PERCEPTIONS ON ENVIRONMENTAL ISSUES RELATED TO FOREST IN CAMERON HIGHLANDS, PAHANG

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FACULTY OF FORESTRY

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PERCEPTIONS ON ENVIRONMENTAL ISSUES RELATED TO FOREST IN CAMERON HIGHLANDS, PAHANG

By

UMMU AFINA UFIYA BINTI SUHADAK

A project Report Submitted in Partial Fulfillment of the Requirement for the Degree of Bachelor of Forestry Science in the Faculty of Forestry, Universiti Putra Malaysia

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DEDICATION

Specially Dedicated to:

My beloved family:

Suhadak Bin Mesaran, Misringah Binti Redwan and also my siblings.

To all my friends,

Interviewers and residents that I had done my interview

Thank you for your encouragements, supports and the sacrifices that you have given.

Last but not least,

I dedicated this project to Dr Diana Emang, my supervisor

Who has encouraged me, helped and give so much support while conducting this research and in my study.

Thank you for everything. May Allah bless all of us.

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ABSTRACT

Forest is one of the essential ecosystems that give many benefits to humanity and all living organism by providing food, shelter, medicinal plants and environmental protection. The objectives of the study were to investigate the issue of forest exploitation in Cameron Highlands and examine perception on appropriate conservation measures that can be used to protect forests in Cameron Highlands. The convenience sampling was used on the data collected from population members who are conveniently available to participate in the study. Face to face interviews using a structured questionnaire were conducted on 110 conveniently and randomly selected respondents who were tourists and the local community in Cameron Highlands. The study revealed that 52.7% of respondents think that the most forest exploitation issue that occurs in Cameron Highlands was forest conversion into agriculture. This study also shows that some respondent's characteristics have a significant correlation with the respondent's perception towards forest protection in Cameron Highlands. From the result, it shows that not all socio-demographic characteristic influence their perceptions.

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ABSTRAK

Hutan adalah salah satu daripada ekosistem penting yang memberikan banyak faedah kepada manusia dan semua organisma hidup dengan menyediakan makanan, tempat tinggal, tumbuhan perubatan dan perlindungan alam sekitar. Objektif kajian ini adalah untuk menyiasat isu eksploitasi hutan di Cameron Highlands dan mengkaji persepsi mengenai langkah pemuliharaan yang sesuai untuk melindungi hutan di Cameron Highlands. Kajian ini dijalankan di Cameron highlands, Pahang dan pensampelan mudah digunakan pada pengumpulan data daripada populasi yang mudah didapati untuk mengambil bahagian dalam kajian ini. Wawancara bersemuka menggunakan soal selidik berstruktur dilakukan pada 110 responden yang yang merupakan pelancong dan masyarakat setempat di Cameron Highlands. Kajian ini menunjukkan bahawa 52.7% responden berpendapat bahawa isu eksploitasi hutan yang paling banyak berlaku di Cameron Highlands adalah penukaran hutan ke dalam pertanian. Kajian ini juga menunjukkan bahawa sesetengah ciri-ciri responden mempunyai hubungan yang signifikan dengan persepsi responden terhadap perlindungan hutan di Cameron Highlands.Daripada hasil yang diperoleh, ia menunjukkan bahawa tidak semua ciri sosio-demografi mempengaruhi persepsi mereka terhadap perlindungan hutan di cameron highlands.

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In the name of Allah, the Most Benevolent and Most Merciful

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Thank you.

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APPROVAL SHEET

I certify that this research project report entitled "Perceptions on Environmental Issues Related to Forest in Cameron Highlands, Pahang" by Ummu Afina Ufiya Binti Suhadak has been examined and approved as partial fulfilment of the requirements for the Degree of Bachelor of Forestry Science in the Faculty of Forestry, Universiti Putra Malaysia.

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Date: January 2019

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LIST OF ABBREVIATIONS

LDF	Lowland Dipterocarp Forest
HDF	Hill Dipterocarp Forest
NTFP	Non-timber forest products
WWF	World Wildlife Fund
NGO	Non-Government Organization
GDP	Gross Domestic Product
PRF	Permanent Reserved Forests
FAO	Food and Agriculture Organization
m	meter
r_s	Correlation / rho
SPSS	Statistical Package for the Social Science

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CHAPTER ONE

INTRODUCTION

1.1 Forest in Cameron Highlands

Forest is one of the important ecosystems that give many benefits to humanity and all living organism. In Cameron Highlands, Pahang, Malaysia, the tropical forests consist of approximately 50, 778 ha of various types of forest including the Lowland Dipterocarp Forest (LDF), Hill Dipterocarp Forest (HDF), Upper Dipterocarp Forest, Lower Montane Forest, and Upper Montane Forest (Kumaran & Ainuddin, 2006).

LDF usually occurs at 100 to below 300 meter elevation. It often can be found in Mukim Ulu Telom in Cameron Highlands. The HDF happens at 300 to 750 m elevation and can be found in Mukim Ulu Telom. The upper dipterocarp forest usually occurs at an elevation range of 750 to 1200 m, which can be found in Ringlet forest area. Lower montane forest occurs at 1200 to 1500 m elevation range and covers the forested areas close to Brinchang and Tanah Rata towns. The upper montane forest is at an elevation greater than 1500m covering mountain peaks of Gunung Brinchang, Gunung Jasar, Gunung Perdah and Gunung Irau.

Cameron Highlands has many beautiful forest areas. Since the Cameron Highlands is one of the tourism areas in Malaysia, some forest areas have been opened for recreation.

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1.2 Importance of Forest in Cameron Highlands

Forest is very important for the survival of the human being. Forest in Cameron Highlands is part of a natural ecosystem that fosters and enriches human life. It has a complex cycle involving water, soil, atmospheric, plant and fauna.

Cameron Highlands is one of the areas where indigenous people live in Pahang. Forest in Cameron highlands is one of the mediums that provide food and economic resources to natives in that area. Indigenous in Cameron highlands people still depend on the natural environment and forests for their livelihood. The main economic activities are cultivation, fishing, and collecting forest products for some indigenous (Tuck, 2002). Most indigenous people in Cameron Highlands will use non-timber forest products such as bamboo rattan and so on to be crafted and sold to tourists who come to their area as their side income. As indigenous households continue to generate some earning from non-timber forest products (NTFPs); roughly 24% of the average total income comes from NTFP (Khaled et al., 2016).

Also, the importance of forests in Cameron Highlands is a habitat for wildlife whether for flora or fauna. Forests provide habitats to diverse animal and plant species. Wild plants and animals live in forests as their habitat and as a place of refuge from the various environmental threats. Forests take many forms depending on their latitude, local soil, rainfall and current temperatures and these ecosystems are complex webs of organisms that include plants, animals, fungi and bacteria (World Wildlife Fund (WWF), 2010).

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In Cameron Highlands, there is a mossy forest that becomes a habitat for moss. Mossy Forest is one of the famous forests that can attract the attention of tourists. Mossy Forest reflects the other importance of forest in Cameron Highlands to promote eco-tourism. The mossy forest is one of the forests open to the public as a tourist attraction, and there are also many mountainous forests such as Gunung Brinchang and Gunung Irau open for tourist to explore.

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1.3 Problem Statement

Deforestation is one of the issues that caught global attention and its overall impact on earth's ecological well-being is increasingly severe. Deforestation is seenas clearing forest or woodland to access resources such as timber and space for other activities (Spilsbury, 2012). Malaysia is one of the countries that are also no exception to deforestation, and one of the places in Malaysia that is experiencing this problem is Cameron Highlands, Pahang.

Table 1.1: Top ten countries reporting the greatest annual net loss of forest area, 2010-2015

	Country	Annual forest area net loss	
		Area (thousand ha)	Rate (%)
1	Brazil	984	0.2
2	Indonesia	684	0.7
3	Myanmar	546	1.8
4	Nigeria	410	5.0
5	United Republic of Tanzania	372	0.8
6	Paraguay	325	2.0
7	Zimbabwe	312	2.1
8	Democratic Republic of the Congo	311	0.2
9	Argentina	297	1.1
10	Bolivia (Plurinational State of)	289	0.5

Source: Food and Agriculture Organization (FAO), 2016

There are many reasons why deforestation can occur. For example, clearing forests for agriculture purpose cause significant changes in the forest ecosystem. Cameron Highlands is one of the places that popular for its agriculture activities. According to Melati (2009) in The Star Online, drastic transformation in forests came about after the country's independence in 1957

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when Cameron Highlands was found to be ideal for growing vegetables. Subsequently, large tracts of the virgin jungle were cleared to make way for tea and vegetable plantations. Shifting forest to agriculture has slightly changed the physical condition of the Cameron Highlands.

Logging activities is also one of the reasons that lead to deforestation. This logging activity includes illegal logging and also legal logging. If this problem were not curbed in time, the forest could disappear due to the irresponsible act. Hambery et al. (2007) defined illegal logging as a variety of unlawful practices, ranging from theft of standing timber and logs through to corrupt business practices, such as under-declaring volumes processed, or tax avoidance. “Cameron Highlands tragedy” (2014) in The Sun Daily contends a report due to uncontrolled deforestation, Cameron Highlands experience mudflows and landslides. This proved that deforestation and land clearing had become a severe environmental threat in Cameron Highland. Although deforestation is often associated with illegal logging, but legal logging is also contribute to deforestation process.

As one of the tourist attractions, Cameron Highlands has undergone various developments to meet economic and social needs. Without realising, intense and rapid development for new infrastructure to meet tourism needs leads to deforestation in Cameron Highlands. According to Melati (2009) in The Star Online, there was too much clearing of forest, and there was a big difference in the current environment compared to the old environment of Cameron

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Highlands. Cameron Highlands back than do not have many cars and buildings. After the Cameron Highlands is known as a tourist attraction, many forests are cut down to build roads and buildings, and that led to the increase of vehicles entering the Cameron Highlands, thus making the area looks more compact than before.

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1.4 Objectives

The primary objective of this study was to determine the public's perceptions on forest protection in Cameron Highlands, Pahang. The specific goals are:

I. To investigate the issue of forest exploitation in Cameron Highlands.

II. To examine respondent's perception on appropriate forest conservation measures that can be used to protect forests in Cameron Highlands.

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