



***ASSESSMENT OF LOCAL COMMUNITY PARTICIPATION IN PEAT  
SWAMP FOREST CONSERVATION AND REHABILITATION PROGRAM  
IN SELANGOR, MALAYSIA***

**MOHD BASRI BIN ABDUL MANAF**

**FPAS 2016 4**



**ASSESSMENT OF LOCAL COMMUNITY PARTICIPATION IN PEAT  
SWAMP FOREST CONSERVATION AND REHABILITATION  
PROGRAM IN SELANGOR, MALAYSIA**

**By**

**MOHD BASRI BIN ABDUL MANAF**

**Thesis Submitted to the School of Graduate Studies,  
Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree  
of Master of Science**

**July 2016**

All material contained within the thesis, including without limitation text, logos, icons, photographs and all other artwork, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of any material contained within the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made with the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

**ASSESSMENT OF LOCAL COMMUNITY PARTICIPATION IN PEAT SWAMP FOREST CONSERVATION AND REHABILITATION PROGRAM IN SELANGOR, MALAYSIA**

By

**MOHD BASRI BIN ABDUL MANAF**

**July 2016**

**Chairman: Associate Professor Mohd Rusli Bin Yacob, PhD**

**Faculty: Environmental Studies**

The general objective of the study is to evaluate the participation of local communities towards rehabilitation and conservation program for the peat swamp forest specifically the North Selangor Peat Swamp Forest (NSPSF) in strengthening sustainable forest management strategies and options in the state of Selangor. To address the research question to achieve the stated aim and objective of this study, mixed method research design was used. A consultation workshop was conducted to provide opportunity for interacting, especially between agencies and local communities on the Strength Weakness, Opportunity and Treat (SWOT) regarding the restoration and maintenance of NSPSF. Also, survey questionnaire was structured to obtain data on local participation in the rehabilitation and conservation of NSPSF and administer in selected local communities near the forest reserve.

The results showed that the role of stakeholders in the restoration and conservation of NSPSF is very important. However, the findings showed that the level of involvement of local communities towards various stages of restoration and conservation activities NSPSF is low. Overall participation Index (IP) is 0.29 with the index level of monitoring is low (IP = 0.26). Also, the contributing factors to the level of participation of local communities in the recovery and conservation programs NSPSF were assessed. The results show that six of the eight independent variables and demographic characteristics of community involvement are significant. The 'predictor' level of community involvement in the restoration and conservation activities is strongly significant ( $\beta = 0.164$ ,  $p < 0.01$ ). Other parameter such as community involvement in committee Peat Swamp Forest Fire Disaster ( $\beta = 0.035$ ), profit sharing ( $\beta = 0.032$ ), community men ( $\beta = 0.024$ ), own

and operate the garden / farm near the peat swamp forest ( $\beta = 0.018$ ), and age of the local community members ( $\beta = 0.0007$ ) affect level of community participation in the restoration and conservation activities NSPSF at the 5% significance level. The implications of these findings should be focus more specifically at the design of programs to improve the level of local communities' participation in the restoration and conservation activities NSPSF at all levels.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

**PENGLIBATAN KOMUNITI SETEMPAT TERHADAP PROGRAM  
PEMULIHARAAN DAN PEMULIHAN HUTAN PAYA GAMBUT DI  
SELANGOR, MALAYSIA**

Oleh

**MOHS BASRI BIN ABDUL MANAF**

**Julai 2016**

**Pengerusi: Professor Madya Mohd Rusli Bin Yacob, PhD**

**Fakulti: Pengajian Alam Sekitar**

Objektif umum kajian ini adalah untuk menilai penyertaan masyarakat tempatan ke arah program pemulihan dan pemuliharaan hutan paya gambut khususnya Hutan Paya Gambut Selangor Utara (NSPSF) dalam memperkukuhkan strategi pengurusan hutan yang mampan di negeri Selangor. Bagi menangani persoalan kajian untuk mencapai matlamat yang dinyatakan dan objektif kajian ini, beberapa reka bentuk kaedah penyelidikan telah digunakan. Bengkel perundingan diadakan untuk memberi peluang interaksi antara agensi dan masyarakat tempatan dalam Kekuatan, Kelemahan, Peluang dan Ancaman (SWOT) mengenai pemulihan dan penyelenggaraan NSPSF. Kajian soal selidik berstruktur turut dijalankan untuk mendapatkan data mengenai penyertaan tempatan dalam pemulihan dan pemuliharaan NSPSF dan pentadbir urus dalam kalangan komuniti tempatan yang dipilih berhampiran hutan simpan.

Hasil kajian menunjukkan bahawa peranan pihak berkepentingan dalam pemulihan dan pemuliharaan NSPSF adalah sangat penting. Walau bagaimanapun, kajian menunjukkan bahawa tahap penglibatan masyarakat tempatan terhadap pelbagai peringkat pemulihan dan aktiviti pemuliharaan NSPSF adalah rendah. Penyertaan Indeks Keseluruhan (IP) adalah 0.29 dengan tahap Indeks Pemantauan adalah rendah (IP = 0.26). Selain itu, faktor-faktor yang menyumbang kepada tahap penyertaan masyarakat tempatan dalam program pemulihan dan pemuliharaan NSPSF telah dinilai. Keputusan menunjukkan bahawa enam (6) daripada lapan (8) pembolehubah bebas dan ciri-ciri demografi penglibatan masyarakat adalah penting. Tahap penglibatan masyarakat dalam aktiviti-aktiviti pemulihan dan pemuliharaan adalah sangat penting ( $\beta = 0,164$ ,  $p < 0.01$ ). Pembolehubah lain seperti penglibatan masyarakat dalam Jawatankuasa Bencana Kebakaran Hutan

Paya Gambut ( $\beta = 0.035$ ), Perkongsian Keuntungan ( $\beta = 0.032$ ), Lelaki ( $\beta = 0.024$ ), Memiliki dan mengendalikan taman/ladang berhampiran hutan paya gambut ( $\beta = 0.018$ ), dan umur ahli komuniti tempatan ( $\beta = 0,0007$ ) menjelaskan tahap penyertaan masyarakat dalam aktiviti pemulihan dan pemuliharaan NSPSF pada aras keertian 5%. Implikasi dapatan ini perlu memberi tumpuan lebih khusus kepada reka bentuk program untuk meningkatkan tahap penyertaan masyarakat tempatan dalam aktiviti pemulihan dan pemuliharaan NSPSF di semua peringkat.



## ACKNOWLEDGEMENTS

Bismillahirrahmanirahim.....

In the name of Allah, The Most Beneficent, The Most Merciful

This research study entitled 'an Assessment of Local Community Participation in Peat Swamp Forest Conservation Program in Selangor' has been carried with the support of many parties. My humblest gratitude goes to my committee Chairman, Assoc. Prof. Dr Mohd Rusli Yacob for his constant guidance and unending motivations. Grateful also to Dr. Mariani Binti Ho Nyuk Onn @ Ariffin, member of supervisory committee for her comments and supports.

I am highly indebted to Y.Bhg. Dato' Sri Dr Hj. Abdul Rahman Bin Haji Abdul Rahim, the Director General of Forestry Peninsular Malaysia, who have contributed in making this study possible. My sincere gratitude also goes to Y. Bhg. Dato' Hj. Nor Akharrudin Bin Mahmud, Deputy Director General (Policy and Planning) for his support, guidance, opinion and for cooperation given by providing the necessary information needed. Also thank goes to Datuk Borhanuddin Bin Hj. Arshad, Deputy Director General (Operations and Technical) and Dr. Mohd Puat Bin Dahalan, Director of Selangor State Forestry Departments for their support and thank you to Scholarship JPA. Also, I would like to thank to my best friend, Encik Mohd Farid Mamat, FRIM Officer for his helped and valuable guidance in improving the final product of the research.

To my dear wife, Norizwaniza Binti Mat Noor who put their faith in me and remain willing to engage with the struggle and also to my sons Muhammad Akmal and Irfan Syahmi and to beloved daughter Khodijah Nursofeia. My appreciations also go to everyone who directly or indirectly contributed to my thesis. I thank you all.



I certify that a Thesis Examination Committee has met on 26 July 2016 to conduct the final examination of Mohd Basri Bin Abdul Manaf on his thesis entitled Assessment of Local Community Participation in Peat Swamp Forest Conservation and Rehabilitation Program in Selangor in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the degree of Master of Science.

Members of the Thesis Examination Committee were as follows:

**Mohammad Firuz Bin Ramli, PhD**

Associate Professor  
Faculty of Environmental Studies  
Universiti Putra Malaysia  
(Chairman)

**Zaiton Binti Samdin, PhD**

Associate Professor  
Faculty of Forestry  
Universiti Putra Malaysia  
(Internal Examiner)

**Norlida Hanim Binti Mohd Salleh, PhD**

Associate Professor  
Faculty of Economics and Management  
Universiti Kebangsaan Malaysia  
(External Examiner)

---

**ZULKARNAIN ZAINAL, PhD**

Professor and Deputy Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date: 28 September 2016

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

**Mohd Rusli Bin Yacob, PhD**

Associate Professor  
Faculty of Environmental Studies  
Universiti Putra Malaysia  
(Chairman)

**Mariani Binti Ho Nyuk Omn @ Ariffin, PhD**

Senior Lecturer  
Faculty of Environmental Studies  
Universiti Putra Malaysia  
(Member)

---

**BUJANG BIN KIM HUAT, PhD**

Professor and Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date:

## Declaration by Graduate Student

I hereby confirm that:

- this thesis is my original work;
- quotations, illustrations and citations have been duly referenced;
- this thesis has not been submitted previously or concurrently for any other degree at any other institutions;
- intellectual property from the thesis and copyright of thesis are fully-owned by Universiti Putra Malaysia, as according to the Universiti Putra Malaysia (Research) Rules 2012;
- written permission must be obtained from supervisor and the office of Deputy Vice-Chancellor (Research and Innovation) before thesis is published (in the form of written, printed or in electronic form) including books, journals, modules, proceedings, popular writings, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012;
- there is no plagiarism or data falsification/fabrication in the thesis, and scholarly integrity is upheld as according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Universiti Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Matric No.: Mohd Basri Bin Abdul Manaf GS38276

## Declaration by Member of Supervisory Committee

This is to confirm that

- the research conducted and the writing of this thesis was under our supervision;
- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to.

Signature: \_\_\_\_\_  
Name of  
Member  
Supervisory  
Committee: \_\_\_\_\_

Signature: \_\_\_\_\_  
Name of  
Member  
Supervisory  
Committee: \_\_\_\_\_

Signature: \_\_\_\_\_  
Name of  
Member  
Supervisory  
Committee: \_\_\_\_\_

## TABLE OF CONTENTS

	<b>PAGE</b>
<b>ABSTRACT</b>	<b>i</b>
<b>ABSTRAK</b>	<b>iii</b>
<b>ACKNOWLEDGEMENTS</b>	<b>v</b>
<b>APPROVAL</b>	<b>vi</b>
<b>DECLARATION</b>	<b>viii</b>
<b>LIST OF TABLES</b>	<b>xiii</b>
<b>LIST OF FIGURES</b>	<b>xv</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xvi</b>
<b>CHAPTER</b>	
<b>1 INTRODUCTION</b>	<b>1</b>
1.1 Introduction	1
1.1.1 Areas and Types of Forest in Selangor	2
1.1.2 Permanent Forest Reserve	3
1.2 Problem Statement	5
1.3 Justification of Study	6
1.4 Objective of the Study	7
1.5 Significance of Study	8
1.6 Research Questions	9
1.7 Scope of Study	9
1.8 Organization of the Thesis	10
<b>2 LITERATURE REVIEW</b>	<b>11</b>
2.1 Peat Swamp Forest (PSF) and North Selangor Peat Swamp Forest (NSPSF)	11
2.2 Rehabilitation and Conservation Programs for PSF	13
2.2.1 List of PSF Rehabilitation and Conservation Programs 2013-2014	14
2.3 History of Peat Swamp Forest	15
2.3.1 Before 1900s	15
2.3.2 1938: Logging Begins	15
2.3.3 1939-1940: Paddy Planting Begins	16
2.3.4 1941-1945: Increased Rice Cultivation	16
2.3.5 1950s: Mining Activities Begin	17
2.3.6 1960s-1990	17
2.3.7 1990-1991: Gazetted Forest Reserve	18
2.3.8 1990-1991: Forest Encroachment Continues	18
2.3.9 1990-2006: Logging Areas	18
2.3.10 2008: Eliminate Forest Infringement	19
2.3.11 2008: Rehabilitation Action	19
2.3.12 Surrounding Land Uses	20

2.3.13	Importance of NSPSF Resources to Local Communities	21
2.4	Peat Swamp Forest in the World	26
2.5	Peat Swamp Forest in Malaysia	28
2.6	Peat Swamp Forest Ecological Functions	30
2.7	Important of Peat Swamp Forest	32
2.8	Value of Peat Swamp Forest	33
2.9	Managerial Issues about Peat Swamp Forest	36
2.10	Peat Swamp Forest Management	37
2.11	PSF Conservation Program in Malaysia	37
2.12	Previous Studies on PSF in the World	38
2.13	Previous Studies on PSF in Malaysia	38
2.14	Evaluation Concept on the Participation of Local Communities towards Rehabilitation and Conservation Program for the Peat Swamp Forest	39
2.14.1	Stakeholders	39
2.14.2	Local Communities	39
2.14.3	Participation of Stakeholders	39
2.14.4	Participation of Local Communities in Forest Resources Rehabilitation and Conservation Program	40
2.14.5	Factors Contributing to the Level of Participation among Local Communities in Rehabilitation and Conservation Program	42
2.14.6	The Concept of Participation in Management Activities	43
2.15	Summary	44
<b>3</b>	<b>METHODOLOGY</b>	<b>45</b>
3.1	Research Design	45
3.2	Consultation Workshop	45
3.2.1	SWOT Analysis Method	45
3.2.2	Steps for SWOT Analysis Implementation	46
3.2.3	Team Organizer	46
3.2.4	Participants of Consultancy Workshop	47
3.2.5	Background Information of Project	48
3.2.6	About the Workshop	49
3.2.7	Topics of Discussion	49
3.2.8	Focus Group Discussion	50
3.2.9	Findings from the Focus Group Discussion	52
3.3	Community Survey	52
3.3.1	Research Scope	52
3.3.2	Location of Research	53
3.3.3	Geographical Conditions	53
3.3.4	Physical Characteristics	53
3.3.5	Climate and Weather Conditions	54
3.3.6	Socio-Economic Aspect of Selangor and Economic Activities of Local Communities	54
3.3.7	Data Collection	56

3.3.8	Participation Index	62
3.3.9	Data Analysis	63
<b>4</b>	<b>RESULTS AND DISCUSSION</b>	<b>64</b>
4.1	Outcomes of Consultancy Workshop	64
4.1.1	Outcomes of Focus Group Discussion on SWOT Analysis	64
4.2	Community Survey Findings	69
4.2.1	Socio-demographic Profile of the Respondents	69
4.2.2	Knowledge on the Existence of North Selangor Peat Swamp Forest (NSPSF)	73
4.2.3	Utilization of NSPSF Resources by Local Communities	74
4.2.4	Perception of Local Communities towards Contributions and Values of NSPSF	75
4.2.5	Perception of Local Communities on NSPSF Rehabilitation and Conservation Activities	76
4.2.6	Identification of Poverty Rate among Local Communities	80
4.2.7	Participation of Local Communities in NSPSF Rehabilitation and Conservation Activities	82
4.2.8	Roles of Local Communities in NSPSF Rehabilitation and Conservation Activities	83
4.2.9	Factors Contributing to the Participation of Local Communities in NSPSF Rehabilitation and Conservation Program	85
<b>5</b>	<b>DISCUSSIONS AND RECOMMENDATION</b>	<b>92</b>
5.1	Summary of Findings and Conclusions	92
5.2	Recommendations	93
	<b>REFERENCES</b>	<b>95</b>
	<b>APPENDICES</b>	<b>102</b>
	<b>BIODATA OF STUDENT</b>	<b>116</b>
	<b>LIST OF PUBLICATION</b>	<b>117</b>

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1.1 Forest Areas according to Types under HSK in Selangor in 2010	3
2.1 Estimate of Peat Swamp Coverage in Malaysia	29
2.2 Benefits of Peat Swamp Forest	30
3.1 Population (2010) and Average of Population rate (2000-2010) of Selangor	55
3.2 Sectoral Gross Domestic Product (KDNK) at Constant Prices in 2000,Selangor (2006-2010)	56
3.3 Number of Respondents	59
4.1 Outcomes of SWOT Analysis for NSPSF	65
4.2 Socio-demographic Characteristic of Selected Households in Survey	71
4.3 Monthly Household incomes in Cash and Non-cash	72
4.4 Correlation Analysis of Socio-demographic Factors	73
4.5 Respondents Awareness and Participation regarding NSPSF	74
4.6 Utilization of NSPSF Resources by Household Members in 2014	75
4.7 Perception towards Contributions and Values of NSPSF	76
4.8 Breakdown of Priorities in Utilization of NSPSF Resources	79
4.9 Percentages of underprivileged Households by Strata, Malaysia (1970 - 2012)	80
4.10 Average Poverty Rate according to Village Settlement	82
4.11 Participation Index (PI) for NSPSF Rehabilitation and Conservation Activities	83
4.12 Role of Local Communities in Implementation of NSPSF Rehabilitation and Conservation Activities	83
4.13 Roles of Local Communities in Monitoring Stage of NSPSF Rehabilitation and Conservation Activities	84
4.14 Roles of Communities in Benefit-sharing Level of NSPSF Rehabilitation and Conservation Activities	85
4.15 Regression Analysis of Socio-demographic Attributes and Level of Participation in Implementation of Conservation Activities	87
4.16 Regression Result of Characteristics of Participation, Socio-demographic Attributes and Level of Participation in Monitoring Stage of Activities	87
4.17 Regression Analysis Result on Characteristic of Participation and Socio-demographic Attributes and Level of Participation at Benefit-sharing Stage	88
4.18 Regression Analysis Result on Characteristic of Participation and Socio-demographic Attributes and Level of Participation at all Stages	89
4.19 Independent Samples t-test by Gender	89



4.20	ANOVA Analysis at different Program Levels and Household Income	90
4.21	ANOVA Analysis between Age Group and different Program Levels	90
4.22	Result of ANOVA Analysis between different Program Levels and Education Level	91



## LIST OF FIGURES

Figure		Page
1.1	The Location Map of the State of Selangor in Malaysia	2
1.2	Location Map of Forest Types under HSK in the State of Selangor	4
1.3	Natural Water Resources from Peat Swamp Forest	9
2.1	View of the Peat Swamp Forest in Selangor	12
2.2	Tree Planting Program by JPNS	13
2.3	Briefing by the GEC before Planting	14
2.4	Water Supply from NSPSF to Paddy Planting Areas	17
2.5	Construction without permits in permanent Forest Reserve and Elimination Program by the JPNS	19
2.6	Trench drains Construction around NSPSF by the JPNS	20
2.7	One of the locks at the NSPSF boundary operated by JPS specifically for Flood Control	21
2.8	Water Filtration Plant	22
2.9	Palm leaves obtained from NSPSF	23
2.10	Kayaking Program for Visitors run by Local Communities	24
2.11	Home-stay operated by Local Communities	25
2.12	Bird-Watching Activities	25
2.13	Distribution of Peat Swamp in South-East Asia	27
2.14	Distribution of Peat Swamp in Malaysia	28
2.15	Total Economic Value (TEV)	34
3.1	Presentations at the Consultation Workshop	48
3.2	Participants at Consultation Workshop for Stakeholders	49
3.3	Focus Group Consist of Local Communities	51
3.4	Focus Group Constituting Government Agencies	51
3.5	Presentation by the Group Representative Community Survey	52
3.6	Structural Condition of NSPSF Soil	54
3.7	Community Survey Conducted by the Enumerators	59
3.8	Community Survey Conducted by Enumerators and Supervised by the JPNS	60
3.9	Location of the Selected Village Settlement for the interview Sessions	61
3.10	Research Team and Survey Enumerators	62

## LIST OF ABBREVIATIONS

ABM	Attribute Based Method
CBD	Convention on Biodiversity
CFS	Central Forest Spine
CVM	Contingent Valuation Method
FDRS	Fire Danger Rating System
FGD	Focus Group Discussions
FRIM	Forest Research Institute Malaysia
GEC	Global Environment Centre
GEF	Global Environment Facility
GHG	Greenhouse Gases
HDEP	High Density Polyethylene Pipe
HSK	<i>Hutan Simpanan Kekal</i>
JPNS	Selangor State Forestry Department
KDNK	<i>Keluaran Dalam Negara Kasar</i>
PGK	<i>Pendapatan Garis Kemiskinan</i>
PI	Participation Index
PLI	Poverty Line Income
RMFR	Raja Musa Forest Reserve
SWOT	Strength Weakness Opportunities and Treats
UNDP	United Nations Development Programme
WTA	Willingness to Accept
WTP	Willingness to Pay

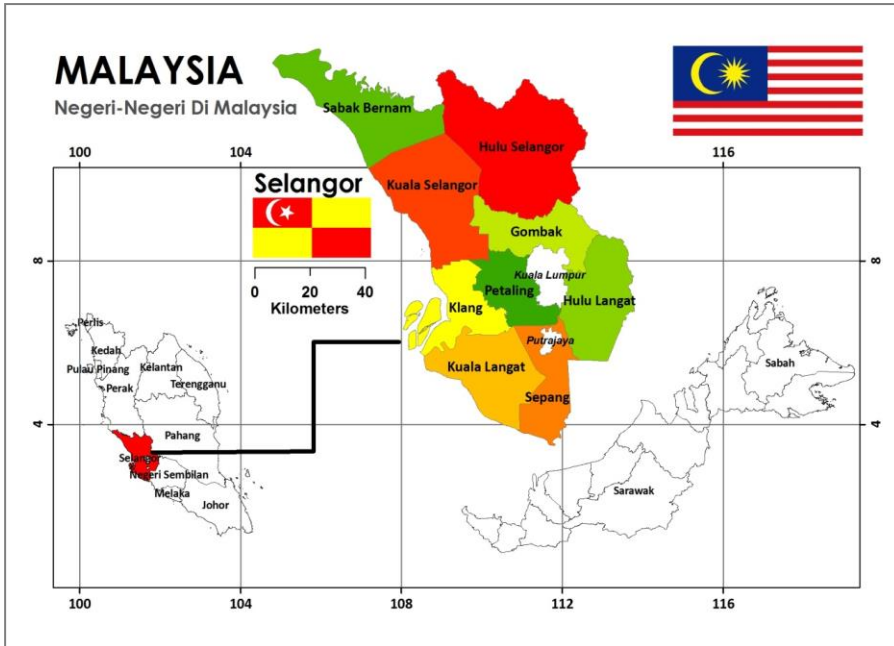
## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

Selangor is one of the 13 states in Malaysia covering approximately 8,104 km<sup>2</sup> area of land. It is located on the west coast of Peninsular Malaysia and overlooks the Strait of Malacca. Selangor enclosed the federal territories of Kuala Lumpur and Putrajaya and is surrounded by Perak to the north, Pahang to the east, Negeri Sembilan to the south and the Strait of Malacca to the west. The state of Selangor is steep on the west and hilly on the east along with the Banjaran Titiwangsa, the backbone of Peninsular Malaysia and part of the state as well.

Bernam River divides the state of Selangor and Perak in the north while Sepang River divides the state from Negeri Sembilan in the south. Meanwhile, the mountain range of Banjaran Titiwangsa divides Selangor and Pahang in the east. The state of Selangor consists of nine (9) districts include Gombak, Hulu Langat, Hulu Selangor, Klang, Kuala Langat, Kuala Selangor, Petaling, Sabak Bernam, and Sepang. The major urban centres are Shah Alam, which is the state capital, Klang, Kajang, Banting, Petaling Jaya, Subang Jaya, and Rawang. **Figure 1.1** displays the location of the Selangor state in Malaysia.



**Figure 1.1 The Location Map of the State of Selangor in Malaysia**

Source: Selangor State Forestry Department, (2014)

### 1.1.1 Areas and Types of Forest in Selangor

Selangor is one of the states that is located in the west of Peninsular Malaysia and shared an area of Central Forest Spine (CFS), which covers an area of forest along the hilly forest areas of Banjaran Titiwangsa. The forest area acts as an agent of environmental stability for the area and influences the stability of global climate and weather. In addition, the forest functions as watershed that supplies water to the local community for daily use. Recognizing the value and importance role of the forest resource not only to the economic and social aspect, but also for the environment as a whole, the Selangor State Forestry Department (JPNS) emphasizes continual implementation of sustainable management of the natural forest resource in the state. The aspect of forest resource management has become more extensive and requires a more comprehensive and integrated plan. Therefore, from time to time, JPNS takes appropriate actions compatible to the changes and needs in forest resource management including the rehabilitation and conservation of resources activities.

### 1.1.2 Permanent Forest Reserve

Selangor is one of the rapidly developing states in Malaysia. Realizing the significance of forest to the state as a whole, the Selangor state government attempts to implement sustainable development concept to ensure the existence of forest areas in the state. According to the Peninsular Malaysia Land Use Map (**Figure 1.2**), the forest areas in Selangor occupy 282,044 ha in 2008 out of which 250,128.71 ha (89%) are Permanent Forest Reserve (Hutan Simpanan Kekal - HSK) consist of three (3) main types of forest: i) inland forest, ii) peat swamp forest, and iii) mangrove forest (**Table 1.1**). HSK is enacted under the National Forestry Act (Adoption) Enactment 1985 (Enakmen (pemakaian) Akta Perhutanan Negara 1985). The inland forest occupies the largest area of 139,125.74 ha, followed by peat swamp forest (89,891.65 ha) and mangrove forest (21,111.32 ha).

**Table 1.1 Forest Areas according to Types under HSK in Selangor in 2010**

<b>Types of forest</b>	<b>Area (ha)</b>	<b>Percentage (%)</b>
Inland Forest	139,125.74	55.6
Peat Swamp forest	89,891.65	35.8
Mangrove Forest	21,111.32	8.6
<b>Total</b>	<b>250,128.71</b>	<b>100</b>

Source: Annual Report Forestry Department Peninsular Malaysia, (2010)

# SELANGOR

## HUTAN SIMPANAN KEKAL

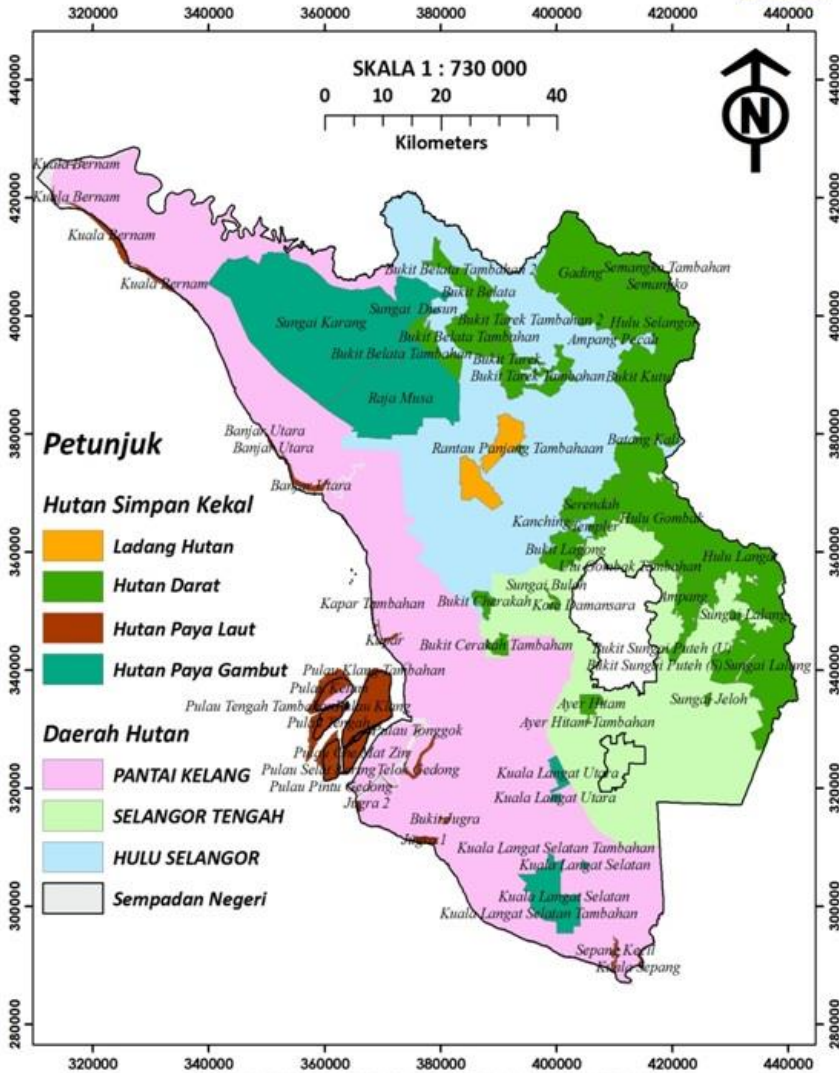


Figure 1.2 Location Map of Forest Types under HSK in the State of Selangor

Source: Selangor State Forestry Department, (2014)



## 1.2 Problem Statement

Peat swamp forest (PSF) has a global ecological significance because of the existence of remaining lowland rainforest that accommodates various threatened species of flora and fauna. PSF usually exists after the coastal mangrove forest, which covers an area ranging of more than 3 km to 5 km of the floodplain of river. It consists mainly of peat that is largely made up of plant materials that are not fully decomposed (complete decomposition process is limited due to the acidic condition and lack of microorganism activities) and accumulated between 8 m to 20 m for more than 8,000 years. The swamp either directly or indirectly provides various forest products and services such as products of forestry and fisheries, flood control, water supply, and underground water sources. The water in the peat swamp generally contains high content of humus, which explains the brownish or black colour of the water in peat swamp.

Peat swamp forest is essential because of the extensive land areas and biodiversity. In fact, more than 60% (20 million hectares) of tropical peat lands in the world is located in Southeast Asia especially in Malaysia and Indonesia. In Malaysia, PSF covers almost 75% of the total wetlands area of approximately 1.6 million ha, of which more than 80% are located in Sarawak.

In Malaysia, PSF is extensively explored particularly by the agricultural sector (mostly palm oil industry), and part of the areas are annually burned. For instance, in Sarawak, about 0.5 million ha of peatlands have been reclaimed but in 1997-1998, almost similar area of peatlands was destroyed by fire. Such incident destroys plants and wildlife that are yet to be explored and included in the inventory, along with the seeds bank in the ground, thus, responsible for the huge carbon release into the atmosphere.

In the 1980s, there was an abundance of PSF covering an area up to 670,000 ha in the Peninsular Malaysia. However, the figure decreased to about 340,000 ha which is approximately half of the initial figure over the last decade due to industrial development, agriculture such as rubber and oil palm, as well as housing development. About 67% of PSF in the Peninsular Malaysia is protected within the HSK while the remaining is recognized as government forestland. Almost all the PSF within HSK are classified as production forest that allows sustainable logging activities. Meanwhile, PSF within government forestland generally could be converted for any purposes.

In Selangor, from the 250,129 ha total HSK area, 82,849 ha equivalent of 33% consists of Hutan Simpan Sg Karang (37,417 ha), Hutan Simpan Raja Musa (35,656 ha), and Hutan Simpan Kuala Langat Utara and Selatan (9,776 ha) (Selangor Forestry Department, 2013). PSF covers about 11% of the area of Selangor. Most of them are located within the residential zones of the town. Thus,



peatlands in Selangor not only play a universal role of ecological and environmental importance, it also provides significant socio-economic interests for the state. The exploration of peatlands for agricultural activities and other related activities is a clear indication of its importance. Hence, the exploitation and conservation of peat lands should take into account the sensitive and fragile ecosystems that require sustainable management.

One of the problems associated with the NSPSF is the exploitation of the forest reserve land by the local communities. The land was initially used for agricultural purposes before the area is gazetted as permanent forest reserve in 1990-1991. However, it does not prevent the exploitation of NSPSF area. When the land is explored, the area has to be burned before agricultural activities could proceed. One of the consequences of uncontrolled fire is the occurrence of haze that affected the public health especially for those living in Klang Valley.

In order to mitigate the problem of land invasions in NSPSF area, the Selangor state government in 2008 to stop the intruders, illegal settlements, as well as their agricultural activities from the forest reserve area by launching an operation called as 'operasi musnah'. If the exploration, utilization, and conservation efforts were not adequately implemented, various problems will arise that may affect the environment, community, socio-economic aspect and the development of the study area. These problems include the following:

- i. Depletion or degradation of groundwater level which causes fires.
- ii. Irreversible draught resulting to soil productivity loss and the possibility of land destruction.
- iii. Ground subsidence and excessive greenhouse gas emission.
- iv. Biodiversity loss.
- v. Flooding hazards

Following these problems, a special rehabilitation and conservation program for NSPSF was initiated in collaboration with the NGOs and participation of local communities.

### **1.3 Justification of Study**

Participation of local communities in the decision making process is necessary as it contributes new ideas, information, analysis, problem-solving solutions, as well as basic knowledge and information that are often used to guide local authorities in determining decision making. Their participation could be more effective and significant when they are given the key roles and space to participate in the initial

stage of designing, implementing, and evaluating policies and study that potentially affecting their life.

Additionally, there are various benefits to the participation of local communities such as able to anticipate and avoid possible conflicts, besides resolving any disputes. Their participation also allows the local authorities to gather and disseminate information as well as to foresee possible implications of the proposed action. Similarly, local expertise could be introduced through the participation in guiding local authorities to learn new ideas and potential alternatives that could be implemented in their action plans.

Furthermore, many studies have acknowledged that participation of local communities such as providing opportunities and involve them in resource management or program implementation will increase their support on the issue of conservation as the success of such program depends on the local communities' support. Besides providing valuable information in developing management plans and improving institutional capacity with these insights, the local communities could also assist in the enforcement of guidelines for protected areas. Local communities also play significant role in implementing the goals of protected areas conservation when they consider it as beneficial in both short and long terms.

In the long term, the survival of an ecosystem depends on the support of these local communities, as they realize the significance of conserving their surrounding natural environment and supportive efforts in restoring, conserving, and preserving the resources. Thus, communities should be given the opportunity to participate in the process of planning, and implementation of the policies that potentially affecting them. Typically, the local communities do not oppose to every type of development as what matters to them is that development model that respects their rights, culture and their living style.

#### **1.4 Objective of the Study**

The general objective of the study is to evaluate the participation of local communities towards rehabilitation and conservation program for the specifically the North Selangor Peat Swamp Forest (NSPSF) in strengthening sustainable forest management strategies and options in the state of Selangor. The specific objectives of the study are:

- i. To determine the level of participation among the local communities in the conservation program of NSPSF;
- ii. To identify weaknesses and strengths of the participation of local communities in NSPSF rehabilitation and conservation program;
- iii. To identify factors contributing to the level of participation among local communities in NSPSF rehabilitation and conservation program

## 1.5 Significance of Study

NSPSF plays a rather significant role in the socio-economic and environmental aspects such as:

- i. Hydrological functions and water balance in NSPSF
- ii. Preventing the occurrence of fires and haze
- iii. As a carbon sink in reducing the emission of greenhouse gases (GHG)
- iv. As a source of income from forest production for the Selangor State Forestry Department and the local residents

Historically, the development of forest resources was part of the responsibilities of the Forestry Department. Over the last few decades, there is an increase in awareness regarding the importance of participation among various stakeholders, which include local communities in the sustainable forest development.

Since 2010, the Selangor State Forestry Department in collaboration with NGOS (i.e. GEC), involve local communities in the NSPSF rehabilitation and conservation program. Various activities were implemented. However, several typical questions were rise: what is the extent of these local communities' participation in the NSPSF rehabilitation and conservation program? What factors influence their participation? and What are the strengths, weaknesses, opportunities, and threats of NSPSF rehabilitation and conservation program?. Therefore, this study report attempts to provide answers to these study questions.



**Figure 1.3: Natural Water Resources from Peat Swamp Forest**

## **1.6 Research Questions**

This research attempted to answer the following:

- (i) To what extent are local communities involved in rehabilitation and conservation of Peat Swamp Forest?
- (ii) What variables significantly influence local communities' participation in the PSF rehabilitation and conservation program?
- (iii) What are the implications of the findings on the public participation in rehabilitation and conservation program towards the sustainability of the PSF in Selangor?

## **1.7 Scope of Study**

This study was conducted at North Selangor Peat Swamp Forest (NSPSF) where little studies have been conducted on community participation in the rehabilitation and conservation of the forest reserve. The area provides suggestions for more studies on communities' participation, particularly the dependent communities living in proximity to the PSF because there is little empirical and experiences from which to learn best practices in collaborative forest rehabilitation, conservation and management in Selangor. Primary stakeholders participation facilitates positive relationships between local people and resource managers while establishing a process for integration of indigenous ecological knowledge

as well as practices towards achieving sustainably managed forests. This has been studied by assessing primary stakeholders' participation by examining factors influencing various levels of participation in forest resources management. The study targeted five forest-dependent communities (Sayereno, Boinzan, Bepose, Sayereso and Sikanzeasem) along the fringes of the Krokosua Hills Forest Reserve. The research findings may contribute to government forest policy reforms and participatory management guidelines for sustainable management of forests in the country.

## **1.8 Organization of the Thesis**

The thesis is structured into five chapters. Chapter one presents relevant background to the study and includes the problem statement that leads to the research hypotheses, the study objectives, research questions and scope of study. Chapter Two presents a review of relevant literature to analyze stakeholders' participation and the possible factors that are likely to influence primary stakeholders participation in forest resources management, as applied to the Forestry Sector. Chapter Three discusses the study area, site selection and offers an outline of the different methodologies employed in this research. Details of results and discussion on primary stakeholders participation and associated hypotheses are presented in Chapter Four. This includes the results and discussion on participation index of primary stakeholders and their roles and chi-square analysis on factors influencing primary stakeholders participation at various levels in forest resources management. Chapter Five concludes and draws policy implications/recommendations for effective involvement of primary stakeholders in forest management.



## REFERENCES

- Adu, H. (2010). Involvement of Community Forest Committees in Forest Management: A Case Study of Cape Coast Forest District, Central Region of Ghana. BSc. Thesis.
- Agrawal, A and Gupta, K. (2005). Decentralization and participation: The governance of common pool resources in Nepal's Terai, *World Development*, 33(7).
- Agyenim-Boateng, J., Koomson, F., Tenkorang, E. Y., Ntiri-Oppong, R. (2002). Effective Stakeholder Collaboration in Forest Policy and Management in Southern Ghana.
- Amanor, K. S. (1997). Collaborative Forest Management, Forest Resource Tenure and The Domestic Economy in Ghana. IRDC Currents No 15:10-16. Uppsala.
- Amanor, K. S. (1999) "Restructuring Land Relations in Ghana: *Forest food chains, timber and rural livelihoods*. Uppsala: Research Report 108, Nordiska Afrikainstitutet.
- Asante, S.M. (2005). Deforestation in Ghana: Explaining the Chronic Failures of Forest Preservation Policies in Developing Country. University Press of America: New York.
- Asare, A. (2000a). Community Involvement in Natural Resources Management. The Experience of Ghana Forestry Department.
- Asare, A. (2000b). Operational Guidelines on Community Forest Committee. Resource Management Support Centre, Ghana, pp. 3-23.
- Asare, A. (2002). "Overview of Collaborative Resource Management in Ghana: Perspective of the Forestry Commission: Workshop on Collaborative Resource Management in Ghana: Which Way Forward", p. 7.
- Atmis, E., I. Dasedemir, Lise, W and Yidiran, O. (2007). Analysis Factors Affecting Women's Participation in Forestry in Turkey. *J. Ecol. Eco.*, (60): 787-796.

- Baral, N. R. (1993). Where is Our Community Forestry? Banko Janaakari, A *Journal of Forestry Information for Nepal*, Vol. 4, No. 1, March, 1993.
- Barton, T., Borrini-Feyerabend, G., de Sherbinin, A., & Warren, P. (1997). Our People, Our Resources. IUCN (The World Conservation Union), Gland, Switzerland and Cambridge, UK.
- Baum, H. S. (1999). Community Organisations recruiting Community Participation: Predicaments in Planning. *Journal of Planning Education and Research* 18:187-199.
- Bualuang, S. et al. (1998). "San Fun Su Lok Suay" Volume 1. Compilation of scripts of a daily environmental radio programme by WI/PSU. Wetlands International - Thailand Programme/PSU Publication No. 7, Pattani, September 1998, 308 pp. (in Thai only).
- Carter, J. and Gronow, J. (2005). Recent Experience in Collaborative Forest Management. CIFOR Occasional Paper No. 43. A Review Paper. Center for International Forestry Research. Jakarta 10065, Indonesia.
- Chowdhury, S.A. (2004). Participation in Forestry: A Study of People's Participation on the Social Forestry Policy in Bangladesh: Myth or Reality?, Department of Administration and Organization Theory, University of Bergen, p. 112.
- Conroy, C., A. Misha and A. Rai, 2002. Learning from Self-Initiated Community Forest Management in Orissa, India. *J. Forest Policy Econ.*, (4): 227-237.
- Davies, J. and Abdullah, A. R. (1989) Freshwater fish survey of the North Selangor peat-swamp forest. Kuala Lumpur: Asian Wetland Bureau (Publ. 46).
- Engel, S., Iskandarani, M., Useche, M.d.P. (2005). Improved Water Supply in the Ghanaian Volta Basin: Who uses it and who participates in Community DecisionMaking. EPT Discussion Paper No. 129. Washington, DC. Available at: <http://www.ifpri.org/divs/eptd/dp/papers/eptdp129.pdf> (20/010/2009)
- Fabricius, C. (2004). The Fundamentals of Community-Based Natural Resource Management. In Fabricius, C., Koch, E., Magome, H. and Turner, S. (ed.).

*Rights, Resources and Rural Development: Community-Based Natural Resources Management in Southern Africa*. Earthscan, London, pp. 3-43.

- Faham, E., Rezvanfar A., Shamekhi, T. (2008a). Analysis of Socio-Economic Factors Influencing Forest Dwellers' Participation in Reforestation and Development of Forest Areas American Journal of Agricultural and Biological Sciences 3 (1): 438-443, 2008 ISSN 1557-4989.
- Ganz, D., Moore, P., Reeb, D. (2003). Community-Based Fire Management Case Studies from China, The Gambia, Honduras, India, Lao People's Democratic Republic and Turkey. FAO Forestry Report.
- Ghana Forestry Commission (FC) (2009). PAFORM APPROACH: Sharing the Gains of the Participatory Forest Resource Management Project in The Transitional Zone, p. 2.
- Glendinning, A., Mahapatra, J., Mitchell, C. P. (2001). Modes of Communication and Effectives of Agroforestry Extension in Eastern India. J. Hum. Ecol., 29 (3):283-305.
- Global Environmental Centre 2013. Integrated Management Plan for North Selangor Peat Swamp Forest 2014-2023 for Selangor State Forestry Department. Selangor State Forestry Department.
- Hahn-Shilling, B. 1994. Struktur, sukzessionale entwicklung und bewirtschaftung selektiv genutzter Moor walder in Malaysia. Gottinger Beitragszur Land- und Forstwirtschaft in den Tropen und Subtopen. Heft p4. In Appanah S, Ismail H, Samsudin M & Sadalai S 1999. Flora Survey in North Selangor Peat Swamp Forest. Project Document No. 17. Malaysia-DANCED Project on Sustainable Management of Peat Swamp Forest.
- Hirano, Takashi. (2006), Carbon dioxides balances of a tropical peat swamp forest in Kalimantan Indonesias, *Global Change Biology*.
- Holmes, T. N. (2007). Contribution of Participatory Forest Management (PFM) Intervention to the Socio-economic Development in the Southern Cape 136 Forests: A 74 Retrospective Approach. Masters of Philosophy Thesis (Social Science Methods). University of Stellenbosch, South Africa.



- Kamnap, P. (2003). The Impact of local people's participation in desert concession management in Cambodia: A Case study of the COLEXIM desert concession company in Kampong Thom province, A thesis submitted in partial fulfillment of the requirements for the degree of master of science, Asian Institute of technology school of environment, Resources and Development, Thailand.
- Kelly, D. (2001). Community Participation in Rangeland Management. A Report for the Rural Industries Research and Development Corporation (RIRDC). RIRDC Publication No. 01/118; RIRDC Project No. QDL-2A. Australia, p. 164.
- Knox, A. and Meinzen-Dick, R, (2001). Collective Action, Property Rights, and Devolution of Natural Resource Management: Exchange of knowledge and implications for Policy, A workshop Summary Paper, CAPRI Working Paper No. 11. CGIAR Systemwide Program on Property Rights and Collective Action, IFPRI.
- Kotey E. N. A., Francois J., Owusu J. G. K., Yeboah R., Amanor K. S., and Antwi, L. (1998) Falling into place. Ghana policy that works for forests and people series no 4, IIED, London, UK.
- Kugonza, A., Buyinza, M., Byakagaba, P. (2009). Linking Local Communities Livelihoods and Forest Conservation in Masindi District, North Western Uganda. Research Journal of Applied Sciences, 2009 Volume: 4, Issue: 10-16, DOI: 10.3923/rjasci.2009.10.16.
- Kumari, K. 1995. An Environmental and Economic Assessment of Forest Management Options: A Case Study in Malaysia. The World Bank: Environment Department Papers No. 026.
- Lim Hin Fui, Woon Weng Chuen & Mohd Parid Mamat (1999). The socio-economic impacts of North Selangor Peat Swamp Forest utilisation on local communities. Pp 213-279 in Chin Tuck Yuan & Palle Havmoller (Eds.), Sustainable Management of Peat Swamp Forests in Peninsular Malaysia: Volume II: Impacts. Forestry Department Peninsular Malaysia.
- Lise, W. (2000). Factors Influencing People's Participation in Forest Management in India. *J. Ecol. Econ.*, (34): 379-392.

- MacKinnon, J. and MacKinnon, K. (1986) Review of the protected areas system in the IndoMalayan Realm. Gland, Switzerland, and Cambridge, U.K.: International Union for Conservation of Nature and Natural Resources.
- Maskey, V., Gebremedhin, T. G., Dalton, J. (2003). A survey of analysis of participation in a community forest management in Nepal, paper presented at the Northeastern Agricultural Resource Economics Association, Portsmouth, New Hampshire, and June 8-10.
- Matose, F. (2006). Co-management Options for Reserved Forests in Zimbabwe and Beyond: Policy Implications of Forest Management Strategies. *Forest Policy and Economics* 8 (2006): 363– 374. Matose & Willy 1996. Page 24.
- McNeely, J. A. (1995). Expanding Partnerships in Conservation. Island Press, Washington, DC: In Stoll-Kleemann, S. & O’Riordan, T. (2002). From participation to partnership in biodiversity protection: experience from Germany and South Africa. *Society and Natural Resources*, 15 (2), 157-173.
- Ng, Peter. (June 1994). Diversity and conservation of blackwater fishes in Peninsular Malaysia, particularly in the North Selangor peat swamp forest.
- Odera, J. (2004). A report prepared for the project Lessons Learnt on Sustainable Forest Management in Africa. pp 10-63.
- Omane, A. (2010). Stakeholders Participation in Forest Management of GSBAS-Enchi District, Western Region of Ghana. Bsc. Thesis.
- Owubah, C.E., Le Master, D.C., Bowker, J.M., Lee J. G. (2001). Forest Tenure Systems and Sustainable Forest Management: the case of Ghana. *Forest Ecology and Management* 149(2001), pp. 253-264.
- Paige, Susan E. (7 November 2002). The amount of carbon released from peat and forest fires in Indonesia during 1997.
- Phiri, M. (2009). Evaluation of the Performance of Joint Forest Management (JFM) Programme: Case of Dambwa Forest Reserve in Livingstone District, Zambia. MSc. Thesis, pp. 1-164.

- Pretty, J. N. & Pimbert, M. P. (1995). Beyond conservation ideology and the wilderness myth. *Natural Resources Forum* 19, pp 5–14.
- Prentice, C. and Parish, D. (1992). Conservation of peat-swamp forests: a forgotten ecosystem. *Malay. Nat. J.* 45: 128-144.
- Sheffy, John J. M. S. (2005). Attempts at Participatory Forest Management in the Ghana-Togo Highlands. Master Thesis, p. 7.
- Smith E. K. (1999). Developments and Setbacks in Forest Conservation: The New political economic of forest resource use in southern Ghana. Ministry of Land and Forestry Technical paper. p. 57.
- Stoll-Kleemann, S. and O’Riordan T. (2002). From participation to partnership in biodiversity protection: experience from Germany and South Africa. *Society and Natural Resources* 15: 157–173.
- Thacher, T., Lee D.R., Schelhas, J.W. (1996). Farmer Participation in Reforestation Incentive Programs in Costa Rica. *J. Agroforestry Syst.*, 35(3): 269-289.
- Thanh, N. T., Tan, N. Q., and Sikor, T. (2003). Research Project on Assessment Methods for Forest Land Allocation, the Local Outcomes of Forest Land Allocation: Evidence from Dak Lak, p. 24.
- Tropenbos-Ghana (2005). Reconciling Policy Reforms with Forest Legislation; Tropenbos International-Ghana, 2005.
- Uphoff, Norman T., Cohen, John M., and Goldsmith, Arthur A. (1979). *Feasibility and Application of Rural Development Participation: A state-of-the-Art-Paper*, Cornell University.
- Weinberger, K., Jutting, J. (2001). Women’s Participation in Local Organizations: Conditions and Constraints, 29(8), pp. 1391-1404.
- Wiggins, S., Marfo, K., Anchirinah, V., (2004). Protecting the Forest of the People? Environmental Policies and Livelihoods in the Forest margins of Southern Ghana. *World Development* Vol. 32, No. 11, pp. 1939-1955, ODI, UK.

Wily, L. A. (2001). Forest Management and Democracy in East and Southern Africa: Lessons from Tanzania. Gatekeeper Series no. 95. Sustainable Agriculture and Rural Livelihoods Programme. International Institute for Environment and Development (IIED), London.

World Bank (1994). The World Bank and Participation, Operations Policy Development, Washington D. C. The World Bank.

World Bank (1996). The World Bank participation sourcebook. Washington, DC. ([www.worldbank.org/wbi/sourcebook/sba204.htm](http://www.worldbank.org/wbi/sourcebook/sba204.htm))(Accessed 05/12/2008, 5: 06 GMT).

Zhang, D., Flick, W. (2001). Sticks, Carrots and Reforestation Investment. J. Land Econ., 77 (3): 443-456.

Yamano, J.F. (1985). Statistic: a tool for social research. Wadsworth Publishing, USA

Whitmore, T. C. (1986) Tropical rain forests of the Far East. Second edition. Oxford: Oxford University Press.

Wyatt-Smith, J. (1959) Peat Swamp forests in Malaya. Malay. Forester 24: 110-121.

Zulkifli, Y., Villy, K. and Baharuddin, K. (1999). Hydrological Characteristics of the North Selangor Peat Swamp Forest, Project Document No. 15. Malaysia-DANCED Project on Sustainable Management of Peat Swamp Forest..

## APPENDICES

### Appendices 1



**PROGRAM**  
**BENKEL KONSULTANSI STAKEHOLDERS**  
KAJIAN PENILAIAN PENGLIBATAN KOMUNITI SETEMPAT TERHADAP  
PROGRAM PEMULIHAN DAN PEMULIHARAAN HUTAN PAYA GAMBUT  
DI SELANGOR

Tarikh : 4 Disember 2014 (Khamis)  
Masa : 9.00 pagi hingga 5.00 petang  
Tempat : Hotel De Palma, Kuala Selangor

MASA	PROGRAM
8.30 pagi	Pendaftaran & sarapan pagi
9.00 pagi	Pengenalan Bengkel Konsultansi <i>Stakeholders</i> "Kajian penilaian penglibatan komuniti setempat terhadap program pemulihan & pemuliharaan Hutan Paya Gambut Selangor" <b>(Pegawai Jabatan Perhutanan Negeri Selangor)</b>
9.15 pagi	<b>Pembentangan 1 (Jab. Perhutanan Negeri Selangor)</b> Pengurusan, aktiviti pemulihan dan pemuliharaan hutan paya gambut di Selangor
9.40 pagi	<b>Pembentangan 2 (Sahabat Hutan Gambut Selangor Utara)</b> Pengenalan kepada Sahabat Hutan Gambut Selangor Utara
10.00 pagi	<b>Pembentangan 3</b> Taklimat projek Kajian Penilaian Penglibatan Komuniti Setempat Terhadap Program Pemulihan dan Pemuliharaan Hutan Paya Gambut di Selangor
10.30 pagi	Minum Pagi
11.00 pagi	Sesi Perbincangan: *peserta dipecahkan mengikut kumpulan yang diketuai oleh fasilitator
12.45 tengahari	Makan Tengahari
2.15 petang	Pembentangan kumpulan dan Q & A
3.45 petang	Sesi Penerangan Borang Soal Selidik kajian (Perunding)
4.15 petang	Minum Petang dan Bersurai

### List of The Workshop Members

NO	NAMA	AGENSI
1	En. Badrul Hisham Bin Abd Rahman	Forestry Department of Selangor
2	En. Mangsor Bin Yusoff	
3.	En. Syed Mohd Adzha Bin Syed Khalid	
4.	En. Shaïd Syazwan bin Muhamad	
5.	En. Aszhar	
6.	En. Noridzuan	
7.	Pn. Zaridah	
8.	Tuan Hj Kapli bin Damin	Department of Irrigation and Drainage (Kuala Selangor District)
9.	Puan Kamaliah binti Yunus	
10.	En Mohd Fazlan bin Abdul Ghani	Fishery Department (Kuala Selangor District)
11.	En. Dzulkepli bin Ishak	Agriculture Department (Kuala Selangor District)
12.	En Muhammad Safuan bin Sulaiman	Forest Research Institute Malaysia (FRIM)
13.	En Hyrul Izwan bin Mohd Husin	Global Environment Centre (GEC)
14.	Cik Nurhayati	
15.	Cik Nur Afiqah binti Ghazali	Malaysia Nature Society (MNS)
16.	Cik Siti Nur Fazlin	Qubah Kasturi Sdn. Bhd.
17.	En Mohd Hanafi bin Abdul Aris	Department of Wildlife & National Park (Sabak Bernam District)
18.	En Jayus bin Suraji	Local Community (Kampung Raja Musa), not among the members of SAHABAT
19.	En Zulkifli bin Musa	
20.	En Mohd Jaeë bin Yatiman	
21.	En Basar bin Usul	
22.	En Mohd Azli bin Abdul Rahman	
23.	En. Mohamad Jinal Arifin	Local Community (Kampung Bestari Jaya), not among the members of SAHABAT
24.	Pn. Zaleha	
25.	En. Md Isa	
26.	En Hamidon bin Salim (Ketua Kg)	Local Community (Kampung Ampangan), not among the members of SAHABAT
27.	En Ab. Rahim bin Mohamad	
28.	En Sahrom	Local Community (Kampung Raja

<b>NO</b>	<b>NAMA</b>	<b>AGENSI</b>
29.	En Ramli	Musa), among the members of SAHABAT
30.	En Mohamed Yaacob bin Hamzah	Local Community (Kampung Bestari Jaya), among the members of SAHABAT
31.	En Tahir bin Johar	
32.	Pn. Siti Sarman	
33.	Pn. Mariati Ratip	
34.	En Abu Bakar bin Moin	Local Community (Kampung Ampangan), among the members of SAHABAT
35.	En Selamat bin Surib	
36.	Dr. Lim Hin Fui	
37.	En. Mohd Parid Mamat	Forest Research Institute Malaysia (FRIM)
38.	Cik Mukrimah Abdullah	
30.	En Mohamed Yaacob bin Hamzah	Local Community (Kampung Bestari Jaya), among the members of SAHABAT
31.	En Tahir bin Johar	

**SULIT**



**JABATAN PERHUTANAN NEGERI SELANGOR**

**KAJIAN PENILAIAN PENGLIBATAN KOMUNITI SETEMPAT TERHADAP  
PROGRAM PEMULIHAN DAN PEMULIHARAAN HUTAN PAYA GAMBUT  
DI SELANGOR**

Jabatan Perhutanan Negeri Selangor sedang menjalankan Kajian Penilaian Penglibatan Komuniti Setempat Terhadap Program Pemulihan dan Pemuliharaan Hutan Paya Gambut di Selangor. Kajian ini adalah tertumpu kepada penilaian penyertaan komuniti tempatan dalam program pemulihan dan pemuliharaan Hutan Paya Gambut Selangor Utara (HPGSU) dalam mengukuhkan strategi dan pilihan untuk pengurusan hutan secara mampan khususnya di negeri Selangor. Kajian ini juga bertujuan untuk mengenalpasti kelemahan dan kekuatan penglibatan komuniti tempatan dalam program pemulihan dan pemuliharaan HPGSU disamping mengenalpasti faktor-faktor penyumbang kepada tahap penyertaan di kalangan masyarakat tempatan dalam program pemulihan dan pemuliharaan HPGSU. Segala kerjasama di dahului dengan ucapan terima kasih.

RES

--	--	--	--



1. No. Sample  Penemuramah: \_\_\_\_\_ Tarikh: \_\_\_\_\_ Daerah: \_\_\_\_\_

2. Nama Kampung:

- a. Kg. Bestari Jaya b. Kg. Sri Tiram Jaya c. Kg. Raja Musa d. Kg. Ampangan  
f. Lain-lain \_\_\_\_\_ (nyatakan)

**A. MAKLUMAT AM PENGETAHUAN KEWUJUDAN TANAH HUTAN SIMPAN PAYA GAMBUT**

1. Adakah anda sedar/mengetahui kewujudan persekitaran kawasan hutan simpan paya gambut bersempadanan dengan kawasan kampung penempatan anda?

- a. Ya  b. Tidak

2. Adakah anda pernah masuk atau menjalankan sebarang aktiviti di kawasan hutan simpan paya gambut berhampiran penempatan anda?

- a. Ya  b. Tidak

3. Jika Ya, nyatakan jenis aktiviti:

\_\_\_\_\_

4. Adakah anda memiliki atau mengusahakan kawasan kebun/pertanian berhampiran kawasan hutan paya gambut sekitar penempatan anda?

- a. Ya  b. Tidak

5. Jika Ya, sila nyatakan:

- a. Padi  b. K.Sawit  c. Kelapa

- d. Tanaman kontan  e. Dusun

f. Lain-lain (nyatakan):

Maklumat tanaman di atas:

Bil.	Jenis tanaman	Luas (ekar)	Tahun mulai menanam	Pendapatan bulanan dari tanaman (RM)
a.	Padi			
b.	K. sawit			
c.	Kelapa			
d.	Tanaman kontan			
e.	Dusun			
	<b>Jumlah luas</b>			

**B. PENGGUNAAN SUMBER-SUMBER & TANAH HUTAN SIMPAN  
PAYA GAMBUT OLEH AHLI-AHLI KELUARGA ANDA**

- |  |        |           |
|--|--------|-----------|
| 1) Tanah untuk bercucuk tanam              | 1 = Ya | 2 = Tidak |
| 2) Menangkap ikan                          | 1 = Ya | 2 = Tidak |
| 3) Memburu binatang                        | 1 = Ya | 2 = Tidak |
| 4) Penghasilan pokok herba untuk perubatan | 1 = Ya | 2 = Tidak |
| 5) Penghasilan rotan                       | 1 = Ya | 2 = Tidak |
| 6) Sumber air untuk pertanian              | 1 = Ya | 2 = Tidak |
| 7) Sumber bahan-bahan kraftangan           | 1 = Ya | 2 = Tidak |
| 8) Penghasilan buah-buahan hutan           | 1 = Ya | 2 = Tidak |
| 9) Penghasilan buluh                       | 1 = Ya | 2 = Tidak |
| 10) Penghasilan madu lebah                 | 1 = Ya | 2 = Tidak |
| 11) Penghasilan daun palas                 | 1 = Ya | 2 = Tidak |
| 12) Penghasilan asam kelubi                | 1 = Ya | 2 = Tidak |
| 13) Lain-Lain                              |        |           |
- 
- 

**C. SEBAGAI PENDUDUK TEMPATAN, ADAKAH MASALAH-  
MASALAH YANG BERIKUT DIHADAPI OLEH KELUARGA  
ANDA?**

- |   |        |           |
|---|--------|-----------|
| 1) Masalah hasil hutan yg. berkurangan                      | 1 = Ya | 2 = Tidak |
| 2) Masalah kekurangan tanah bercucuk tanam                  | 1 = Ya | 2 = Tidak |
| 3) Kekurangan tenaga pekerja                                | 1 = Ya | 2 = Tidak |
| 4) Masalah banjir   | 1 = Ya | 2 = Tidak |
| 5) Masalah jerebu/kebakaran                                 | 1 = Ya | 2 = Tidak |
| 6) Masalah pencemaran air                                   | 1 = Ya | 2 = Tidak |
| 7) Masalah penyakit tanaman                                 | 1 = Ya | 2 = Tidak |
| 8) Hasil tanaman susah untuk dipasarkan                     | 1 = Ya | 2 = Tidak |
| 9) Masalah sistem pengairan untuk tanaman                   | 1 = Ya | 2 = Tidak |
| 10) Larangan menjalankan aktiviti pemungutan<br>hasil hutan | 1 = Ya | 2 = Tidak |
| 11) Lain-Lain   |        |           |
- 
-

**D. PANDANGAN TERHADAP PROJEK PEMULIHAN & PEMULIHARAAN HUTAN PAYA GAMBUT SELANGOR UTARA**

1. Adakah kewujudan persekitaran hutan paya gambut berhampiran penempatan anda memberi kesan ke atas kehidupan seharian anda; samada kesan positif atau negatif

<b>Kesan-Kesan Pembangunan</b>	<b>Sila tanda bahagian yang sesuai</b>	<b>Sila catatkan keterangan/ ulasan yang diberikan semasa temubual</b>
D11. Kesan-kesan positif	a. Tambah pendapatan b. Tambah pekerjaan c. Pembangunan tempatan d. Tempat pelancongan e. Kemahiran berkomunikasi f. Kemahiran berniaga & berurusanniaga g. Meningkatkan kemahiran kaum wanita – menceburi industri kecil h. Memperkenalkan kebudayaan setempat i. Lain-lain (nyatakan) _____	
D12. Kesan-kesan negatif	a. Gangguan masyarakat luar b. Kekurangan sumber pendapatan c. Kekurangan tanah untuk pertanian d. Lain-lain (nyatakan) _____	

2. Secara umumnya, apakah pandangan/perasaan anda mengenai kewujudan persekitaran hutan paya gambut bersempadanan dengan penempatan anda; adakah ianya sesuatu yang baik atau sebaliknya?

\_\_\_\_\_

3. Adakah aktiviti pemulihan & pemuliharaan sumber hutan paya gambut sesuatu yang penting bagi anda? Nyatakan:

\_\_\_\_\_

4. Adakah pihak berkuasa termasuk NGO melibatkan saudara atau komuniti setempat secara langsung dalam pembangunan atau sebarang aktiviti pemuliharaan dan pemuliharaan hutan paya gambut diperingkat-peringkat tertentu (perancangan, pendidikan, maklumat/informasi & sebagainya)?

---



---



---

**E. PANDANGAN TERHADAP PENGGUNAAN KAWASAN HUTAN PAYA GAMBUT SELANGOR UTARA DENGAN BIJAKSANA MENGIKUT KEUTAMAAN BAGI SETIAP PENGGUNAAN SEPERTI YANG BERIKUT:**

	Pilihan mengikut keutamaan			
1. Pemeliharaan (Dibiarkan secara semulajadi)	1	2	3	4
2. Pembangunan eko-pelancongan	1	2	3	4
3. Pembalakan dan menanam semula dgn sistemetik	1	2	3	4
4. Dibuka semula utk pembangunan pertanian	1	2	3	4

**F. KEDUDUKAN AHLI-AHLI ISIRUMAH (IAITU AHLI KELUARGA YANG TINGGAL BERSAMA) DI KAMPUNG INI.**

- Jumlah ahli keluarga yang tinggal bersama. \_\_\_\_\_
- Bilangan ahli keluarga yang bekerja \_\_\_\_\_
- Bilangan ahli keluarga yang bergantung kepada ahli lain \_\_\_\_\_
- Bilangan ahli keluarga yang mengganggu. \_\_\_\_\_
- Bilangan ahli keluarga berhijrah \_\_\_\_\_
- Bangsa (Sila nyatakan) \_\_\_\_\_

**G. KESEDARAN & PENGETAHUAN TENTANG USAHA PEMULIHARAAN**

- Adakah anda sedar tentang usaha pemuliharaan hutan paya gambut?
  - Ya
  - Tidak
- Siapakah yang berusaha dalam aktiviti/kegiatan pemuliharaan ini?  
\_\_\_\_\_
- Adakah **Pertubuhan Sahabat Hutan Paya Gambut Selangor Utara** wujud?
  - Ya
  - Tidak
  - Tidak tahu

4. Adakah kegiatan berikut dilaksanakan di hutan paya gambut berhampiran?

- |                                    |      |          |             |
|------------------------------------|------|----------|-------------|
| (a) Program kesedaran              | 1=Ya | 2= Tidak | 3= Tak Tahu |
| (b) Membina parit                  | 1=Ya | 2= Tidak | 3= Tak Tahu |
| (c) Menyekat parit                 | 1=Ya | 2= Tidak | 3= Tak Tahu |
| (d) Memadamkan kebakaran           | 1=Ya | 2= Tidak | 3= Tak Tahu |
| (e) Membina tapak semaian          | 1=Ya | 2= Tidak | 3= Tak Tahu |
| (f) Menyedia tanah untuk penanaman | 1=Ya | 2= Tidak | 3= Tak Tahu |
| (g) Menanam pokok baru             | 1=Ya | 2= Tidak | 3= Tak Tahu |
| (h) Memantau kawasan hutan         | 1=Ya | 2= Tidak | 3= Tak Tahu |
| (i) Pembangunan eko-pelancongan    | 1=Ya | 2= Tidak | 3= Tak Tahu |

#### H. PENGLIBATAN DALAM KEGIATAN PEMULIHARAAN

1. Adakah anda terlibat dalam Jawatankuasa berikut:

- (a) JK Bencana Kebakaran Hutan/Paya Gambut?  
1=Ya 2= Tidak
- (b) Pertubuhan Sahabat Hutan Paya Gambut Selangor Utara?  
1=Ya 2= Tidak

2. Adakah anda terlibat dalam kegiatan berkaitan hutan paya gambut berhampiran?

**1=Tidak pernah 2=Jarang-jarang 3=Kadang-kadang 4=Kerap  
5=Sangat kerap**

	1	2	3	4	5
a. Program kesedaran (I)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Membina parit (I)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Menyekat parit (I)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Memadamkan kebakaran (I)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Membina tapak semaian (BS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Menyedia tanah untuk penanaman (BS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Menanam pokok baru (I)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Memantau & rondaan kaw. hutan (M)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Pembangunan eko-pelancongan (BS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Memberikan maklumat kepada pihak berkuasa tentang aktiviti pemusnahan sumber Hutan Simpan (M) oleh pihak tidak bertanggungjawab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Menjadi duta Hutan Simpan Paya Gambut (BS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**I. PESEPSI TERHADAP PENGGUNAAN & PEMULIHARAAN HUTAN PAYA GAMBUT**

1= Sangat tidak setuju 2= Tidak setuju 3= Tidak pasti 4=Setuju 5=Sangat setuju

	Kenyataan	Skala
I1	Hutan paya gambut dipuliharakan tanpa pertanian	1 2 3 4 5
I2	Sebahagian hutan paya gambut untuk pertanian	1 2 3 4 5
I3	Sebahagian hutan paya gambut untuk perlombongan	1 2 3 4 5
I4	Sebahagian paya gambut untuk eko-pelancongan	1 2 3 4 5
I5	Sebahagian paya gambut untuk lebuhraya	1 2 3 4 5
I6	Hutan paya gambut penting untuk kurangkan jerebu	1 2 3 4 5
I7	Perlu membina 'buffer zon' di sekeliling sempadan	1 2 3 4 5
I8	Penglibatan pertubuhan bukan kerajaan penting dalam pemuliharaan	1 2 3 4 5

**J. PESEPSI TERHADAP KEPENTINGAN HUTAN PAYA GAMBUT**

1= Sangat tidak setuju 2= Tidak setuju 3= Tidak pasti 4=Setuju 5=Sangat setuju

	Kenyataan	Skala
J1	Kawasan penting sebagai habitat pembiakan benih ikan	1 2 3 4 5
J2	Kawasan penting menjana pendapatan (hasil ikan/eko-pelancongan/kayu bahan kraf/daun palas/asam kelubi)	1 2 3 4 5
J3	Kawasan penting sebagai benteng/perlindungan dari tiupan angin kencang	1 2 3 4 5
J4	Kawasan penting sebagai habitat pemuliharaan flora & fauna	1 2 3 4 5
J5	Kawasan penting sebagai sumber makanan harian (daun/pucuk/buah/bijian/haiwan)	1 2 3 4 5
J6	Kawasan penting sebagai sumber perubatan tradisional	1 2 3 4 5
J7	Kawasan penting sebagai tarikan dan tumpuan pelancong untuk aktiviti rekreasi & riadah	1 2 3 4 5
J8	Kawasan penting sebagai sumber bekalan air pertanian	1 2 3 4 5

J9	Kawasan penting & bermanfaat untuk kawal banjir	1	2	3	4	5
J10	Kawasan penting sebagai penyimpanan stok karbon	1	2	3	4	5
J11	Lain-lain (nyatakan):					

1. Apakah sumbangan yang anda boleh berikan untuk pemuliharaan paya gambut?

---

---

2. Apakah potensi ekonomi hutan paya gambut untuk pembangunan masyarakat tempatan?

---

---

**K. STATUS PEKERJAAN AHLI-AHLI ISIRUMAH YANG BEKERJA**

(K1) Ahli	(K2) ) Umur	(K3) Jantina	(K4) Pencapaian Pendidikan	(K5) Taraf Perkahwinan	(K6) Pekerjaan Utama 1= Bertani dusun 2= Penoreh getah 3=Pengusaha K.Sawit 4= Penanam sayur 5=Nelayan sungai 6=Pemandu Pelancong 7=Pengusaha bot 8=Pengusaha Chalet/Homestay 9=Pekerja kontrak 10= Berniaga 11= Kerajaan _____ _____ 12= Swasta _____ _____ 13= Pesara 14= Suri rumah 15= Lain-lain _____ _____	(K7) Status Pekerjaan 1=Majikan 2=Pekerja 3=Kerjaskdr 4=Pekerja keluarga tanpa upah	(K8) Pekerjaan Sekunder (sambilan)
Bekerja							
1 (ketu)							



a)							
2							
3							
4							
5							
Tak Kerja							
91							
92							
93							
94							
95							
96							



© COPYRIGHT UPM

**L. SUMBER-SUMBER PENDAPATAN ISIRUMAH 2014**

	<b>ITEM</b>	<b>RM Sebulan</b>
L1	<b>PENDAPATAN TUNAI DARI HUTAN PAYA GAMBUT</b>	
	1. Tanaman kelapa sawit (.....ekar)	
	2. Pangutipan daun palas	
	3. Pengutipan asam kelubi	
	4. Penangkapan ikan	
	5. Pembangunan eko-pelancongan	
	6. Lain-lain	
L2	<b>PENDAPATAN TUNAI DARI LUAR HUTAN PAYA GAMBUT</b>	
	1. Penanaman padi	
	2. Penanaman kelapa sawit	
	3. Penanaman kelapa	
	4. Penanaman buah-buahan	
	5. Lain-lain pertanian	
	6. Makan gaji oleh ahli-ahli isirumah	
	7. Kiriman wang dari ahli keluarga	
	8. Pendapatan berniaga	
	9. Lain-lain pendapatan tunai	
L3	<b>PENDAPATAN BUKAN TUNAI DARI HUTAN PAYA GAMBUT</b>	
	1. Makanan ikan yang ditangkap	
	2. Makanan sayur yang ditanam	
	3. Lain-lain	
L4	<b>PENDAPATAN BUKAN TUNAI DARI LUAR HUTAN PAYA GAMBUT</b>	
	1. Makanan ikan yang ditangkap (nilai jikadibeli)	
	2. Makanan sayur yang ditanam (nilai jika dibeli)	
	3. Tempat tinggal sendiri (kos jika disewa)	
	4. Kemudahan air	
	5. Penggunaan kayu api	
	6. Lain-lain	

**-Sekian, terima kasih-**

## BIODATA OF STUDENT

Mohd Basri Abdul Manaf was born in 24 October 1972 in Raub, Pahang. Currently, he work as Senior Assistant Director in Jabatan Perhutanan Negeri Selangor since 2011. Mr Basri is a well trained in Forestry Management with Diploma in Forestry in 1993 and Bachelor of Forestry Management in 21996 from Universiti Pertanian Malaysia. After graduated he obtained vast experience and excellence in Forestry Department from the last of 19 years. Begin his career in 2000 as Forestry Officer in Terengganu State Forestry Department, two years from 2000-2002 as Officer in Forestry Department Headquarters Peninsular Malaysia. From 2002 to 2005 he was appointed as Rompin District Officer by Pahang State Forestry Department. With his commitment and performance, he was appointed as Assistant Director in Negeri Sembilan State Forestry Department from 2005 to 2011.

He is actively involves in profesional societies such as Institut Rimbawan Malaysia (IRIM), Majlis Urusan Hutan (MAJURUS) and Kelab Golf Perhutanan Malaysia (KGPM). He has also actively in written and publications; *Coffee Table - Negeri Sembilan Forestry Resources and Heritage*, *Coffee Table – Selangor Mangroves – Black Jewel of the Island* and *Orchidea Selangoreana- Wild Orchids of Selangor*.

With all his contributions to the Forestry Department, he was awarded the Excellent Service Award from Negeri Sembilan State Forestry Department in 2005 and 2009. Meanwhile, during his contributions to Selangor State Forestry Department, once again, he was awarded Excellent Service in 2014. In 2015, he was awarded Darjah Kebesaran Ahli Sultan Sharafudin Idris Shah (A.I.S) by KDYMM Sultan Selangor.

## LIST OF PUBLICATION

1. Evaluation of Local Community Participation in Rehabilitation and Conservation Programme of Peat Swamp Forest in Selangor, Malaysia.

