Faculty of Social Sciences and Humanities

# Livelihood Strategies of the Iban Community in Pantu Sub-District, Sri Aman, Sarawak

**Leha Anak Saliman**

**Doctor of Philosophy**
**2021**

# Livelihood Strategies of the Iban Community in Pantu Sub-District, Sri Aman, Sarawak

Leha Anak Saliman

A thesis submitted

In fulfillment of the requirements for the degree of Doctor of Philosophy

(Development Studies)

Faculty of Social Sciences and Humanities
UNIVERSITI MALAYSIA SARAWAK
2021

## DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Malaysia Sarawak. Except where due acknowledgements have been made, the work is that of the author alone. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

……

Signature

Name: Leha Anak Saliman

Matric No.: 15010025

Faculty of Social Sciences and Humanities

Universiti Malaysia Sarawak

Date :

## ACKNOWLEDGEMENT

I am indebted to my supervisor, Associate Professor Dr Wong Swee Kiong from the Faculty of Social Sciences and Humanities, Universiti Malaysia Sarawak. I am grateful for her advice, comments, suggestions, and constructive feedback during the period of my PhD journey under her supervision. I would also like to express my appreciation and thanks to my former supervisor, Associate Professor Dr Ahi Sarok (retired), for his tireless guidance and intellectual contribution to my study. I would like to convey my sincere thanks to the Faculty of Social Science and Humanities especially to the Dean, Dr Mohamad Suhaidi Bin Salleh and all lecturers for their guidance and support. Special thanks to members of my family for their patience and support during my studies especially to my parents, Mr. Saliman and Madam Tulie, for their endless encouragement. Thank you for giving me the strength to complete this thesis and achieve my goal. My sincerest gratitude to all the respondents who have co-operated during the survey and friends who have helped me in this study. I thank everyone here with sincere appreciation and a grateful heart.

## ABSTRACT

The overall aim of this research is to examine the livelihood strategies of an Iban community in Pantu Sub-District, Sri Aman, Sarawak. Specifically, this research analyses the determining factors in the diversification of the livelihood strategies of the Iban community in Pantu. Accordingly, this study also analyses the role of gender in the decision-making process to determine the livelihood strategies of the Iban community in Pantu besides evaluating the changing role of gender in affecting activities participated by both men and women in Mungguh Ubah and Kara Pantu. Finally, the study also explores how indigenous knowledge among the Iban community in Pantu Sub-District influences the choice of livelihood strategies in response to changes of their livelihood susceptibility to environmental alteration. This study is based on a mixed method approach. In-depth interviews were conducted with two Iban Penghulu and 12 Tuai Rumah, while structured interviews with 220 bilik family heads, and focus group interviews with 15 men and 15 women besides direct observation. The findings showed that the major income share of the Iban communities in Pantu Sub-District is from farming activities since it is the primary economic source of the households there. The study indicated that majority of the households have improved earnings through diversifying their livelihood strategies by adopting both farm and non-farm activities such as involving in small-scale trading, hunting, fishing, and forest collection. Despite the broader frame of livelihood diversification, farmers in Pantu widely practiced agricultural diversification and depended on livestock husbandry. Almost all farmers in Pantu Sub-District perform crop diversification by cultivating more than one type of crop on their farmland such as rice, a variety of fruits and vegetables, rubber, oil-palm, and pepper. In terms of the income distribution, no significant difference was observed among the Iban households in Pantu Sub-District where a 70% majority fall under the low-

income (monthly income less than RM2,000) category. Most households secure adequate food for themselves (subsistence) and only sell the farm surplus at the local markets. Apart from agriculture, rural Iban households in Pantu still depend on natural resources for a living by involving in forest produce collection, hunting wild game and fishing. Some of the low-income households depend on remittances sent by their family members as their secondary income. An interesting finding of this study is that there are cross border informal trade activities due to Pantu's proximity to the border between Sarawak and West Kalimantan. This creates an economic and socio-cultural effect especially in supplementing the labour shortage faced in carrying out various economic activities in Pantu, providing varieties of goods sold to the local Iban and cross border marriage. The results of the study also suggest that social and natural assets, which significantly influence household decisions in diversifying livelihood strategies, enable households to enhance food security and increase agricultural production by smoothing capital constraints. Next, the women in Pantu Sub-District are actively involved in agriculture as well as in non-farm activities such as handicraft making, running small enterprises and forest produce collection as their livelihoods. Women in Pantu do play triple roles. Except for domestic tasks, there is gender equality in livelihood decision making particularly on utilisation of livelihood assets there. Almost 96% of the Iban households admit the importance of indigenous knowledge (IK) in their livelihood strategies such as farming, handicraft making, forest resources collection, hunting and fishing. IK provides Iban communities with ideas for tackling local problems. The findings of this study provide several policy implications for promoting sustainable and effective development of rural households.

**Keywords:** Livelihood strategies, diversification, indigenous knowledge, gender role, livelihood assets

***Strategi Kelangsungan Hidup dalam Masyarakat Iban di Daerah Kecil Pantu, Sri Aman, Sarawak***

## *ABSTRAK*

*Kajian ini dijalankan dalam kalangan masyarakat Iban di daerah kecil Pantu. Tujuan keseluruhan penyelidikan ini adalah untuk mengkaji strategi kelangsungan hidup dalam masyarakat Iban di daerah kecil Pantu, Sri Aman, Sarawak. Secara khusus, penyelidikan ini menganalisis faktor penentu dalam kepelbagaian strategi kehidupan masyarakat Iban di Pantu. Sehubungan itu, kajian ini juga menganalisis peranan jantina dalam proses membuat keputusan untuk menentukan strategi kehidupan masyarakat Iban di Pantu selain menilai perubahan aktiviti yang disertai oleh golongan lelaki dan wanita. Akhirnya, kajian ini juga menerokai bagaimana pengetahuan ilmu peribumi di kalangan masyarakat Iban di daerah kecil Pantu mempengaruhi pemilihan strategi kehidupan sebagai respons terhadap perubahan kerentanan kehidupan mereka terhadap perubahan persekitaran. Penyelidikan ini menggunakan kaedah campuran dengan menggunakan kaedah temu ramah mendalam yang melibatkan dua Penghulu dan 12 Tuai Rumah, temu bual berstruktur dengan 220 ketua isi rumah, temu bual kumpulan berfokus dengan 15 lelaki dan 15 wanita, dan pemerhatian langsung. Hasil kajian menunjukkan bahawa pendapatan utama masyarakat setempat di daerah kecil Pantu adalah dari aktiviti pertanian. Selain daripada terlibat dalam aktiviti pertanian, masyarakat setempat juga mempelbagaikan strategi kehidupan mereka dengan melibatkan diri dalam aktiviti perniagan kecil, berburu, memancing, dan pengumpulan hasil hutan untuk meningkatkan pendapatan mereka. Mereka juga mengamalkan kepelbagaian pertanian secara meluas dan bergantung kepada penternakan. Tiada perbezaan yang ketara diperhatikan dari segi agihan pendapatan memandangkan majoriti penduduk setempat (70%) daripada responden yang ditemu bual berpendapatan rendah iaitu pendapatan*

*bulanan kurang daripada RM2,000. Ini dapat dijelaskan di mana sebahagian besar isi rumah menjalankan aktiviti ekonomi sara diri sahaja dan mereka hanya menjual lebihan hasil pengeluaran di pasaran tempatan untuk mendapatkan pendapatan tunai. Selain pertanian, masyarakat Iban di luar bandar Pantu masih bergantung kepada sumber semula jadi seperti pengumpulan hasil hutan, memburu haiwan liar dan perikanan. Sebilangan isi rumah terutamanya golongan berpendapatan rendah bergantung kepada kiriman wang ahli keluarga dari luar sebagai pendapatan sekunder mereka. Seterusnya, terdapat aktiviti perdagangan tidak rasmi merentas sempadan berikutan dengan lokasi Pantu yang berdekatan dengan sempadan Sarawak dan Kalimantan barat. Ini memberikan kesan terhadap kehidupan penduduk dari segi budaya, ekonomi dan sosial terutamanya dari segi menampung kekurangan tenaga buruh di Pantu, bekalan kepelbagaian barangan dan perkahwinan rentas sempadan. Aset sosial dan aset semulajadi didapati mempengaruhi keputusan isi rumah dalam pilihan mempelbagaikan strategi kehidupan untuk meningkatkan keselamatan makanan dan pengeluaran pertanian mereka. Seterusnya, golongan wanita di daerah kecil Pantu terlibat secara aktif dalam pertanian dan juga kegiatan bukan pertanian seperti pembuatan kraf tangan, perusahaan kecil dan pengumpulan hasil hutan. Mereka juga memainkan tiga peranan utama dalam masyarakat. Selain tugasan domestik, terdapat kesaksamaan di antara jantina dari segi membuat keputusan sara hidup umpamanya dalam penggunaan sumber aset mereka. Hampir 96% isi rumah Iban mengakui pentingnya pengetahuan ilmu peribumi dalam strategi kehidupan seharian mereka. Hasil kajian ini memberikan beberapa implikasi dasar dalam mempromosikan kepelbagaian strategi kelangsungan hidup dalam pembangunan masyarakat luar bandar.*

***Kata kunci:*** *Strategi kelangsungan hidup, kepelbagaian, ilmu pengetahuan peribumi, peranan jantina, aset modal*

## TABLE OF CONTENTS


| | | Page |
|---|---|---|
| **DECLARATION** | | i |
| **ACKNOWLEDGEMENT** | | ii |
| **ABSTRACT** | | iii |
| ***ABSTRAK*** | | v |
| **TABLE OF CONTENTS** | | vii |
| **LIST OF TABLES** | | xiii |
| **LIST OF FIGURES** | | xv |
| **LIST OF ABBREVIATIONS** | | xvii |
| **CHAPTER 1: INTRODUCTION** | | 1 |
| 1.1 | Background of the Study | 1 |
| 1.2 | Problem Statement | 5 |
| 1.3 | Research Questions | 10 |
| 1.4 | Research Assumptions | 11 |
| 1.5 | Objectives of the Study | 11 |
| 1.6 | Significance of the Study | 12 |
| 1.7 | Conceptual Framework | 15 |
| 1.8 | Organisation of the Chapters | 20 |

**CHAPTER 2: LITERATURE REVIEW** 21

2.1 Introduction 21

2.2 Concept Definitions 22

2.2.1 Definition of Livelihood 22

2.2.2 Definition of Livelihood Strategies 23

2.2.3 Definition of Livelihood Diversification 24

2.2.4 Definition of Rural Community 26

2.2.5 Definition of Sustainable Livelihood 27

2.2.6 Definition of Household Income 28

2.3 The History and Background of Sarawak 29

2.3.1 The Iban Community in Sarawak 30

2.4 Livelihood Strategies 34

2.4.1 Livelihood Strategies of Indigenous Communities 34

2.4.2 Livelihood Decision Making in Iban Community 37

2.4.3 Sustainable Livelihoods Framework (SLF) 42

2.4.4 Categories of Rural Livelihood Strategies 48

2.4.5 The Role of Livelihood Strategies in Poverty Alleviation 51

2.4.6 Rural Livelihood Diversification 52

2.5 Agriculture and Livelihood Strategies 54

2.5.1 Iban Agricultural Systems 55

2.6 Migration as Livelihood Strategies 58

2.6.1 Iban Bejalai 60

2.7 Uses of Natural Resources as Livelihood 63

2.8 Land Right in Iban Livelihood 65

2.9 Factors Influencing Rural Livelihood Strategies 68

2.9.1 Livelihood Assets and its Influence on Livelihood Strategies 70

2.10 Gender and Pattern of Livelihood Activities 73

2.10.1 Gender Theories 76

2.11 Application of Indigenous Knowledge in Rural Livelihood 78

2.11.1 Indigenous Knowledge as a Conceptual Approach in Rural Livelihood 80

2.12 Agriculture and Rural Development Transformation 82

2.12.1 Agricultural Practices and Land Development Schemes 84

2.13 Structure Change Development Theory 86

2.14 Conclusions 89

**CHAPTER 3: METHODOLOGY** 91

3.1 Introduction 91

3.2 Research Design 91

3.2.1 Research Strategies 92

3.2.2 Selecting the Research Sites 93

3.2.3 Rationale of Selecting the Research Sites 95

3.3 Research Instrumentation 96

3.4 Pilot Study 99

3.5 Sample Size, Sampling Technique and Procedure 100

3.6 Method of Data Collection 105

3.6.1 Primary Data 105

3.6.2 Secondary Data 105

3.7 Procedure of Data Collection 106

3.8 In-depth Interviews with *Penghulus* 107

3.9 In-depth Interviews with *Tuai Rumah* 109

3.10 Interview with the Head of Household (*Tuai Bilik*) 110

3.11 Focus Group Discussion 112

3.11.1 Male Focus Group Discussion 112

3.11.2 Female Focus Group Discussion 113

3.12 Observation 113

3.13 Qualitative Data Analysis Methods 115

3.14 Statistical Analyses Methods 117

3.14.1 T-Value Analysis 118

3.14.2 Spearman's Correlation Coefficient 118

3.14.3 Confidence Level 119

3.14.4 Chi Square Test 119

3.14.5 Cross-Tabulation 119

3.14.6 Friedman Chi Square Test 120

3.15 Reliability and Validity 120

3.15.1 The Rationale for Data Triangulation 121

3.16 Ethical Considerations 122

3.17 Conclusion 123

**CHAPTER 4: FINDINGS AND DISCUSSION** 125

4.1 Introduction 125

4.2 Decision Making and Social Structure in the Iban Community 126

4.3 Structure Change Development Theory and Pantu Sub-District Livelihood Strategies 132

4.3.1 Farm (Agriculture) Livelihood Strategies 137

4.3.2 Rural Non-Farm Income and Remittances 157

4.3.3 Borderline Livelihood Strategies in Pantu Sub-District 164

4.3.4 Choice of Livelihood Strategies and Income Level 168

4.4 Five Types of Livelihood Assets That Influence Iban Livelihood Strategies 170

4.4.1 Human Capital 171

4.4.2 Financial Capital 175

4.4.3 Physical Capital 187

4.4.4 Social Capital 193

4.4.5 Natural Capital 199

4.5 Structural Equation Model for Evaluating the Factors of Determinants of Livelihood Strategies 205

4.6 Effect of Gender on Livelihood Strategies 215

4.6.1 Gender Triple Roles Model 223

4.7 Indigenous knowledge Application on The Livelihood Strategies 228

4.8 Conclusion 236

**CHAPTER 5: CONCLUSION** 238

5.1 Introduction 238

5.2 Essence of the Findings 238

5.2.1 Livelihood Strategies in Pantu Sub-District 240

5.2.2 Factors Influencing Adoption of Livelihood Strategies 244

5.2.3 Gender Perspective on Livelihood Strategies 247

5.2.4 Importance of Indigenous Knowledge on Livelihood Strategies 249

5.3 Contribution of the Research on Implications for Policy Making 251

5.4 Contribution of Research on Implications to the Body of Knowledge 254

5.5 Limitations of the Study 258

5.6 Future Research 260

5.7 Concluding Remarks 260

**REFERENCES** 263

**APPENDICES** 338

## LIST OF TABLES


| | | Page |
|---|---|---|
| Table 2.1 | Division of Labour for Paddy Cultivation | 57 |
| Table 3.1 | Pantu Sub-District Total Population | 100 |
| Table 3.2 | *Penghulu* and Administrative Areas | 101 |
| Table 3.3 | *Tuai Rumah* and their Longhouses | 102 |
| Table 3.4 | Sample Size for Structured Interview via Interview Schedule | 104 |
| Table 3.5 | Procedures of Data Collection | 106 |
| Table 3.6 | Types of Activities Observed | 114 |
| Table 4.1 | Types of Fruits and Price in Pantu Sub-District | 143 |
| Table 4.2 | Rubber Development Programme in Pantu Sub-District | 146 |
| Table 4.3 | Livestock Price in Pantu Sub-District | 150 |
| Table 4.4 | The Crosstabulation of Agriculture (Crops) Strategies at Different Income Level | 154 |
| Table 4.5 | The Crosstabulation of Agriculture (Livestock) Strategies at Different Income Level | 155 |
| Table 4.6 | Correlations between Agricultural Activities and Income Level | 156 |
| Table 4.7 | Association between the Use of Natural Resources and Houshold Monthly Income | 161 |
| Table 4.8 | Relationship between Land Size and Income | 162 |
| Table 4.9 | Friedman Test of Monthly Yield in Farming, Livestock, Forest Produce, and Hunting | 164 |
| Table 4.10 | Chi Square Test on Monthly Yield in Farming, Livestock, Forest Produce and Hunting | 164 |

Table 4.11 Relationship of Livelihood Strategies and Income Level 169

Table 4.12 Age and Education Level of Heads of Households 173

Table 4.13 Main Occupation of the *Bilik* Head 176

Table 4.14 Overall Gross Monthly Income 178

Table 4.15 Financial Assistances Received 179

Table 4.16 Monthly Expenditure on Food 181

Table 4.17 Monthly Expenditure on Clothing 182

Table 4.18 Monthly Expenditure on Healthcare 182

Table 4.19 Monthly Expenditure on Electricity Bill 185

Table 4.20 Monthly Expenditure on Telecommunication Bill 185

Table 4.21 Types of Electricity and Water Supply 188

Table 4.22 Owned Vehicles 192

Table 4.23 Types of Land Owned 193

Table 4.24 Involvement in Agricultural Schemes or Subsidies 194

Table 4.25 Participation in Agricultural and Non-Agricultural Trainings 198

Table 4.26 Collection of Forest Produce 201

Table 4.27 Involvement in Wildlife Hunting 202

Table 4.28 Average Fisheries Price in Pantu Sub-District 205

Table 4.29 PLS Bootstrapping Outer Loadings 208

Table 4.30 Income Shares of Both Male and Female in Pantu Sub-District 221

## LIST OF FIGURES


| | | Page |
|---|---|---|
| Figure 1.1 | Conceptual Framework | 16 |
| Figure 2.1 | DFID Livelihood Framework | 44 |
| Figure 2.2 | CARE Livelihood Framework (DFID, 1999) | 45 |
| Figure 2.3 | UNDP Livelihood Framework (DFID, 1999) | 47 |
| Figure 2.4 | Livelihood Pentagon (DFID, 1999) | 70 |
| Figure 3.1 | Location of Pantu Sub-District (Google, 2017) | 95 |
| Figure 3.2 | Map of Pantu Sub-District (Google, 2017) | 95 |
| Figure 3.3 | In-depth interview with Penghulu Johnny A/L Lumi | 107 |
| Figure 3.4 | In-depth interview with Penghulu Entika Anak Senan | 108 |
| Figure 3.5 | In-depth Interview with Tuai Rumah | 109 |
| Figure 3.6 | Data Analysis in Qualitative Research | 116 |
| Figure 3.7 | Triangulation Method for Cross Checking Data (Cresswell, 2014) | 121 |
| Figure 4.1 | The shortest longhouse (Left, Kampung Selanjan Sebemban) and Longest Longhouse (Right, Kampung Selanjan Asal) | 131 |
| Figure 4.2 | The Percentage of Households' Involvement by Types of Crops Planted | 138 |
| Figure 4.3 | The Percentage of Household's Involvement by Types of Livestock | 150 |
| Figure 4.4 | Tilapia and Catfish Pond (Kampung Limau) | 151 |
| Figure 4.5 | Swiftlets Farming in Kampung Rapak Tepus | 152 |
| Figure 4.6 | The use of Natural Resources by the Number of Households | 162 |
| Figure 4.7 | Distribution of Average Monthly Income with the Size of Land | 163 |
| Figure 4.8 | A View of Bukit Kelingkang from a Villager's Pepper Farm | 165 |

Figure 4.9 A group of People from West Kalimantan 167

Figure 4.10 Average Size of Household of the 12 Longhouses Examined 172

Figure 4.11 Average Remittance Received Monthly 180

Figure 4.12 Monthly Expenditure on Education 183

Figure 4.13 Monthly Expenditure on Agriculture Input 184

Figure 4.14 Monthly Expenditure on Transportation Cost 186

Figure 4.15 Monthly Expenditure on Astro Bill 186

Figure 4.16 SJK (C) Chung Hua Pantu at Pantu Sub-District 190

Figure 4.17 Types of Vehicles Owned 192

Figure 4.18 Land Size Owned by Respondents 200

Figure 4.19 Involvement in Fishing Activities 203

Figure 4.20 Kampung Semawa Ili (Fishing Village) 204

Figure 4.21 Structural Equation Modelling for Determinants of Rural Livelihood against Livelihood Strategies Choices 207

Figure 4.22 The Types of Occupation of Females in Pantu Sub-District 217

Figure 4.23 Delina Anak Tana (left) the Handicraft Businesswoman 218

Figure 4.24 A Group of Women with Their Handicraft at Kampung Lachau Jinggau 219

Figure 4.25 Farmers' Market in Lachau 220

Figure 4.26 The Importance of Indigenous Knowledge on Livelihood Strategies 230

## LIST OF ABBREVIATIONS

| | |
|---|---|
| BR1M | Bantuan Rakyat 1Malaysia |
| FAMA | Federal Agricultural Marketing Authority |
| IADA | Integrated Agricultural Development Area |
| IADP | Integrated Agricultural Development Project |
| IDS | Institute of Development Studies |
| IK | Indigenous Knowledge |
| JKKK | Jawatankuasa Kemajuan dan Keselamatan Kampung |
| JKMM | Jabatan Kebajikan Masyarakat Malaysia |
| JKR | Jabatan Kerja Raya |
| KEMAS | Jabatan Kemajuan Masyarakat |
| KPWKM | Ministry of Women, Family and Community Development |
| MANRED | Ministry of Modernisation of Agriculture, Native Land and Regional Development |
| MPB | Malaysian Pepper Board |
| MPOB | Malaysian Palm Oil Board |
| MRB | Malaysian Rubber Board |
| MRD | Ministry of Rural Development |
| NCR | Native Customary Rights |
| SESCO | Sarawak Electricity Supply Corporation |
| SLF | Sustainable Livelihood Framework |

# CHAPTER 1

# INTRODUCTION

## 1.1 Background of the Study

Rural development has gained increasing attention both locally and internationally. In particular, the issues of livelihood strategies, livelihood factors, gender and indigenous knowledge have led various researchers to study rural communities and different aspects of development (Dao, 2004; Hoe et al., 2018; Khatiwada et al., 2017; Liau et al., 2017; Melor et al., 2017). The livelihood strategies are often considered as part of a rural economy and an important factor in approaches to poverty reduction in developing countries (Ding et al., 2018; Jiao et al., 2017; Xu et al., 2019). Rural communities in particular will develop a wide range of activities and social support systems to survive (Ellis, 1998). As a result, they engage in different activities to generate income and create multiple sources of income at a given time (Hart, 1994; Saleth, 1997). This argument is the basis for the various livelihood choices that people make such as crop and livestock farming, fishing, and other non-agricultural activities.

According to IFAD (2011), more than half of the income of rural farming populations in emerging economies come from non-farm sources. Extensive empirical studies consistently show that diversification to non-farm strategies enables households to earn better wages, increase agricultural production, and improve food security (Barrett et al., 2001; Hoang et al., 2014; Liu et al., 2008). Therefore, diversified livelihood systems are more likely to persist over time as they are less vulnerable compared to undiversified systems (Carney, 1998). Low-income households that focus only on agricultural activities are more vulnerable to certain shocks and seasonal fluctuations because they depend on only one

source of income. Previous studies have also shown that diversification helps households to achieve a higher income profile and improve livelihood security by using available resources and skills in an appropriate manner (Hart, 1994; Saleth, 1997).

In rural areas, indigenous people pursue various strategies, including farm and non-farm livelihood diversification (Shumetie & Alemayehu, 2018; Whelan et al., 2018). Moreover, indigenous people have a unique way of life based on the natural resources around them (Butt et al., 2019). Indigenous people in Sarawak are collectively referred to as the natives, with the Iban being the largest group of indigenous people. Ngidang (2002) found that the Iban, also known as the "Sea Dayak" community, live in longhouses spread throughout the rural areas of Sarawak. Traditionally, the livelihood of the Iban community revolves around the natural resources in their settlements, so they use their environmental resources effectively and any changes in the environment have a direct effect on their livelihood (Hosen et al., 2019). Cramb et al. (2009) showed that modernity and development have caught up with the other indigenous groups in the nation state, resulting in several changes in their livelihoods. In Sarawak, economic growth in the larger cities stimulates rural-urban migration. The introduction of new schemes by government agencies, mainly related to oil palm plantations and cash crops, as well as large-scale commercial farming, has led to a change in the livelihood strategies of Iban households in rural areas (Cramb, 2013; Kato & Soda, 2020; Rigg, 2006). In addition, the Iban have also diversified their income generating activities. They engage in tourism, collection of non-timber forest products and some depend on remittances. They have also replaced traditional crops with modern high-yielding varieties (Fong et al., 2017; Izzah & Wan, 2019). Therefore, this study was conducted to investigate the current livelihood strategies of the Iban community in Pantu

Sub-District, Sri Aman, Sarawak by incorporating roles of gender and indigenous knowledge into the analysis.

A livelihood can be sustained or enhanced based on its ability to cope with various stresses and shocks, both now and in the future (Chambers & Conway, 1992). This definition thus provides additional attention to the types of assets and gives a strong voice to the concept. Ellis (2000) describes livelihood as consisting of assets (physical, human, financial, natural, and social capital) and access to these reciprocally regulates the livelihood adopted by an individual. Likewise, the chosen or access to the combination of assets and events in a household is often referred to as the household's livelihood strategy (Ajayi et al., 2016; Ellis, 1998; Ellis, 2000; Scoones, 2015). Chambers and Conway (1992) stated that the livelihood of rural communities is often complicated and diverse. Consequently, one household member's choice of livelihood may differ from another. Access to different assets is also influenced by the structure of a household, which includes the elements of age, size, and composition of them. Other factors that influence a household's access to assets include the market, availability of essential services and the prevailing political environment (Barrett et al., 2001; Sarou, 2009). There are five factors involved in livelihood diversification namely human capital, social capital, financial capital, physical capital, and natural capital. These factors were analysed to determine their influence on livelihood diversification activities in Pantu Sub-District, Sri Aman.

Household livelihood decision making is about making one choice over another, and this differs according to gender roles (Ngigi et al., 2017; Ragasa et al., 2019). Men and women have different access to resources and face different vulnerabilities depending on their roles in the household. All these influence the choice of work and the nature of

engagement at household and community levels (Huyer & Partey, 2020; Solana & Rooks, 2018). In rural areas, women are responsible for a variety of work such as farming and domestic work. However, their work is considered less important compared to men and their contribution to the well-being of the household is not fully recognised. Men and women also participate in community activities, yet women spend less time on community activities as they also have responsibilities for household chores (Alshami et al., 2018; Jabeen et al., 2020; Jaka & Shava, 2018; Kimengsi et al., 2019). Therefore, this study examines gender perspectives and its role in decision making in the context of livelihood strategies determination.

Indigenous knowledge has evolved over time and is specific to a particular culture and community (Fre, 2018; Hyes, 2020). Indigenous knowledge is important because it is tailored to the needs of the local situation and helps local communities make decisions in many aspects of their livelihood, such as how to obtain food and survive in difficult situations (Ashton, 2019; Austin et al., 2018; Jawol et al., 2018; Yi & Mohd, 2020). Indigenous communities in Sarawak have developed highly specialised indigenous knowledge in hunting, fishing, agriculture, craft making and other traditional practices (Hidayati et al., 2018; Ting & Rose, 2018). Originally, the indigenous community in Sarawak depended on the accessibility of natural resources in the area where they live (Sadiq, 2009). However, various trends and shocks in socio-economic and environmental changes have led to deprivation of flora and fauna (Carson et al., 2018; Chowdhury & Lahiridutt, 2018). Therefore, this study assesses the role and the use of indigenous knowledge in the choice of livelihood strategies among the Iban community in the Pantu Sub-District in response to changes of their livelihood susceptibility to environmental alteration.

The findings of this study provide a comprehensive understanding of the rural livelihood strategies of the Iban community in Pantu Sub-District, by answering the question of whether a household can increase its well-being by constructing its livelihood portfolio from various available farm and non-farm options by taking into account role of gender and indigenous knowledge in its analysis. The result would help in developing household poverty alleviation strategies that would ultimately have a good impact on the overall economy.

## 1.2 Problem Statement

The Iban are the largest ethnic group in Sarawak (Kato et al., 2020; Ting & Rose, 2014). However, their tradition and culture are gradually disappearing due to modernisation (Berma, 2001; Mertz et al., 2013). Modernisation in rural areas is mainly associated with the transformation of agriculture and in livelihood strategies (Aellah & Okoth, 2019; Reeve et al., 2018). In a study by Freeman (1970), 89% of the Iban population engaged in rice cultivation as their livelihood. Rice cultivation was at the core of Iban custom, in which their welfare is depended on good rice harvest every year. Along the way, Iban men invoked the journey called bejalai to improve their livelihood and quality of life (Kedit, 1993; Sebli, 2009; Yapp et al., 2009). In this case, some return to their homeland while others take the opportunity to establish a new settlement in a new area that promises a better livelihood. In the past, the Iban men were also known to be fearsome head hunters, or ngayau. Meanwhile, the Iban women were housewives. However, they also contributed to household livelihood by gathering jungle produce and selling vegetables (Davenport, 2000; Wadley, 2007). All these livelihood strategies are closely linked to the customs and traditions of the Iban in the past. Do the Iban still maintain this livelihood concept today? What is the role played by the women in this context? This study examines the existing and current livelihood concepts of the Iban community. Furthermore, Hock and Kesawapany (2006) reported that poverty is