STRAY CATS MANAGEMENT IN UNIVERSITI TEKNOLOGI MALAYSIA

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requirements for the award of the degree of
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DEDICATION

"To my dearest parents, siblings and my fellow friends especially LooYee, Ruby, Neo BB, Nadia, Dr. Hafizal, AngSee, Saumei and Ahdar.
Thank you for standing by my side when times get hard."

For your patience and caring, kind words and sharing, "Thank You"

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ABSTRACT

The population of stray cats is increased in the worldwide. Stray cat's management is a highly debated topic nowadays. The approach of manage the stray cats are always controversy to determine the option which is most practical, effective and humane to be implement. University Teknologi Malaysia, Skudai is having the same issues of the rising number of stray cats population that faced by the worldwide in the recent year. The increased number of stray cats not only brings public nuisance and sanitation problems to UTM, it has affected the image as a higher education center. Therefore, the management of UTM are attempted to have an approach for manage the stray cats issue in the campus and humanely implement rather than just pets control. This research was carried out to determine the approach for managing stray cats in UTM. The research has been done by using questionnaires survey. The criteria and approach for constructed the questionnaire has been identify through Literature Review. There are (4) criterion has been identified which is Social Acceptability, Animal Welfare, Effectiveness, Legal Compliance. The (6) approach for manage stray cats are Kill-on-Site, Trap and Euthanize, Feeding Station, Animal Shelter, Trap, Remove and Relocation and Trap, Neuter and Release(TNR). The data are analyzed by the Frequency calculation and Critically Index. The result shown that to establish an Animal Shelter are the first ranked approach and most preferred for manage the stray cats in the campus that fulfill most of the criteria. Followed by second and third approach that is fulfills most of the criteria and preferred by the community in UTM which is Trap, remove and relocation, and provide a Feeding station. This study is giving a suggestion and provides information to management of UTM about the method for managing stray cats

ABSTRAK

Populasi kucing berkeliaran semakin meningkat di seluruh dunia. Pengurusan kucing berkeliaran telah menjadi stau topic yang sangat dibahaskan pada masa kini. Kaedah- kaedah yang menguruskan kucing berkeliaran adalah amat kontroversi dalam menentukan kaedah yang paling praktikal, berkesan and berperikemanusiaan untuk melaksanakan. University Teknologi Malaysia serdang mengalami isu-isu yang dihadapi di seluruh dunia iaitu perningkatan kucing berkeliaran di dalam kampus. Perningkatan jumlah kucing berkeliaran bukan sahaja membawa kacau ganggu kepada kita, ia juga muncul masalah kebersihan di UTM kampus. Ini telah menjejaskan imej UTM sebagai pusat pendidikan tinggi. Oleh itu, pihak pengurusan UTM ingin mendapatkan kaedah untuk menguruskan isu-isu yang dibawah oleh kucing berkeliaran secara berperikemanusiaan untuk dilaksanakan. Kajian ini menjalankan untuk menentukan kaedah- kaedah mengurus kucing berkeliaran di UTM kampus. Kajian ini mengguna soal selidik. Kriteria- kriteria dan kaedah- kaedah membentukan soal selidik adalah telah dikenal pasti dari kesusasteraan. Terdapat (4) kriteria yang telah dikenal pasti iaitu Penerimaan Social, Kebajikan Haiwan, Keberkesanan. dan Pematuhan Undang- udang. Selain itu, (6) kaedah yang menguruskan kucing berkeliaran adalah Menembak dan Umpan yang bertoksik, Menangkap dan membunuh secara berperikemanusiaan, Stesen menyediakan makanan bertetap, Rumah perlindungan binatang, Menangkap dan memindah dari tempat asal ke tempat lain, dan Menangkap untuk memandul dan melepaskan. Data dianalisiskan dengan mengunakan pengiraan frequency dan critically index. Hasil kajian menunjukkan bahawa menubuhkan rumah perlindungan adalah cara yang menjadikan pilihan pertama berbanding dengan cara lain dan dapat mencapai kebanyakkan. Diikuti dengan cara pilihan kedua dan ketiga yang mencapai kebanyakkan kriteria adalah Menangkap dan memindah dari tempat asal ke tempat lain dan, Stesen menyediakan makanan bertetap. Kajian ini akan memberi cadangan dan maklumat tentang kaedah untuk menguruskan kucing berkeliaran di UTM.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Cats that they are not confined to a yard or house, untamed and evasive, homeless that remain socialized and friendly towards humans are defined as feral cats, stray cats or free roaming cats. They are unonwned animals that living outdoors. (Barrows; Levy & Crawford, 2004). This population of cats that are not owned by any person will be referred as “stray cats” (Bradshaw, Horsfield, Allen, & Robinson, 1999). Cats can normally live for an estimation of 4 to 5 years (Ogan & Jurek, 1997). They reach reproductive maturity at age between 7 to 12 months, and their gestation period lasts between 63 to 65 days. The female cats usually produce twice per year and the average is four kittens (Nowak & Paradiso, 1983)

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In the worldwide the numbers of stray cat are increasing. Stray cats is estimated to reach numbers in excess of 200 million that replaces the stray dogs as the most populated companion animal (Bernstein, 2005). Some of the study are prompted to present the investigation due to the close association and proximity of stray cats to highly populated and urbanized areas in Peninsular Malaysia.(Zain, Siti Nursheena Mohd, Sahimin, Norhidayu, Pal, Paul and Lewis, John W 2013). The high population of stray cats in urban areas are regards to be concern include the predication, public nuisance, and disease. The increasing numbers of stray cat's population are form through prolific reproduction, immigration of feral cats and the abandoned or unwanted pet cats in to stray cats colonies (Coman & Burnner 1972; Schmidt *et al*. 2007). Therefore, the continuously increase of population and without proper approach to manage will generally bring an issue to the local (Gurther & Terkel 2002).

Stray cats are usually prevalent at public places such as hospital, hotels, and universities where there is access to food waste. (Hughes & Slater, 2002; levy et al., 2003). They are especially numerous on college campuses, and military bases and most of them are not spayed or neutered, and abandoned by the human. Basically, cats are very highly adaptable and easily conform to any types of living conditions (Stoskopf & Nutter 2004). According to Gunther & Terkel (2002), the presence of stray cats can have both positive and negative effects in urban areas.

There are many methods to manage the stray cats for example the traditional methods catch and euthanize them that has been applied (Ash & Adams 2003). However, some of the private agencies and governmental are fight against this method because it is inhuman and contrary to most of the religion value and concept. Therefore, to manage the stray cats has emerged as one of the hotly contested issues in animal control and welfare that always debated. (Levy, Julie K and Crawford, P Cynda 2004).

University Teknologi Malaysia, Skudai is having the same issues of the rising number of stray cats population that faced by the worldwide in the recent year. The top management of UTM are attempted to have an approach to manage the stray cats issue in the campus and humanely implement. Hence, the university is exploiting the problem of stray cats and approach of managing stray cats in the UTM campus.

1.2 Research Background

Universiti Teknologi Malaysia (UTM)'s goal is to be recognized as a world class university of academic and technology excellence. In order to achieve it, UTM has set itself a clear goal to be transformed into a world-class research university by the year 2020. Therefore, to achieve the goal is not only focus on the academic achievement, have an exemplary reputation and the image of the university have to elevate. These institutions are facing multiple tasks have to maintain and uphold their identities but also to provide quality services and facilities which offer golden opportunities to attract more applicants either locally or internationally, and provides a continuum of high quality of campus environment to the student and staff.

Therefore, UTM have to manage the natural and built environment to provide a high quality and safe environment of campus to the student and staff. To manage the facilities of the campus is about the integration between operation, maintaining, improving and adapting the built environment and natural environment in order to create an environment to support the primary objectives of the organisation (Nutt, 2004). Hence, this is important to take a balance on managing the natural and built environment of the campus to support the core business of university to achieve the primary objectives. Manage the environment are means to provide a complete living

environment. The built environment are refers to to the man-made surroundings that provide the setting for human activities. However, as we know built environment not only gives human being a shelter, somehow to the abandoned animals a place of living for example stray cats, dogs, birds and so on.

In the recent year, there is an increased number of stray animals come to the campus seek for foods and shelter. For example monkeys, cats, dogs, wild boar, and many others types of wildlife. Some of the stray animals are visit the campus to seek for food occasionally and some of them are searching for a shelter in the campus. However, to manage the increasing number stray animals is not an easy task due to the welfare of the animals have to protect. The Security Division (BKES) UTM (security department) mentioned that they had managed some stray animal in the campus before for example the monkeys, boars, snakes and dogs. They normally will manage the population through traditional pest control method for example trapped and relocation, or even kill on site. The community is often having many extreme view and debate on the method on manage the stray animal. However, UTM as a high education center that building their trademark are need to be more concern on the implement method to manage those populations.

1.3 Problem statement

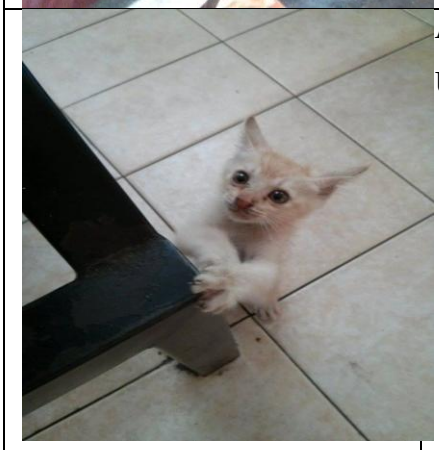
Basically, cats have high level of tendency to breed very quickly, and reproduce at a high rate, which will cause the cats' population to increase rapidly in favourable conditions (Mahlow & Slater, 1996). This has become a worldwide problem. Unmanaged their numbers will become enormous in the community, and some study shows that the increasing number of stray cats does become an issue to the community.

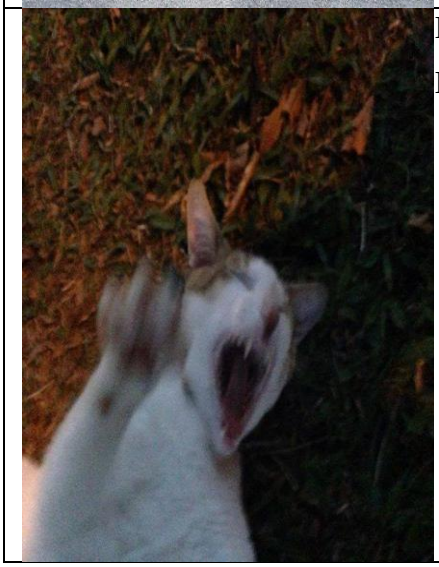
The concerns are mostly about public nuisance, cat welfare, and the method of managing their population (Mahlow & Slater, 1996; Patronek, 1998).

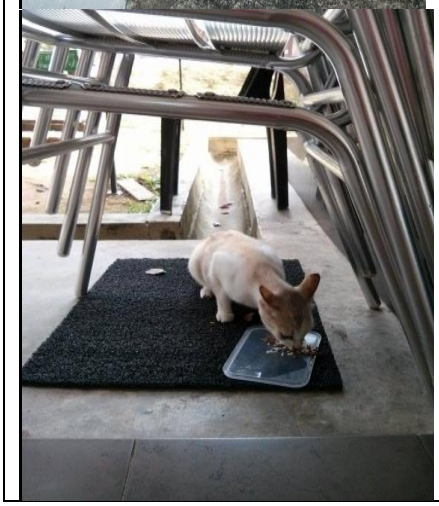
According to (Hughes & Slater, 2002; Levy et al., 2003), stray cats are often prevalent in public areas such as hospitals, food courts and universities due to attraction of food waste leave by people. In Universiti Teknologi Malaysia (UTM), Skudai campus, the stray cats normally live in student hostels, cafeterias, faculties, mosques and so on. All those areas become their living places because there are individuals who provide care and food for them due to sympathy and ethical concerns (Centonze & Levy, 2002). The public nuisance and sanitation problems in UTM are becoming serious as the number of stray cats continues to increase.

The researcher has captured some pictures of the stray cats in UTM as shown below. Through the initial observation, the researcher found that there are really a lot of sanitation problems and welfare of stray cats in the campus. Even though we are aware of such problems the management of UTM has not taken any action.

Table 1.1: The pictures and statements below show the stray cats that live inside the campus.

	Student Mall. UTM	This picture was taken at Student Mall UTM, where the tenant claimed that this female stray cat gave birth twice in this area since the time she starts living here, but most of the newly born kittens past away due to insufficient care and hunger.
	Arked Cenggal, UTM	Based on the information given by the tenant, the origins of this kitten are unknown, and one of the possible reasons is that this kitten was abandoned by previous owner. This picture shows that the kitten is struggling to request for food.
	Arked Meranti, UTM	This picture clearly shows that this stray cat is not afraid to stay with human, having the need to occasionally stay under the table waiting for any wasted food to be provided for them.

	Kolej Tun Hussien Onn	There is some students pasted the notice to warn the residents urging that "Please keep the door closed to prevent cats from entering the corridor due to the sanitation issues".
	Arked Meranti UTM	It is unfortunate to hear that these stray cats were not easily noticed by the car drivers or motorcyclist dropping by the arked, thus having the risk of getting injured from accidents.
	Kolej Datin Sri Endon, UTM	A further observation was done on the stray cats, where one of them, which are in the picture, shows that the cat is surprisingly clean. Thus we can assume that the cat has an owner, but there is no collar found on the neck.

	Faculty Geoinformasi dan Harta Tanah & Student Mall, UTM	Aside from that, some sympathetic people did provide some cat food and clean water to the stray cats, and this action will increase the number of stray cats appearing in that area. Based on the information given by the tenant in that area, some food provided by people caused the cats to get food poisoning which leads to death.

From the above pictures, we can see that the issues of stray cats occur everywhere in the campus. Many of them feed on human garbage and rubbish (Webb, 1995), where they are highly exposed to pathogens and eventually suffer health problems. Although the fertility rate of stray cats is dramatically growing the mortality rate is also high due to starvation and food poisoning. The Security Division (BKES) UTM department, who is responsible to manage wilds pests and stray animals in UTM, is aware of the increasing number of stray cats in UTM, but do not have any proper approach or planning yet to manage the issue.

The methods of managing the stray cats have been a controversy in particular to identification of the options which is most practical, effective and humane (Levy, J. K., & Crawford, P. C. 2004). Some of the welfarists argue that stray cats are having potential risk to cause harm to other animal and human health, and therefore it is acceptable and recommended to apply traditional method known as euthanasia (kill-in-silent) to control the population,. There are also others who believe that stray cats are different from other existing species of wildlife that will bring negative effect to the public. Even though previous studies have shown that there are various methods to manage stray cats, the methods have always been debated concerning the environmental impact and the appropriate management for the stray cat population (Gorman, S., & Levey, J. (2004)). However, some of the methods are inhumane and contradict the moral value despite their effectiveness. Therefore, there is a need to identify the criteria of managing the stray cats before deciding the methods to manage the cat's population so that we would achieve the consensus (Massei, G., & Miller, L. A. (2013). The methods of managing the stray cats need to be effective and indirectly to be able to promote and elevate the image of UTM.

The method of mange the stray cats are heavily depends on garnered information regarding to the public opinion on the preferences of the approach of manage the stray cats population (Stoskopf & Nutter 2004). Public preferences are important factors in stray cat's management (Loyd and Miller 2010). One of the studies shows that public opinion will generally pose different results to the method of controlling stray animals. (Reiter et al. 1999; Zinn & Andelt 1999; Kaczinsky et al. 2004; Koval & Mertig 2004; Bremner & Park 2007).

Although managing the stray cats has become one of the hot issues in animal control and welfare, in reality the stray cats are mostly ignored by both the government and private animal control agencies. The same goes to UTM campus, where the stray

cats are not managed well. The population of stray cats in the campus will keep on increasing if there is no proper solution. Therefore, this study is conducted to determine the method that best suits and preferred by UTM. The number of stray cats must be reduced, but the method of managing them is still debatable because the criteria and approach of managing stray cats is controversial (Julie Levy 2004). Hence, this study is conducted to exploit the potential problems of stray cats to UTM campus.

1.4 Objective

Based on the issues and problem statement, the objectives of the study are as follows:

a) To identify the criteria for managing stray cats.

b) To identify the approach for managing stray cats.

c) To determine the approach for managing the stray cats in UTM.

1.5 Scope of Study

a) This study focus in University Teknologi Malaysia, Skudai to identify the criteria and approach on manage the stray cats.

b) In determining the approach on managing stray cats involves the whole community in University Teknologi Malaysia, Skudai as the respondent for this research.

1.6 Significance of Study

This study is being conducted in order to exploit the potential problem and solve with the approach that can transfer to a potential advantages for UTM campus. From the result of study, we are able to identify the approach with fulfil most of the criteria for managing stray cat in UTM. Thus, through this study we can understand about what is the approach regarding to the criteria should apply on managing the stray cat issues in UTM. This study contributes to the Security Division (BKES) department and the management of UTM to let them know the criteria and approach on managing the stray cats to implement. Hence the stray cat issues can effectively manage

1.7 Research Methodology

The diagram below is shows the flows of the research for achieve the objective.

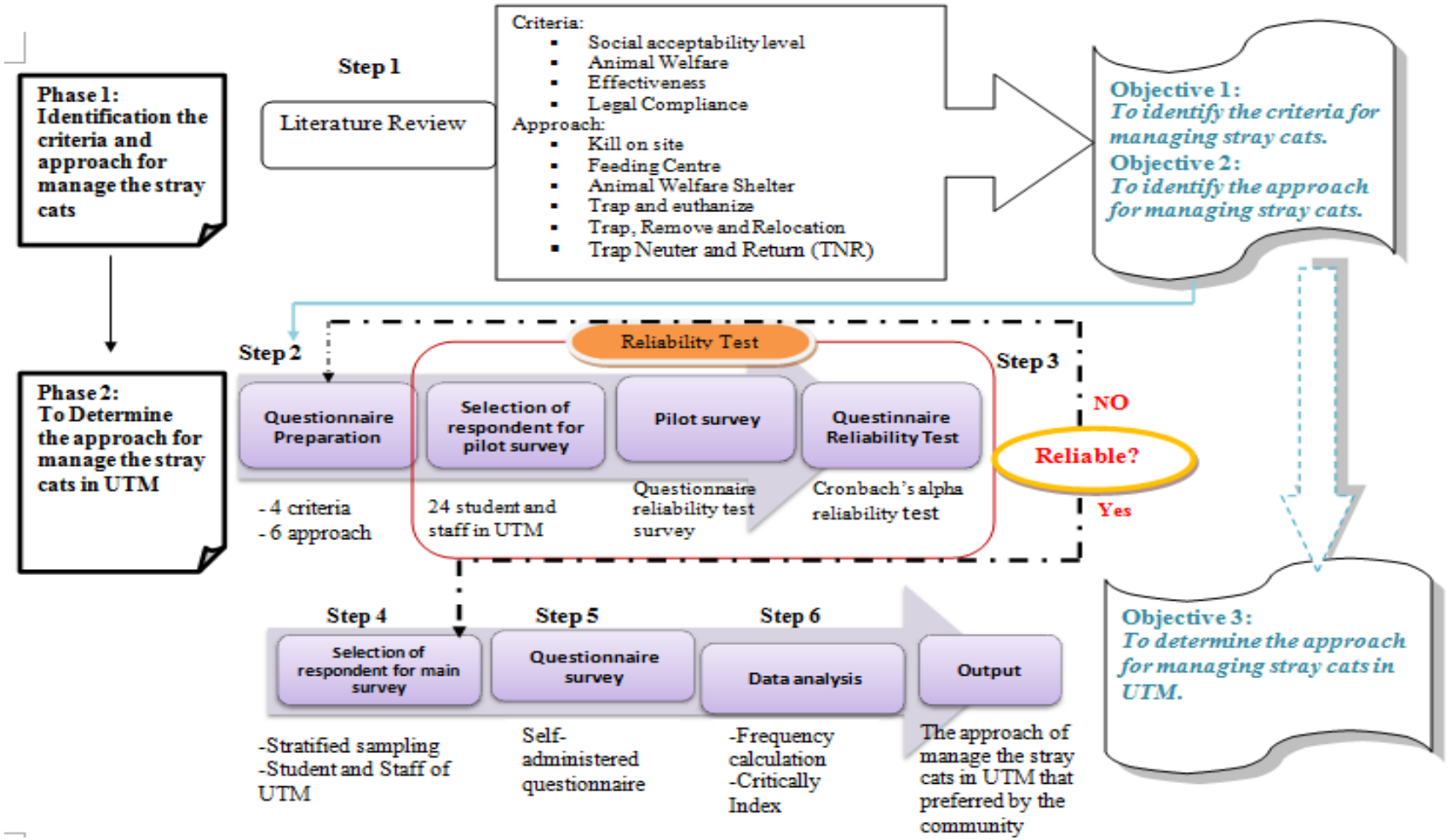


Figure 1.1: Research Methodology Diagram

The first phase of the research methodology aimed to achieve the first and second objective which to identify the criteria and approach of manage the stray cats from review the literature review. For the phase 2 of this study, the first part of methodology is preparation of questionnaire, followed by pilot test using Cronbach's Alpha Reliability Test. Data collected by using group questionnaire survey and analyze by using descriptive frequency technique and critically index.

1.8 Organization of Chapters

This study will consist of 5 chapters which are Introduction, Literature Review, Research Methodology, Data Analysis and Result, Conclusion and Recommendation. A summary for the sequences of the chapters are as follow:

Chapter 1 (Introduction) : Chapter 1 outlines the initial introduction of the research, problem statement, research objectives, scope of study, significant of study, a brief explanation on the research methodology and also organisation of the study. In short, this chapter provides a general overview of the research.

Chapter 2 (Literature Review): In Chapter 2 gives explanations about the definition of the related terms of the research, area of study and what I need to study for my research and what I gained in the literature review part.

Chapter 3 (Research Methodology): In Chapter 3 discusses the methodology that will be used in this research. This chapter explains the design of questionnaire which developed from the theoretical stray cat management criteria and approach that established in Chapter 2. This chapter will also discuss about selection of respondents, data collection works and analysis methods used.

Chapter 4 (Data Analysis): This chapter shows all the result after analyses undertaken for achieving the objectives of this research. The data will be presented in tables, charts and graphs and explanations will be discussed in Chapter 5.

Chapter 5 (Discussion and Findings): All of the discussion and findings to reach the objectives especially the preferences of the respondent towards the approach base on the criteria to manage the stray cats in UTM will be explained in this chapter.

Chapter 6 (Conclusion and Recommendation): Chapter 5 also the last chapter of the research will conclude the findings and overall research works result. The limitations of the study as well as the significance of study are discussed in this chapter.

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