particulars air pollutions is more dangerous to the heart and circulatory system than previously known. The authors conclude that identification of the mechanism and specific particle components responsible for these atherosclerotic effects could lead to the downward revision of particulate matter air quality standards. Further studies could also lead to therapeutic and preventive strategies to be employed for people with pre-existing condition.

(MortonLippmann,http://www.niehs.nih.goc/research/supported/sep/2005/pmdiet.cfm)

Meanwhile there are several implication and effected towards the water pollution. Human infectious diseases are among the most serious effects of water pollution, especially in developing countries, where sanitation may be inadequate or non-existent. Waterborne disease occurs when parasites or

other disease-causing microorganism are transmitted via contaminated water, particularly water contaminated by pathogens originating from excreta. These include typhoid, intestinal parasites, and most of the enteric and diarrheal diseases caused by bacteria, parasites, and viruses. Among the most serious parasitic diseases are amoebiasis, giardiasis, ascariasis, and hookworm. (http://www.grinningplanet.com/2006/12-05/water-pollution-effects.htm)

According to Mindy Grill, the effects of pollution in the water are myriad. In rivers, oceans and seas, the water pollution can be lethal, killing the fish and plant life. This in turn can kill the birds and other animals that eat this contaminated food supply. The effects of water pollution have also been considered the leading cause of human deaths worldwide. Almost every type of contamination found in water has a detrimental effect on humans. Blood diseases, heart disease and nervous system disorders are commonly linked to the effects of water pollution. Many of the toxins found in polluted water are carcinogenic, which means they can cause cancer. Some substances can even effect generations to come by changing the body's chromosomal makeup. Less severe effects of water pollution can include diarrhea, skin lesions, and vomiting.
(Mindy Grill,http://www.encyclomedia.com/water_pollution.html)

2.1.6 Solid Waste and management

Solid Waste which also called urban solid waste is a waste type that includes predominantly household waste with sometimes the addition of commercial wastes collected by a municipality within a given area. They are in either solid

or semisolid form and generally exclude industrial hazardous wastes. This is as was explain at chapter one. Waste management is the collection, transport, processing, recycling or disposal of waste materials. The term usually relates to materials produced by human activity, and is generally undertaken to reduce their effect on health, the environment or aesthetics. Waste management is also carried out to recover resources from it. Waste management can involve solid, liquid, gaseous or radioactive substances, with different methods and fields of expertise for each.

Waste management practices differ for developed and developing nations, for urban and rural areas, and for residential and industrial, producers. Management for non-hazardous residential and institutional waste in metropolitan areas is usually the responsibility of local government authorities, while management for non-hazardous commercial and industrial waste is usually the responsibility of the generator. At our study area, Kampung Morten, the domestic waste is also one of the elements in our research.

2.1.7 Sound (Noise) pollution

Noise pollution (or environmental noise) is displeasing human- or machine-created sound that disrupts the activity or balance of human or animal life. A common form of noise pollution is from transportation, principally motor vehicles. The word "noise" comes from the Latin word *nausea* meaning "seasickness", referring originally to nuisance noise.

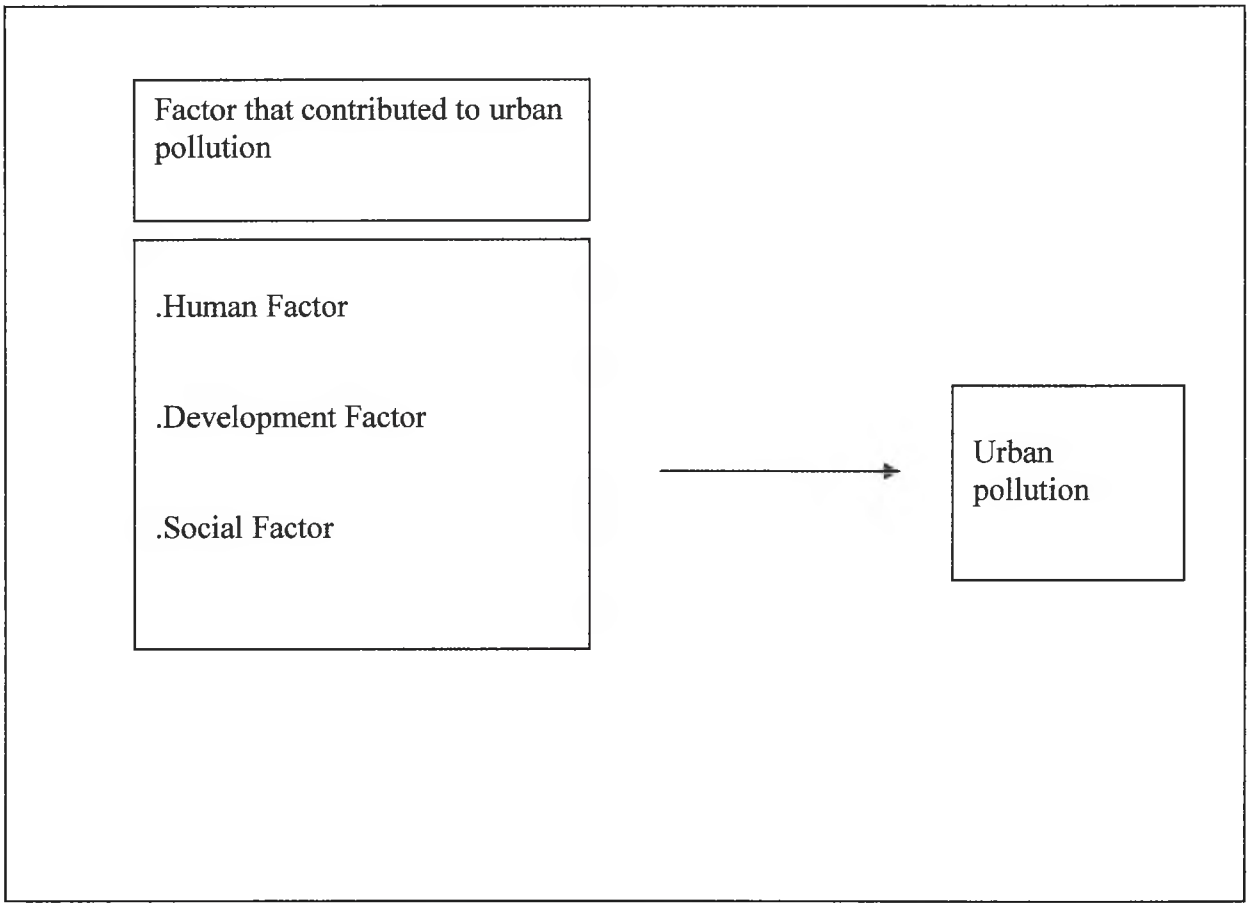
2.1.8 Conclusion

As conclusion, the solution to pollution is dilution is a dictum which summarizes a traditional approach to pollution management whereby sufficiently diluted pollution is harmful. It is well-suited to some other modern, locally-scoped applications such as laboratory safety procedure and hazardous material release emergency management. But it assumes that the diluting is in virtually unlimited supply for the application or that resulting dilutions are acceptable in all cases.

Such simple treatment for environmental pollution on a wider scale might have had greater merit in earlier centuries when physical survival was often the highest imperative, human population and densities were lower, technologies were simpler and their byproducts more benign. But these are often no longer the case. Furthermore, advance has enable measurement of concentrations not possible before. The use of statistical methods in evaluating outcomes has given currency to the principle of probable harm in cases where assessment is warranted but resorting to deterministic models is impractical or unfeasible. In addition, consideration of the environment beyond direct impact on human beings has gained prominence.

2.2 Conceptual Framework

Figure 2.1 conceptual frameworks for study on urban pollution



2.2.1.1 Human Factor

Human factor is the factor that concerns the people themselves. Human factors such as the villagers and experience are the crucial factors because of difference age group will have difference understanding and awareness of environment care and pollution.

A different people also have the different spirit of environmental care. We will study the degree of understanding and awareness of urban pollution. A simple question such as where they throw their rubbish will help to gather the

needed. From the study, the degree of Kampung Morten villager's environmental awareness will be identifying.

2.2.1.2 Development Factor

The development done around the Kampung Morten neighborhood are mean for more economic development, but the effect on pollution are happened. The development may cause a problem in the drainage system which causes improper drainage and bad smell problem.

2.2.1.3 Social Factor

Social factor referring to the age and gender of Kg.Morten villagers. Either the factor of age and gender has differentiation in level of awareness regarding the environmental issue and concern.

2.2.2 Dependant Variable

The factor is the variable effects by the factor of urban pollution

2.2.1 Pollution

The term pollution refers to an unexpected and undesirable event. For an example, the lorry produce too much smoke, it will cause the air pollution and affected the villagers surround. Same condition with the neighborhood where by locate near the river. If the river is contaminated than it will cause a bad smell to the villagers.

CHAPTER 3

RESEARCH METHOD

3.1 Research Design

For the purpose of this study, the research design will be a questionnaire survey. The research demands for information from the villagers of Kampung Morten. Types of approaches are questionnaire survey.

3.2 Unit of analysis

As this study will address the issues of urban pollution factor and effect, therefore the unit of analysis will be the cause of urban pollution contributor.

3.3 Sample Size

The sample size for the purpose of this study is 95 questionnaires; this because there are 95 lots of houses at Kg.Morten and each house will be provided only one set of questionnaire.

3.4 Sampling technique

The villagers of Kampung Morten, will be selected for closer analysis of urban pollution factor and effect at Kampung Morten. The type of sampling is the multi stage sampling to representative data in this study.

3.5 Measurement/Instrumentation

	Objectives	Concepts/constructs	Measurement
1	*To identify the major factors that contribute to the urban pollution in Kg Morten*	*This definition should be taken from the definition adopted in the conceptual framework.* *Example:* *What types of pollution happened ,what is the factor that contribute to the pollution choose,*	*The link or relationship between the concept and its measurement is VALIDITY. This is because demographic differences can be using in measuring the changes of the environment of Kampung Morten.* *Example:* *Demographic differences are affecting the contributions of the pollution.*
2	*To study the effect from the urban pollution and identified major effect of urbanization among the villagers of Kampung Morten and towards Kg.Morten surrounding*	*Example:* *What is the effect from the pollution, what is the change happened to their surrounding,*	*The link or relationship between the concept and its measurement is VALIDITY. This is because the factor of the pollution will affect the surrounding and create problems.* *Example:* *The society of Kampung Morten faced with unhealthy air because of the smoke and the impact of the pollution itself*

3	*To study the level of awareness towards the pollution and environment protection among Kg Morten villagers based on gender and age*	*Example:* *The level of awareness of Kampung Morten , how their perception, manage the pollution according to the age and gender.*

The link or relationship between the concept and its measurement is VALIDITY. This is because we can measure this objective using age and the gender *Example:* *The age and the gender influence the level of awareness in order to manage the pollution of environment.*	12,13,14,15,16,17

3.6 Data Collection

The data for this study will be collected through questionnaire. This method was chosen because the designed questionnaire could be sent to respondent that is the kampong Morten villagers in a limited time.

3.7 Data Analysis

The data will be analyzed using statistical software tool (SPSS 12.0)

Objectives	Variable/s	Measurement	Scale	Statistics
To determine the major factor that contribute to urban pollution at Kg.Morten	Define the various urban pollution	Factors that contributed	Nominal	Crosstab
To study the effect from urban pollution and identified major effect of urbanization among the villagers at Kg.Morten and it's sorrounding	Definition of effect that cause from the urban pollution	Effect from the pollution and urbanization	Nominal	Crosstab
Determine the differences between age and gender regarding their level of awareness.	Definition level of awareness	Awareness behavior	Nominal	T-test and Anova

CHAPTER 4

DATA ANALYSIS AND FINDINGS OF THE SURVEY

4.1 Introduction

This chapter presents the data analysis and findings of the survey that we conduct. This chapter also presents the data analysis and findings from the questionnaires that we distributed at Kampung Morten Melaka. The purpose of analyzing the information that we get form the survey. is to know the frequencies of the respondents and their view on the environment, urban pollution and level of awareness on the environment care. We used frequency analysis, crosstab analysis, T-test analysis and Anova analysis to analyze the data that we get.

4.2 Frequencies

4.2.1 Section A: Respondent Profile

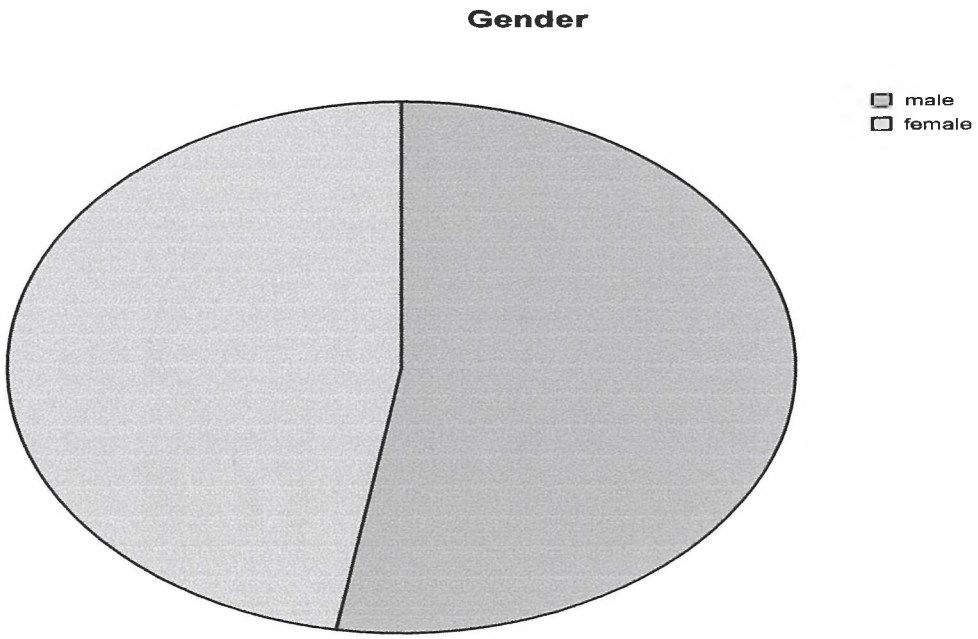
1. Gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	50	52.6	52.6	52.6
	female	45	47.4	47.4	100.0
	Total	95	100.0	100.0	

Table 1.0

The table 1.0 shows the percentage about the gender of the respondent. It is where the total number of the respondent is 95 which consists 50 male and 45 female.



The pie chart shows the percentage of respondent that is 47.4% for female and 52.6% for male.

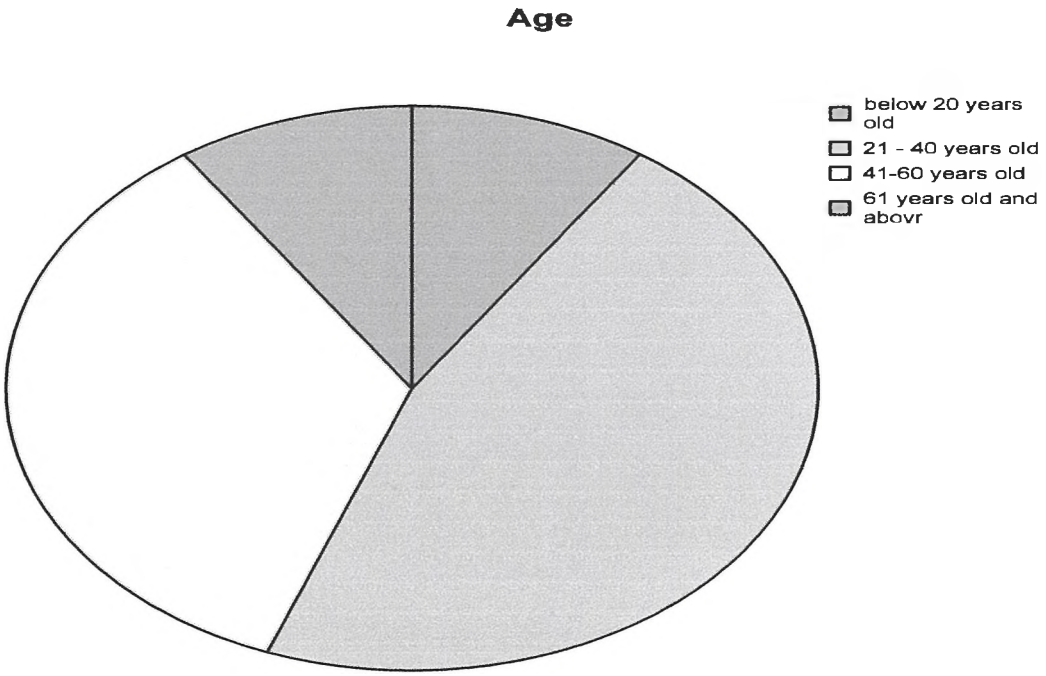
2. Age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 20 years old	9	9.5	9.5	9.5
	21 - 40 years old	44	46.3	46.3	55.8
	41-60 years old	33	34.7	34.7	90.5
	61 years old and above	9	9.5	9.5	100.0
	Total	95	100.0	100.0	

Table 2.0

The table 2.0 shows the percentage of age among the respondent where the range from below 20 years old to 61 years old and above.



The pie chart show the respondent where most of the respondent are from the age range 21 years old to 40 years old.

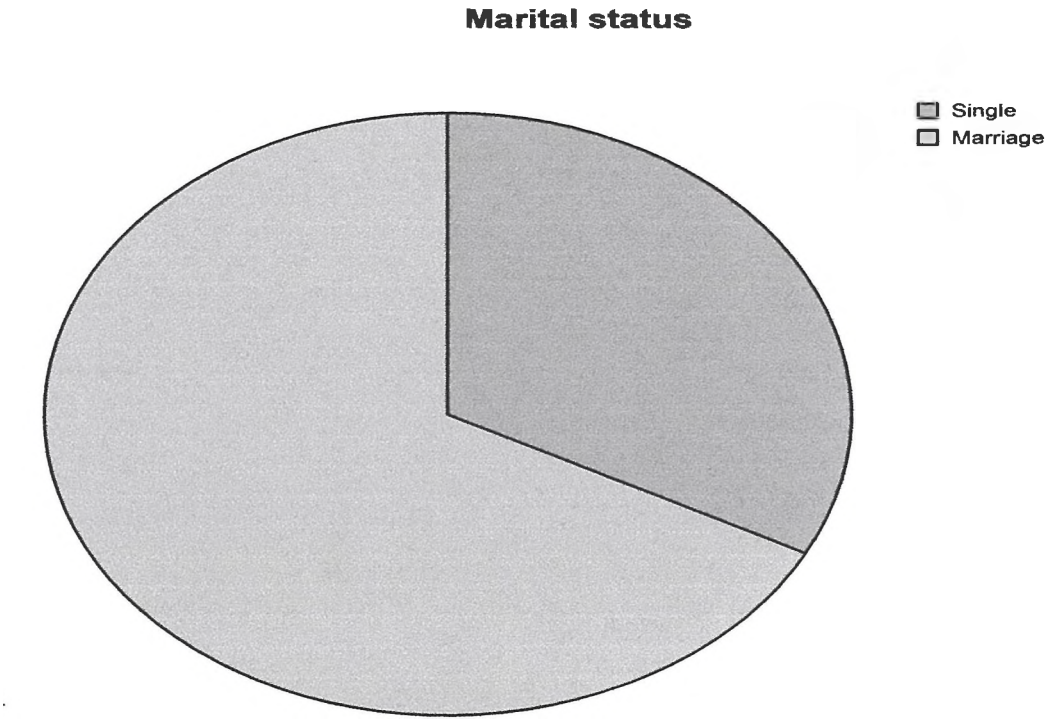
3. Marital status

Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	31	32.6	32.6	32.6
	Marriage	64	67.4	67.4	100.0
	Total	95	100.0	100.0	

Table 3.0

Table 3.0 show the percentage of marital status among the respondent



The pie chart show that most of the respondent already married

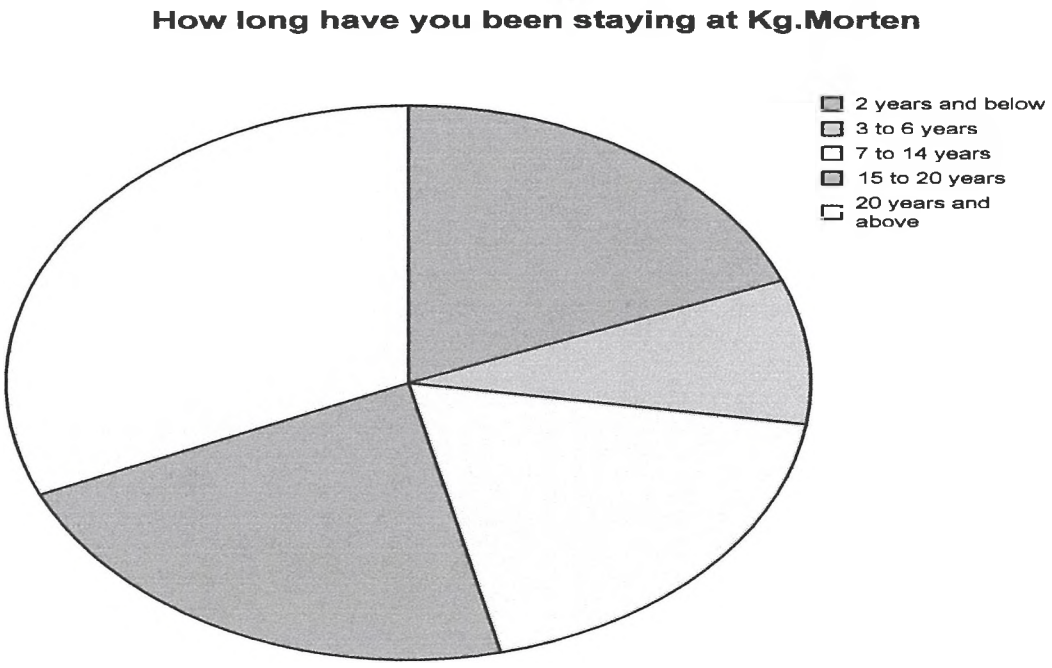
4. How long have you been staying at Kg.Morten

How long have you been staying at Kg.Morten

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 years and below	18	18.9	18.9	18.9
	3 to 6 years	8	8.4	8.4	27.4
	7 to 14 years	18	18.9	18.9	46.3
	15 to 20 years	21	22.1	22.1	68.4
	20 years and above	30	31.6	31.6	100.0
	Total	95	100.0	100.0	

Table 4.0

Table 4.0 show the percentage of how long the respondent have been staying at Kg.Mortten



The pie chart show that most of the respondent already stay at Kg.Morten for 20 years and above

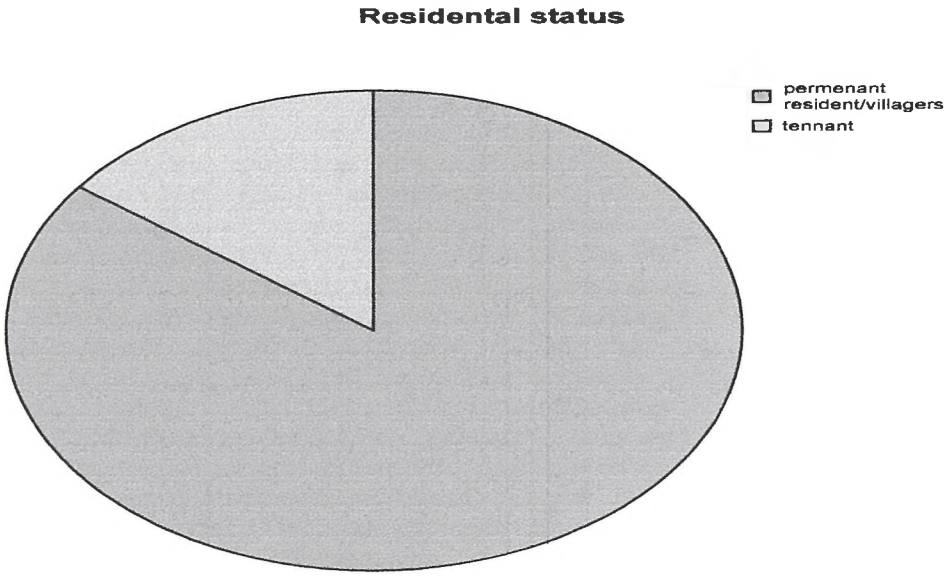
5. Residential status

Residential status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	permanent resident/villagers	81	85.3	85.3	85.3
	tenant	14	14.7	14.7	100.0
	Total	95	100.0	100.0	

Table5.0

Table 5.0 shows the percentage of respondent for their residential status at Kg.Morten either as a permanent resident or just as tenant.



The pie chart show that most of the respondent are permanent resident

4.3 Crosstabs

4.3.1 Comparison between types of pollution and the factor contributed to the pollution at Kg.Morten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Types of Pollution at Kg Morten * Factors contributed to the pollution at Kg.Morten	95	100.0%	0	.0%	95	100.0%

Types of Pollution at Kg Morten * Factors contributed to the pollution at Kg.Morten Crosstabulation

			Factors contributed to the pollution at Kg.Morten						Total
			solid waste	industrial discharge	tourism activities	vehicles smoke	compactness habitant	construction activities	
Types of Pollution at Kg Morten	air pollution	Count	8	2	4	28	1	4	47
		% within Types of Pollution at Kg Morten	17.0%	4.3%	8.5%	59.6%	2.1%	8.5%	100.0%
		% within Factors contributed to the pollution at Kg.Morten	20.5%	40.0%	100.0%	100.0%	50.0%	23.5%	49.5%
		% of Total	8.4%	2.1%	4.2%	29.5%	1.1%	4.2%	49.5%
	river pollution	Count	31	3	0	0	0	5	39
		% within Types of Pollution at Kg Morten	79.5%	7.7%	.0%	.0%	.0%	12.8%	100.0%

		% within Factors contributed to the pollution at Kg.Morten	79.5%
		% of Total	32.6%
	thermal pollution	Count	0
		% within Types of Pollution at Kg Morten	.0%
		% within Factors contributed to the pollution at Kg.Morten	.0%
		% of Total	.0%
	sound pollution	Count	0
		% within Types of Pollution at Kg Morten	.0%
		% within Factors contributed to the pollution at Kg.Morten	.0%
		% of Total	.0%
Total		Count	39
		% within Types of Pollution at Kg Morten	41.1%
		% within Factors contributed to the pollution at Kg.Morten	100.0%
		% of Total	41.1%

60.0%	.0%	.0%	.0%	29.4%	41.1%
3.2%	.0%	.0%	.0%	5.3%	41.1%
0	0	0	1	2	3
.0%	.0%	.0%	33.3%	66.7%	100.0%
.0%	.0%	.0%	50.0%	11.8%	3.2%
.0%	.0%	.0%	1.1%	2.1%	3.2%
0	0	0	0	6	6
.0%	.0%	.0%	.0%	100.0%	100.0%
.0%	.0%	.0%	.0%	35.3%	6.3%
.0%	.0%	.0%	.0%	6.3%	6.3%
5	4	28	2	17	95
5.3%	4.2%	29.5%	2.1%	17.9%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5.3%	4.2%	29.5%	2.1%	17.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	102.331[a]	15	.000
Likelihood Ratio	95.519	15	.000
Linear-by-Linear Association	5.290	1	.021
N of Valid Cases	95		

a. 18 cells (75.0%) have expected count less than 5. The minimum expected count is .06.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.038	.000
	Cramer's V	.599	.000
N of Valid Cases		95	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Based on the crosstab analysis for Comparison between types of pollution and the factor contributed to the pollution at Kg.Morten, it show that for the air pollution, the major contribution factor is the vehicle smoke which in percentage as 59.6% from the whole factor. For the river pollution, the major contribution factor is the improper solid waste management that is 79.5%. For thermal pollution the factor is from compactness habitant and the construction activities. The respondent who chooses thermal pollution as the pollution is only 3 respondents, and the factor contributes is 1 from the compactness habitant, and another 2 choose that the factor is the construction activities. While for sound (noise) pollution, the contribution factor is from the construction activities. The major pollution at Kg.Morten is the air pollution followed by river pollution, sound pollution and thermal pollution. Even

though air pollution is the major at Kg.Morten, but the major contributor factor is the solid waste because its contribute to river and air pollution.

4.3.2 Comparision between Types of Pollution at Kg Morten and The effect from the pollution

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Types of Pollution at Kg Morten * The effect from the pollution	95	100.0%	0	.0%	95	100.0%

Types of Pollution at Kg Morten * The effect from the pollution Crosstabulation

			The effect from the pollution				Total
			health probelms	nasty scenery	injurious insect	uncomfortable condition	
Types of Pollution at Kg Morten	air pollution	Count	38	7	0	2	47
		% within Types of Pollution at Kg Morten	80.9%	14.9%	.0%	4.3%	100.0%

		% within The effect from the pollution	82.6%
		% of Total	40.0%
	river pollution	Count	7
		% within Types of Pollution at Kg Morten	17.9%
		% within The effect from the pollution	15.2%
		% of Total	7.4%
	thermal pollution	Count	1
		% within Types of Pollution at Kg Morten	33.3%
		% within The effect from the pollution	2.2%
		% of Total	1.1%
	sound pollution	Count	0
		% within Types of Pollution at Kg Morten	.0%
		% within The effect from the pollution	.0%
		% of Total	.0%
Total		Count	46
		% within Types of Pollution at Kg Morten	48.4%
		% within The effect from the pollution	100.0%
		% of Total	48.4%

19.4%	.0%	18.2%	49.5%
7.4%	.0%	2.1%	49.5%
28	0	4	39
71.8%	.0%	10.3%	100.0%
77.8%	.0%	36.4%	41.1%
29.5%	.0%	4.2%	41.1%
0	2	0	3
.0%	66.7%	.0%	100.0%
.0%	100.0%	.0%	3.2%
.0%	2.1%	.0%	3.2%
1	0	5	6
16.7%	.0%	83.3%	100.0%
2.8%	.0%	45.5%	6.3%
1.1%	.0%	5.3%	6.3%
36	2	11	95
37.9%	2.1%	11.6%	100.0%
100.0%	100.0%	100.0%	100.0%
37.9%	2.1%	11.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	131.569[a]	9	.000
Likelihood Ratio	73.973	9	.000
Linear-by-Linear Association	37.064	1	.000
N of Valid Cases	95		

a. 11 cells (68.8%) have expected count less than 5. The minimum expected count is .06.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.177	.000
	Cramer's V	.679	.000
N of Valid Cases		95	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Based on the crosstab analysis for Comparision between Types of Pollution at Kg Morten and The effect from the pollution, it show that most of the effect is to the health problem that arise from the air pollution. While for the river pollution, the major effect is the nasty scenery. For thermal pollution the effect is the attraction of insect into the villager's house. For sound (noise) pollution, it create uncomfortable condition because disturb by the noisy surrounding.

4.3.3 Comparison between effect to the surrounding from the urbanization and types of effect

Case Processing Summary

	Cases		
	Valid	Missing	Total

	N	Percent	N	Percent	N	Percent
Is there any effect to your surrounding from the urbanization development * If yes, what is the effects	95	100.0%	0	.0%	95	100.0%

Is there any effect to your surrounding from the urbanization development * If yes, what is the effects Cross tabulation

			If yes, what is the effects				Total
			No	high temperature	unhealthy air	noisy sound	
Is there any effect to your surrounding from the urbanization development	Yes	Count	19	49	20	4	92
		% within Is there any effect to your surrounding from the urbanization development	20.7%	53.3%	21.7%	4.3%	100.0%
		% within If yes, what is the effects	86.4%	100.0%	100.0%	100.0%	96.8%
		% of Total	20.0%	51.6%	21.1%	4.2%	96.8%
	No	Count	3	0	0	0	3
		% within Is there any effect to your surrounding from the urbanization development	100.0%	.0%	.0%	.0%	100.0%
		% within If yes, what is the effects	13.6%	.0%	.0%	.0%	3.2%
		% of Total	3.2%	.0%	.0%	.0%	3.2%
Total		Count	22	49	20	4	95

	% within Is there any effect to your sorrounding from the urbanization development	23.2%	51.6%	21.1%	4.2%	100.0%
	% within If yes,what is the effects	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	23.2%	51.6%	21.1%	4.2%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.279[a]	3	.016
Likelihood Ratio	9.110	3	.028
Linear-by-Linear Association	5.712	1	.017
N of Valid Cases	95		

a. 5 cells (62.5%) have expected count less than 5. The minimum expected count is .13.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.329	.016
	Cramer's V	.329	.016
N of Valid Cases		95	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Based on the crosstab analysis for Comparison between effect to the surrounding from the urbanization and types of effect, it show that most of the effect is the increase in temperature of their surroundings, followed by air problem which can be consider as unhealthy air and after that the noisy pollution. From the entire respondent, there are only 3 respondents who choose to answer that there is no change and effect to the Kg.Morten surrounding from the urbanization process.

4.4 T-Test

4.4.1 Comparison between male and female level awareness of environment and pollution

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Totalawarenesslevel	male	50	20.3800	2.89186	.40897
	female	45	20.7111	2.00706	.29919

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Totalawarenesslevel	Equal variances assumed	.474	.493	-.641	93	.523	-.33111	.51625	-1.35627	.69405

	Equal variances not assumed			-.653	87.556	.515	-.33111	.50673	-1.33820	.67598

Compare to the hypothesis in chapter 2, we assume that there will be an obvious diffrentiate between male and female villagers who is more concern regarding the environment care. We believe that the female villagers will paid more attention regarding this issue of environment and the urban pollution which happened sorrounding them. This because we can see the female villagers who doing the cleaning work and some of them as housewives will spent more time at their house and bascially at Kampung Morten most of their day. This gave them time to observe the environment change or pollution. From the T-test analysis show that there is no obvious difference between male and female level of awareness regarding the environmental.

Hypothesis: There is difference between male and female level of awareness regarding the environment and pollution.

Ho : There are have difference between male and female level of awareness regarding the environment and pollution.

Ha : There are no difference between male and female level of awareness regarding the environment and pollution.

Result: No differences between male and female regarding the awareness level of pollution. The hypothesis cannot be accepted.

4.5 Anova

4.5.1 Comparison among different age range level of awareness of environment and pollution

ANOVA

Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.785	10	.779	1.266	.263
Within Groups	51.646	84	.615		
Total	59.432	94			

Based on the hypothesis in Chapter 2, we believe that there is not a very obvious differentiation between the age group either from young to old villagers at Kampung Morten regarding their level of awareness about the important of environment care and the pollution control. Even thou there is lot's of old generation at Kampung Morten but we believe with the surrounding which

are open to information source such as the Environment Department , Tourism Department and political influence from the state government of Melaka, we believe that the info and advice regarding these issues are provided. Observing the lifestyle of Kampung Morten, they tend to give an advice to their children about the important of taking care the environment. What cannot be assured via our observation is they might less aware about the urban pollution trend but only focus to the effect and cause. With the tendency of old generation giving an advice to the young generation, we believe that those in young age range is realize about this issues and are following their parent lifestyle. Beside, Kampung Morten is one of the attraction places for a tourist to visit. Therefore, the related governance such as the state government and tourism board will remind the villagers to keep concern about the hygiene of their area. This hypothesis also support by our theory that e relation are very strong with each other. The idealism or believe about concerning the environment will be share together by all the villagers from all level of age. In our research, the age range are divided into four categories, that is 20 years old and below,21 to 40 years old, 41 to 60 years old and from 61 years old and above. Refering to the result of Anova analysis test, the signifance is high that is .263 means that there is no obvious diffrence level of awarness among the stated age range.

Hypothesis : There is no difference between various age range for the level of awareness regarding the environment and pollution.

Ho: There are having difference between various age ranges for the level of awareness regarding the environment and pollution.

Ha: there are no difference between various age ranges for the level of awareness regarding the environment and pollution.

Result : There no diffrenece between various age ranges for the level of awareness regarding the environment and pollution. The hypothesis can be accepted.

Chapter 5

Conclusion and Recommendation

5.1 Introduction

This chapter presents the conclusion of the research and provides recommendation to the neighborhood representative of Kg.Morten. It can be concluded that, most of the respondents choose that air pollution is the major pollution at Kg.Morten and the major factor is the vehicle smoke. There are no differences between male and female respondents towards the awareness of this issue.

5.2 Summary of finding

From the crosstab finding analysis for Comparison between types of pollution and the factor contributed to the pollution at Kg.Morten, it show that for the air pollution, the major contribution factor is the vehicle smoke. For the river pollution, the major contribution factor is the improper solid waste management. For thermal pollution the factor is from compactness habitant and the construction activities. While for sound (noise) pollution, the contribution factor is from the construction activities. The major pollution at Kg.Morten is the air pollution followed by river pollution, sound pollution and thermal pollution.

Based on the finding from crosstab analysis for Comparision between Types of Pollution at Kg Morten and The effect from the pollution, it show that most

of the effect is to the health problem that arise from the air pollution. While for the river pollution, the major effect is the nasty scenery. For thermal pollution the effect is the attraction of insect into the villager's house. For sound (noise) pollution, it create uncomfortable condition because disturb by the noisy surrounding.

Study the finding result of crosstab analysis for Comparison between effect to the surrounding from the urbanization and types of effect, it show that most of the effect is the increase in temperature of their surroundings, followed by air problem which can be consider as unhealthy air and after that the noisy pollution. From the entire respondent, there are only 3 respondents who choose to answer that there is no change and effect to the Kg.Morten surrounding from the urbanization process.

From the result of T-test analysis show that the significance is high which mean our hypothesis at 2.3.1 is not acceptable. The result of this analysis, show that between male and female their awarness towards the environment and pollution can be conclude as in same level of awarness.

Refering to the result of Anova analysis test, the signifance is high that is .263 means that there is no obvious diffrence level of awarness among the stated age range. Therefore the hypothesis at 2.3.2 for the Comparison among different age range level of awareness of environment and pollution can be accepted.

5.3 Recommendation

Through all the research and the finding that we gained in the study, there are several ways that can be recommended and suggested in order to have a better of environmental solution and condition.

5.3.1 Create good relationship with government (Environmental department)

The Kg Morten should have a good link between government and any organization that related to the environment in order to provide more environment programs. Through the study towards the level of awareness among Kg Morten society, we can see that the awareness of the problems regarding environment is good but still need way to improve in order to maintain the cleanliness and perception of Kg Morten society towards environment. The agency such as Environment Department, Sahabat Alam Malaysia, Ministry of Health , local officer such as Majlis Bandaraya Melaka Bersejarah have to come out with several of environment program such as campaign, environment road tour in order increased the awareness of Kg Morten society towards the important of environmental care.

5.3.2 Focus on specific maintained facilities

The local government should focusing towards the structure of the drain system that giving a problems to the Kg Morten society. Through our observation and also several opinions from the respondents, the structure of

drain system needs to be up grade in a well-organized because it brings smelly smell that affected the Kg Morten society.

5.3.3 Role of Kg.Morten committees

Kg Morten committees need to come out with several rules of taking care their surrounding from the any damages, dirty in unhealthy so then the society will be alert to the environment care.

On 7 July 2008 Malacca have been named by the one of the eight new cultural sites added to UNESCO's world Heritage list by the UNESCO communities. Kg. Morten is one of the main attractions of tourism industry because it showed the unique and the Malay traditional culture. Based on that, the rules of environment care such as don't throw rubbish around the surrounding should be present and advertise in order to make society or public alert with the environment care. The environment care should be started in the early education in order to have long implementation to the next generation of Kg Morten. It is very hard to maintain the spiritual of the environment among the Kg Morten society for the long term period. So, it is very important to all people, public and any agency to implement the culture of environment among young in generation. In Kg Morten there have one childhood centre (kindergarten) that been provided to the Kg Morten society. Here this centre can help to giving knowledge, giving information and exposure regarding environmental care towards the young generation for the long term preparation.

5.4 limitations

The limitations during accomplish this research, is the problem from barriers of time. As we know, to complete this research need to consume lots of time, because a lot of terms to understand. Beside in order to meet the villagers for each unit of house to answer the questioners take some time to complete because not every time we go to the house the villagers in the house. Therefore we need to go back for several times to make sure that every unit of house answering the questioners.

5.5 Conclusion

For the conclusion, through the studies of urban pollution at Kampung Morten Melaka, the major factor is identified. What most important is the continuous effort to provide education regarding the environmental care and awareness from nowadays which also focusing to the young children. This to make sure that they will cherish and treasure this valuable heritage, in the future.

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Appendices

Questioners

FAKULTI SAINS PENTADBIRAN DAN PENGAJIAN POLISI
UNIVERSITI TEKNOLOGI MARA

KAJIAN MENGENAI KESAN PENCEMARAN BANDAR
KAJI SELIDIK : KAMPUNG MORTEN MELAKA

PENYELIDIK:
NOR FAHIMAH MOHAMAD YUSOF
FREDINAND DOMINIC SIBIH

UNIVERSITI TEKNOLOGI MARA
FAKULTI SAINS PENTADBIRAN DAN PENGAJIAN POLISI

Tuan/ Puan

Kami Nor Fahimah Mohamad Yusof dan Fredinand Dominic Sibih pelajar Universiti Teknologi Mara, sedang menjalankan penyelidikan mengenai Kesan Pencemaran Bandar di Kawasan Kampung Morten Melaka sebagai sebahagian keperluan di dalam melengkapkan dissertasi Ijazah Sarjana Muda kami.

Kami amat menghargai jasa baik penglibatan Tuan/Puan di dalam kajian ini. Kajian ini akan membantu kita dalam melihat dan menilai kualiti tahap pencemaran ini dan bagaimana masalah pencemaran kawasan sekitarnya ini mungkin dapat diperbaiki pada masa akan datang. Maklumbalas yang diberikan akan dirahsiakan.

Jutaan terima kasih di atas kerjasama dan maklumbalas yang Tuan/Puan berikan.

Penyelia:
Tn Hj Abdul Hameed Bin Mohamad Mydin

BAHAGIAN I: DEMOGRAFI

ARAHAN

Sila tandakan (√) pada ruangan yang disediakan bagi jawapan pilihan anda/ please tick (√) in the box provided for your answer.

1. Jantina/Gender
   Lelaki/Male
   Perempuan/Female

2. Umur/Age
   Bawah 20 tahun/below 20 years old
   21 - 40 tahun/21-40 years old
   41 - 60 tahun/41-60 years old
   61 ke atas/61 years old and above

3. Taraf Perkahwinan/Marital status
   Bujang/single
   Berkahwin/marriage

4.Berapa lamakah anda tinggal di kampung ini?/How long have you been staying at Kg Morten?
   <2 Tahun/<2 years
   3-6 tahun/3-6 years
   7-14 tahun/7-14 years
   15-20 tahun/15-20 years
   >20 tahun/> 20 years

5. Taraf Penduduk/residental status

Penduduk Tetap/local society/permenant villagers	
Penyewa/tennant	

BAHAGIAN II

Faktor Pencemaran dan Kesannya.

ARAHAN

Sila tandakan (√) pada ruangan yang disediakan bagi jawapan pilihan anda/ please tick (√) in the box provided for your answer.

1. Jenis – jenis pencemaran di Kg.Morten / Types of pollution at Kg.Morten

Pencemaran udara/ air pollution	
Pencemaran air(sungai)/river pollution	
Pembuangan sampah/solid waste	
Peningkatan suhu yang tinggi/high temparature	
Pencemaran bunyi/sound pollution	

2. Faktor- faktor yang membawa kepada pencemaran di Kg Morten/Factors contributed to the pollution at Kg.Morten

Pembuangan Sampah sarap/solid waste	
Pembuangan dari sisa-sisa industri/industrial discharge	
Kesan aktiviti Pelancongan/tourism activities	
Asap Motor kenderaan/vehicles smoke	
Kepadatan penduduk/compactness inhabitant	
Projek pembinaan di kawasan setempat/construction activities	

3 Apakah kesan pencemaran yang dapat dilihat?/The effect from the pollution

Masalah Kesihatan/ Health Probelms	
Pemanadangan yang kurang menyenangkan/Nasty scenery	
Binatang dan serangga perosak/ animals and injurious insect	
Persekitaran yang kurang selesa/ Uncomfortable sorrounding	

4. Adakah proses pembandaran di Kg Morten memberikan kesan persekitaran kepada anda? Is there have any effect from the urbanization process towards Kg Morten surroundings?

Ya/Yes	
Tidak/No	

5. Jika ya, apakah kesan tersebut / If yes, what is the effect

Tidak pasti / not sure	
Suhu yang panas./high temparature	
Udara kotor tidak bersih/dirty air	
Bunyi bisang dari tapak pembinanan/ noisy sound from construction activity	
Kerosakan struktur muka bumi / damage of the earth surface	

6. Apakah peristiwa kesan sampingan daripada proses pembandaran yang pernah terjadi di Kg Morten / Is there any situation as side effect from urbanization that happened at Kg.Morten?

Banjir/Flood	
Kemarau/Drought	
Penyakit berjangkit/Spread desease	
Kerosakan struktur rumah/Damage the house structure	

BAHAGIAN III

ARAHAN

Level of awareness and level of confident.

Sila tandakan (√) samada ruangan anda sangat bersetuju, bersetuju, sederhana, tak bersetuju atau sangat tak bersetuju dengan pernyataan tersebut.

Please state (√) at the column strongly agree, agree, uncertain, disagree and strongly disagree.

No	Perkara	Sangat Tak Bersetuju (1)	Tak Bersetuju (2)	Tak Pasti (3)	Bersetuju (4)	Sangat Bersetuju (5)
1	Penduduk setempat sangat prihatin kepada pencemaran kg morten/villagers of Kg.Morten concern towards the environmnetal care					
2	Penyebaran maklumat mengenai kepentingan alam sekitar dan pencemaran harus diadakan di Kg.Morten / Information about environment and pollution must be spred and share at Kg.Morten					
3	Projek-projek pembinaan harus mengambil berat mengenai pencemaran dan kepentingan alam sekitar / The development project must concern about environment and pollution					
4	Process pembandaran berlaku dengan pesat / The urbanization process are growth fast					
5	Wujudnya masyarakat yang mengabaikan kepentingan alam sekitar demi kepentingan diri sendiri / there is some people who ignore the important of environment for self benefit					
6	Saya memahami dan mengamalkan konsep kitar semula / I understand and apply the recycle concept					

Table

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	50	52.6	52.6	52.6
	female	45	47.4	47.4	100.0
	Total	95	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 20 years old	9	9.5	9.5	9.5
	21 - 40 years old	44	46.3	46.3	55.8
	41-60 years old	33	34.7	34.7	90.5
	61 years old and above	9	9.5	9.5	100.0
	Total	95	100.0	100.0	

Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	31	32.6	32.6	32.6
	Marriage	64	67.4	67.4	100.0
	Total	95	100.0	100.0	

How long have you been staying at Kg.Morten

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 years and below	18	18.9	18.9	18.9
	3 to 6 years	8	8.4	8.4	27.4
	7 to 14 years	18	18.9	18.9	46.3
	15 to 20 years	21	22.1	22.1	68.4
	20 years and above	30	31.6	31.6	100.0
	Total	95	100.0	100.0	

Residential status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	permanent resident/villagers	81	85.3	85.3	85.3
	tenant	14	14.7	14.7	100.0
	Total	95	100.0	100.0	

Comparison between types of pollution and the factor contributed to the pollution at Kg.Morten

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Types of Pollution at Kg Morten * Factors contributed to the pollution at Kg.Morten	95	100.0%	0	.0%	95	100.0%

Types of Pollution at Kg Morten * Factors contributed to the pollution at Kg.Morten Crosstabulation

			Factors contributed to the pollution at Kg.Morten						
			solid waste	industrial discharge	tourism activities	vehicles smoke	compactness habitant	construction activities	Total
Types of Pollution at Kg Morten	air pollution	Count	8	2	4	28	1	4	47
		% within Types of Pollution at Kg Morten	17.0%	4.3%	8.5%	59.6%	2.1%	8.5%	100.0%
		% within Factors contributed to the pollution at Kg.Morten	20.5%	40.0%	100.0%	100.0%	50.0%	23.5%	49.5%
		% of Total	8.4%	2.1%	4.2%	29.5%	1.1%	4.2%	49.5%
	river pollution	Count	31	3	0	0	0	5	39
		% within Types of Pollution at Kg Morten	79.5%	7.7%	.0%	.0%	.0%	12.8%	100.0%
		% within Factors contributed to the pollution at Kg.Morten	79.5%	60.0%	.0%	.0%	.0%	29.4%	41.1%

		% of Total	32.6%
	thermal pollution	Count	0
		% within Types of Pollution at Kg Morten	.0%
		% within Factors contributed to the pollution at Kg.Morten	.0%
		% of Total	.0%
	sound pollution	Count	0
		% within Types of Pollution at Kg Morten	.0%
		% within Factors contributed to the pollution at Kg.Morten	.0%
		% of Total	.0%
Total		Count	39
		% within Types of Pollution at Kg Morten	41.1%
		% within Factors contributed to the pollution at Kg.Morten	100.0%
		% of Total	41.1%

3.2%	.0%	.0%	.0%	5.3%	41.1%
0	0	0	1	2	3
.0%	.0%	.0%	33.3%	66.7%	100.0%
.0%	.0%	.0%	50.0%	11.8%	3.2%
.0%	.0%	.0%	1.1%	2.1%	3.2%
0	0	0	0	6	6
.0%	.0%	.0%	.0%	100.0%	100.0%
.0%	.0%	.0%	.0%	35.3%	6.3%
.0%	.0%	.0%	.0%	6.3%	6.3%
5	4	28	2	17	95
5.3%	4.2%	29.5%	2.1%	17.9%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5.3%	4.2%	29.5%	2.1%	17.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	102.331[a]	15	.000
Likelihood Ratio	95.519	15	.000
Linear-by-Linear Association	5.290	1	.021
N of Valid Cases	95		

a. 18 cells (75.0%) have expected count less than 5. The minimum expected count is .06.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.038	.000
	Cramer's V	.599	.000
N of Valid Cases		95	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Comparision between Types of Pollution at Kg Morten and The effect from the pollution

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Types of Pollution at Kg Morten * The effect from the pollution	95	100.0%	0	.0%	95	100.0%

Types of Pollution at Kg Morten * The effect from the pollution Crosstabulation

			The effect from the pollution				
			health probelms	nasty scenery	injurious insect	uncomfortable condition	Total
Types of Pollution at Kg Morten	air pollution	Count	38	7	0	2	47
		% within Types of Pollution at Kg Morten	80.9%	14.9%	.0%	4.3%	100.0%
		% within The effect from the pollution	82.6%	19.4%	.0%	18.2%	49.5%
		% of Total	40.0%	7.4%	.0%	2.1%	49.5%
	river pollution	Count	7	28	0	4	39
		% within Types of Pollution at Kg Morten	17.9%	71.8%	.0%	10.3%	100.0%
		% within The effect from the pollution	15.2%	77.8%	.0%	36.4%	41.1%
		% of Total	7.4%	29.5%	.0%	4.2%	41.1%
	thermal pollution	Count	1	0	2	0	3
		% within Types of Pollution at Kg Morten	33.3%	.0%	66.7%	.0%	100.0%
		% within The effect from the pollution	2.2%	.0%	100.0%	.0%	3.2%
		% of Total	1.1%	.0%	2.1%	.0%	3.2%
	sound pollution	Count	0	1	0	5	6
		% within Types of Pollution at Kg Morten	.0%	16.7%	.0%	83.3%	100.0%
		% within The effect from the pollution	.0%	2.8%	.0%	45.5%	6.3%
		% of Total	.0%	1.1%	.0%	5.3%	6.3%

Total	Count	46	36	2	11	95
	% within Types of Pollution at Kg Morten	48.4%	37.9%	2.1%	11.6%	100.0%
	% within The effect from the pollution	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	48.4%	37.9%	2.1%	11.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	131.569[a]	9	.000
Likelihood Ratio	73.973	9	.000
Linear-by-Linear Association	37.064	1	.000
N of Valid Cases	95		

a. 11 cells (68.8%) have expected count less than 5. The minimum expected count is .06.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.177	.000
	Cramer's V	.679	.000
N of Valid Cases		95	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Comparison between effect to the surrounding from the urbanization and types of effect

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Is there any effect to your surrounding from the urbanization development * If yes, what is the effects	95	100.0%	0	.0%	95	100.0%

Is there any effect to your surrounding from the urbanization development * If yes, what is the effects Cross tabulation

			If yes, what is the effects				
			No	high temperature	unhealthy air	noisy sound	Total
Is there any effect to your surrounding from the urbanization development	Yes	Count	19	49	20	4	92
		% within Is there any effect to your surrounding from the urbanization development	20.7%	53.3%	21.7%	4.3%	100.0%
		% within If yes, what is the effects	86.4%	100.0%	100.0%	100.0%	96.8%
		% of Total	20.0%	51.6%	21.1%	4.2%	96.8%
	No	Count	3	0	0	0	3
		% within Is there any effect to your surrounding from the urbanization development	100.0%	.0%	.0%	.0%	100.0%
		% within If yes, what is the effects	13.6%	.0%	.0%	.0%	3.2%

Total	% of Total	3.2%	.0%	.0%	.0%	3.2%
	Count	22	49	20	4	95
	% within Is there any effect to your sorrounding from the urbanization development	23.2%	51.6%	21.1%	4.2%	100.0%
	% within If yes,what is the effects	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	23.2%	51.6%	21.1%	4.2%	100.0%

Comparison between male and female level awareness of environment and pollution

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Totalawarenesslevel	male	50	20.3800	2.89186	.40897
	female	45	20.7111	2.00706	.29919

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Totalawarenesslevel	Equal variances assumed	.474	.493	-.641	93	.523	-.33111	.51625	-1.35627	.69405
	Equal variances not assumed			-.653	87.556	.515	-.33111	.50673	-1.33820	.67598

Comparison among different age range level of awareness of environment and pollution

ANOVA

Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.785	10	.779	1.266	.263
Within Groups	51.646	84	.615		
Total	59.432	94			