

**COMMUNITY FORESTRY FROM THE PERSPECTIVE  
OF COMMUNITIES IN SARAWAK**

**JULIA ANAK NELSON**

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FOR THE DEGREE OF MASTER OF SCIENCE**

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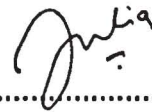


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## DECLARATION

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.....  
Julia anak Nelson

MF1221001T

## DECLARATION

NAME : **JULIA ANAK NELSON**

MATRIC NO. : **MF1221001T**

TITLE : **COMMUNITY FORESTRY FROM THE PERSPECTIVE OF  
COMMUNITIES IN SARAWAK**

DEGREE : **MASTER OF SCIENCE (FORESTRY)**

VIVA DATE : **18 FEBRUARY 2016**

### CERTIFIED BY;

**1. MAIN SUPERVISOR**

Dr. Nur Muhammed

Signature

---

**2. CO-SUPERVISOR**

Dr. Rosmalina Abdul Rashid



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## ABSTRACT

This research was designed to, i) determine the communities' perspective on community forestry from their knowledge, impression and interest, ii) identify the communities' attitudes toward the forest management agencies, iii) identify the challenges of the implementation of community forestry, iv) identify the effects of communities' land ownership, land utilization, house distance to forest and forest products utilization toward the communities' access rights, forest resources and wildlife abundance, and forestry issues and, v) determine the extent of communities' employment in forestry sector and interaction with the forest management agencies. The data were collected using the mixed method through three instruments namely, self-administered questionnaire, involving 204 community members, an interview with the forest officer and document analysis of 17 documents. The results of communities' perspective are on the average level but communities did show their interests to be involved in community forestry and the communities have indifferent attitudes toward the forest management agencies. The main challenges of community forestry are the conflict between communities on forest land ownership and certain parties' objection due to conflicting views and interest. The communities' forest dependency has significant effects toward the communities' access rights, forest resources and wildlife abundance, and forestry issues. Lastly, the extent of communities' employment in the forestry sector and interaction with the forest management agencies are low. Conclusively, the study findings are able to achieve the research objectives and to reflect the initial problem statements of this study. The proposed model of community forestry in Bau has to include five main elements which are the communities' perspective, attitudes, possible challenges, forest dependency and participation. It is recommended for future study to use different kind of analysis, methods and a larger sampling size to maximize the results of that study.

## **ABSTRAK**

### **PERHUTANAN MASYARAKAT DARI PERSPEKTIF KOMUNITI DI SARAWAK**

*Kajian ini telah direka untuk, i) menganalisis perspektif komuniti terhadap perhutanan masyarakat berdasarkan pengetahuan, pandangan dan minat komuniti; ii) mengenal pasti atitud komuniti terhadap agensi pengurusan hutan; iii) mengenal pasti cabaran terhadap pelaksanaan perhutanan masyarakat; iv) mengenal pasti kesan pemilikan tanah, penggunaan tanah, jarak rumah ke hutan dan penggunaan sumber hutan terhadap hak memasuki ke hutan, kepelbagaian sumber hutan dan hidupan liar, dan isu-isu perhutanan; dan iv) mengenal pasti tahap pekerjaan di dalam sektor perhutanan dan interaksi dengan agensi pengurusan hutan. Pengumpulan data telah dilakukan dengan menggunakan kaedah campuran melalui tiga instrumen iaitu soal selidik yang melibatkan 204 ahli komuniti, temubual dengan pegawai perhutanan dan analisis 17 helai dokumen. Keputusan perspektif komuniti adalah di tahap yang sederhana tetapi komuniti menunjukkan minat mereka untuk melibatkan diri dalam perhutanan masyarakat dan komuniti mempunyai atitud acuh tidak acuh terhadap agensi pengurusan hutan. Cabaran utama perhutanan masyarakat adalah konflik antara masyarakat ke atas pemilikan tanah hutan dan bantahan pihak-pihak tertentu kerana pandangan dan minat yang bercanggah. Pergantungan komuniti kepada hutan mempunyai kesan yang penting ke arah hak akses kepada hutan, sumber hutan dan hidupan liar, dan isu-isu perhutanan. Akhir sekali, tahap pekerjaan masyarakat dalam sektor perhutanan dan interaksi dengan agensi pengurusan hutan adalah rendah. Kesimpulannya, penemuan kajian ini telah mencapai objektif penyelidikan dan dapat mencerminkan pernyataan masalah kajian. Cadangan model perhutanan masyarakat di Bau haruslah merangkumi lima elemen utama iaitu perspektif komuniti, sikap, cabaran, kebergantungan terhadap hutan dan penyertaan. Kajian masa hadapan adalah disyorkan untuk menggunakan analisis dan kaedah yang berbeza dan saiz sampel yang lebih besar untuk memaksimumkan hasil kajian itu.*



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## LIST OF ABBREVIATION

<b>ASEAN</b>	- Association of Southeast Asian Nations
<b>B</b>	- Values for the regression equation
<b>BANP</b>	- Batang Ai National Park
<b>BKNP</b>	- Betung Kerihun National Park
<b>CBD</b>	- Convention on Biological Diversity
<b>CBET</b>	- Community-Based Ecotourism
<b>cf.</b>	- compare
<b>C.I.</b>	- Confidence interval
<b>CM</b>	- Community member
<b>DBNA</b>	- Dayak Bidayuh National Association
<b>Df</b>	- Degree of freedom
<b>Exp (B)</b>	- Exponentiation of the B coefficient (odds ratio)
<b>F</b>	- Frequency
<b>FAO</b>	- Food and Agriculture Organization of the United Nations
<b>FDS</b>	- Forest Department Sarawak
<b>FPIC</b>	- Free, Prior and Informed Consent
<b>FR</b>	- Forest resources
<b>GAO</b>	- General Accounting Office
<b>Ha</b>	- hectare
<b><i>Ibid.</i></b>	- (Latin - <i>Ididem</i> ) In the same place
<b>ITTO</b>	- International Tropical Timber Organization
<b>JKKK</b>	- <i>Jawatankuasa Kemajuan dan Keselamatan Kampung</i> (Village Development and Security Committee)
<b>JTF</b>	- Joint Task Force
<b>km<sup>2</sup></b>	- Square kilometre
<b>KMNP</b>	- Kayan Metarang National Park
<b>LA</b>	- Land area
<b>LCE</b>	- Lower Certificate of Education
<b>LEWS</b>	- Lanjak Entimau Wildlife Sanctuary
<b>LO</b>	- Land ownership
<b>LU</b>	- Land use

<b>M</b>	- Mean
<b>Max.</b>	- Maximum
<b>MCE</b>	- Malaysian Certificate of Education
<b>MENGO</b>	- Malaysian Environmental NGOs
<b>Mills</b>	- million
<b>Min.</b>	- Minimum
<b>NGO</b>	- Non-governmental Organization
<b>NTFP</b>	- Non-timber forest product
<b>PASW</b>	- Predictive Analytics Software
<b>PBHM</b>	- <i>Pengelolaan Hutan Bersama Masyarakat</i>
<b>PC</b>	- Personal computer
<b>PFE</b>	- Permanent Forest Estate
<b>PFM</b>	- Participatory Forest Management
<b>PLUM</b>	- Polytomous Universal Model
<b>PMR</b>	- PMR: <i>Penilaian Menengah Rendah</i> (Lower Secondary Assessment Test)
<b>PSC</b>	- Project Steering Committee
<b>PTNP</b>	- Pulong Tau National Park
<b>R<sup>2</sup></b>	- Coefficient of determination
<b>REDD+</b>	- Reduce Emissions from Deforestation and Forest Degradation
<b>RM</b>	- Ringgit Malaysia
<b>SALCRA</b>	- Sarawak Land Consolidation and Rehabilitation Authority
<b>SD</b>	- Standard deviation
<b>SE</b>	- Standard error
<b>SFC</b>	- Sarawak Forestry Corporation
<b>Sig.</b>	- Significance
<b>SPM</b>	- <i>Sijil Pelajaran Malaysia</i> (Malaysian Certificate of Education)
<b>STPM</b>	- <i>Sijil Tinggi Persekolahan Malaysia</i> (Malaysian Higher School Certificate)
<b>SWOT</b>	- Strengths, Weaknesses, Opportunities and Threats
<b>T</b>	- Coefficient divided by standard error
<b>TBCA</b>	- Trans-Boundary Conservation Area
<b>TOR</b>	- Terms of Reference

<b>TPA</b>	- Totally Protected Areas
<b>UN</b>	- United Nations
<b>UNDP</b>	- United Nations Development Programme
<b>UPSR</b>	- <i>Ujian Penilaian Sekolah Rendah</i> (Primary School Achievement Test)
<b>USAID</b>	- United States Agency for International Development

## LIST OF SYMBOL

<b>%</b>	- Percent sign
<b>±</b>	- Plus-minus sign
<b>P</b>	- Probability of obtaining a test statistic result as extreme or as close to the observed, assuming the null hypothesis is true
<b>=</b>	- Equal sign
<b>&lt;</b>	- Less than
<b>&gt;</b>	- More than

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# CHAPTER 1

## INTRODUCTION

This first chapter features the important keys to this study. The keys are described in detail to establish the reason for this study and the intended outcome from it. This chapter is outlined into eight sections namely, the introduction, background, research gaps, problem statement, objectives, research questions, significance of the study and operational definition of terms.

### 1.0 Introduction

All around the world, there has been an increasing interest in the concept of community-based forest management and developing countries, such as Nepal, Bangladesh, India and including Malaysia, have carried out this concept for years. However, Sabah is the only State in Malaysia that has successfully adopted the community forestry in managing its forest (Tongkul *et al.*, 2013). Hence, this study aims to get the community's perception and the expert's opinion on the possibility of introduction of the community forestry as an alternative to manage the forest sustainably and to solve the forestry issues within Bau District of Sarawak. The forested areas in Bau are divided into two main categories including the nature reserves and communal forests. The communal forests are being maintained and managed by the local communities as being stated in the Forests Ordinance 1958. The research methodology has been carried out using a sequential mixed method which involved a total of 204 local communities, a forest officer and 17 documents from various sources. The findings revealed that there is a possibility of community forestry to be implemented in Bau District and these findings have been used as the keys to propose a community forestry model for this area.

### 1.1 Background

The concept of community forestry is defined as a joint management of forest between the Forest Department and the local communities (Molnar *et al.*, 2011). It



is also an internal representation between the forest communities and the other external institutions such as the Non-Governmental Organizations (NGOs), private sectors, academics institutions and political parties (Chapagain and Banjade, 2009; Paudel et al., 2010). The main philosophy of this concept is to sustain the forests and improve the forest communities' livelihood (Singh et al., 2011). For the purpose of this study, the concept of community forestry used here is in special reference to a co-management of forest between the local communities living in and around forested areas with the objectives to encourage their participation and involvement in solving forestry issues, to meet the communities' needs and articulating opportunities for development. There have been a number of valuable studies on the importance of community involvement in the forest management plan (Sunderlin, 2006; Pokharel *et al.*, 2007; Thoms, 2008; Bowler *et al.*, 2010).

Community forestry has been identified as a concept that copes with the objectives of the UN Declaration on the Rights of Indigenous People and it has been adopted in many countries in Asia (FAO, 2010). It also has been promoted in Latin America by multilateral agencies, non-governmental organizations (NGOs), and governments (Bray *et al.*, 2008; Hajjar *et al.*, 2011; Molnar *et al.*, 2011). Recent research suggested that community forestry is a way to promote the conservation and sustainable use of tropical forests, consolidate rights over traditional lands and resources, and reduce rural poverty (*Ibid.*). It also could help to discover the indicators and develop monitoring plans that are meaningful and reliable for local communities (Fernandez-Gimenez *et al.*, 2008). This concept is also a promising concept to overcome the underlying issues of the current forest management program, especially on issues related to indigenous people (Lamichhane and Thapa, 2012). It also has helped in reducing the rate of deforestation and increasing the biomass levels of existing forested areas thereby, increasing the rate of uptake of carbon dioxide from the atmosphere and reducing the risk of climate change (Basnet, 2009). However, two conflicting perspectives on community's participation in forest management through community forestry are worthy to be the main concerns of this study. On one hand, the view held by Thoms (2008) that community's participation through community forestry has strong potentials to serve as a basis to conserve the forest and improve the



community's livelihoods. And on the contrary, MacKay (2002) views that community's participation has several disadvantages such as time consuming, there is a high possibility of high financial costs, there is a need for training and capacity building and different views of interest groups that will lead to difficulty in obtaining constructive conclusions. Although the latter is a direct counter argument to the former, they both play an important role in explaining the current research and indeed the status of local communities in forest management. The former would logically entail that local community's participation is worth practicing and exploring. The latter perspective goes further by implying that it was actually an important area previously unknown and therefore is worth knowing. It can therefore be argued that local community's participation does benefit the environments and communities, but there are also other areas of interest have to be cleared for the community forestry to be implemented effectively.

## **1.2 Research Gaps**

Review of past literatures has shown several gaps in past researches. The first literature by Suh and Emtage (2004) has suggested that one of the critical areas in identifying the strength, weakness, opportunity and a threat to the community forestry is the social factors. However, they only listed the landholder attitudes to forestry as the indicator for the societal factors. Besides that, Nur Muhammed *et al.* (2011) found that the lack of the indigenous people's recognition in Bangladesh also has led to the failure of the social forestry program being implemented. They have suggested that there is a need for recognition from the government toward the community in managing the forest. Idrissou *et al.* (2011) in their study also found that the lack of respect for the local community's rules has resulted in conflict between the forest managers and the local community in Benin. However, they only suggested forest managers' recognition toward the local community's rules and did not specify the social indicators to carry out this suggestion. Due to these past research gaps, two more indicators of the social factors which are the community's viewpoint (Devkota and Singh, 2010; Ellis *et al.*, 2013) and challenge to implementation (Birendra, 2012) have been added to this study.

Next, the study conducted by Nur Muhammed *et al.* (2010b) considered that the concept of indigenous people's dependency toward the forest as highly problematic. However, their research only analyzed the indigenous community's livelihood pattern and forest dependency separately, and they did not relate or analyse the effect of the communities' livelihood pattern and forest dependency on the forest. Chao (2012) also found that there is a lack of understanding of the forest dependent community. However, she also did not emphasize on the effects of the community's dependency toward the forest. The government also often blames the shifting cultivation practices by the communities as the main cause of deforestation but they rarely consider the importance of those practices toward the communities' livelihood (Bujang, 2011). This study then has filled-in these gaps by relating and predicting the effects of the local community's livelihood pattern and forest dependency toward the forest.

Finally, the studies conducted by Wong (2009) and Sanggin and Mersat (2012) on the two of the implemented community-based projects in Sarawak, which are the Agroforestry project and SALCRA Oil Palm Schemes respectively, conclude that the lack of active participation of the local communities, and the authorities are the main causes of underachievement of the project's objective. However, they do not specify the level and nature of participation in the heretofore projects. This study has also filled-in the gaps in identifying the level and nature of participation through two indicators, namely, the local's employment in any forest activities and their interaction with the forest management agencies.

### **1.3 Problem Statement**

Forest acts as a source of livelihood, communal resources and cultural identity of the indigenous communities and at the same time, forest also acts as Sarawak's main income generation. Thus, it is important to highlight some fundamental issues concerning the indigenous communities which have yet to be taken on board for community-based forest management to be possible. The first issue is that, the rapid extension of oil palm plantations and water source pollution has caused numbers of disputes over native land (Colchester *et al.*, 2007). This issue affects the native communities more than any other race group. They continue to struggle



to maintain their identity and control over their lands and resources. The second issue is lacked of political representations from the native community members. Malaysia has formally approved the Convention on Biological Diversity (CBD) of which, Article 8(j) in the convention requires the States to respect, preserve and maintain the relevant knowledge, innovations and practices of the indigenous and local communities for the conservation and sustainable use of biological diversity. However, there is no mention of native's participation in the decision making body (Bulan, 2010). Lyndon *et al.* (2012) further support this statement as they also noted that the community's participation in any community development project is usually limited not only in implementation level, but also in other levels, such as the planning, evaluation and monitoring. It is therefore, important to get the community's perspectives on what is their rate of acceptance toward any development plan. Lyndon *et al.* (2012) then concluded that, in order to achieve a better forest management, a concept of community-based management of forest between the forest department and the communities living inside of the forest needs to be introduced and the perspectives of communities with the introduction of this concept also need to be identified. It is proposed then to do an in-depth study on the rate of community acceptance toward the community forestry, if it was to be implemented in Bau, Sarawak.

#### **1.4 Objectives**

This study aimed to understand how community forestry is perceived among the communities in Bau and the forestry expert. Besides that, this study also aimed to investigate whether the communities' forest dependency affects the forest and what is the extent of communities' participation in the current forest management. The specific objectives for this study are;

- i. To determine the communities' perspective on community forestry from their knowledge, impression and interest.
- ii. To identify the communities' attitudes toward the forest management agencies.
- iii. To identify the challenges of the implementation of community forestry.
- iv. To identify the effects of communities' land ownership, land utilization, house distance to forest and forest products utilization toward the communities'

access rights, forest resources and wildlife abundance, and forestry issues.

- v. To determine the extent of communities' employment in forestry sector and interaction with the forest management agencies.

### **1.5 Research Questions**

From the research objectives, five research questions have been developed namely;

- i. What is the communities' perspective on the concept of community forestry if it is to be implemented in Bau?
- ii. What are the communities' attitudes toward the forest management agencies?
- iii. What are the possible challenges if community forestry is to be implemented in Bau?
- iv. What is the current situation of communities' forest dependency and does it affect the forest protection and conservation efforts?
- v. What is the communities' level of employment in the forestry sector and interaction with the forest management agencies?

### **1.6 Significance of the Study**

This study is important for several reasons. It is important to get the community's perspectives as past studies have shown that the community's perspectives were able to predict successful story of any development project and also served as a medium for the engagement between community members and forest management agencies. This study is also important as it provides a platform for the researcher to know the communities in depth and get their opinions. Other researchers have often studied organizations reflecting to one or two ownership types, but their findings may differ from the community, and this study is important as it sees things from the community's perspectives. Besides that, this study might not change the policy, but it will add to the scholarly research and literature in the social forestry field. The findings from this study can be useful to the decision makers, development agencies and indigenous communities of Sarawak or Malaysia as a whole, works out what a co-management will mean for the people. This study will also be a significant endeavour in promoting the concept of community forestry

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