9th International Virtual Conference of

Regional Network on Poverty Eradication

September 13, 2021

PROCEEDINGS

Prince of Songkla University Pattani Campus

Theme: Breaking the Cycle of Urban Poverty:
Challenge and Strategy

Foreword

From the causes of poverty occurring at the national and regional levels, it has led to an integration of a regional network known as "Regional Network on Poverty Eradication" or RENPER, with Universiti Malaysia Kelantan (UMK) as the initiator, with its purpose in being a platform for brainstorming and exchanging knowledge and sector-based best practices for eliminating poverty in the regions. On October 26th - 28th, 2010, UMK officially announced the establishment of the RENPER network together with institutions in the region participating: University of Battanbang, Banking University of Ho Chi Minh City, Dhaka University, Bangladesh Agriculture University, Yangon University, Andalas University, Bengkulu University, Universiti Sains Malaysia, Universiti Teknologi MARA, Universiti Sultan Zainal Abdan, and Prince of Songkla University, Pattani Campus.

Annually, the RENPER network organizes an International Seminar on Poverty Eradication, hosted by rotating member universities. Pattani Campus, recently, hosted the 9th International Webinar Conference of Regional Network on Poverty Eradication under the theme of, "Breaking the Cycle of Urban Poverty: Challenge and Strategy," on September 13th, 2020, at Prince of Songkla University, Pattani Campus, and via online platform ZOOM, purposing to raise awareness of the challenges of regional issues as well as contemporary global issues caused by poverty in the current situation and to present new researches on poverty eradication and global action measures to this area. Moreover, the conference acted as a platform to support exchanges of opinions and information among researchers involved in research and teaching, to promote knowledge on issues relevant to poverty eradication for researchers, academics, government and private sectors and NGOs, strengthening cooperation between member universities participating in this international conference. The conference and forums on poverty eradication consisted of as various participants as lecturers, academics, researchers, graduate students, and those who interested from numbers of country.

Below items were themes of articles presented in the conference and published as official proceedings, divided by 5 tracks:

Track 1: Poverty and Sustainable Development

Track 2: Education, Knowledge and Local Wisdom

Track 3: Social Science, Humanities, Culture and Religion Studies

Track 4: Media and Communication Studies

Track 5: Science, Technology, Health and Wellness

Researches, in the end, will have value added once they are applied and made use of, practically and theoretically. With our high hopes, they will benefit people and public at their best.

Board of the 9ᵗʰ International Webinar Conference
of Regional Network on Poverty Eradication

Content

9th International Conference of Regional Network on Poverty Eradication
Theme: Breaking the Cycle of Urban Poverty: Challenge and Strategy
Date: 13 November 2021 Venue: Prince of Songkla University

1. Project Title:

    9th International Conference of Regional Network on Poverty Eradication

2. Project Responsibility:

    2.1 RENPER

    2.2 Prince of Songkla University

3. Rationale

    Because of economic depression, poverty, food shortage and inequality nowadays, the United Nations (UN) has declared the sustainable development goals (SDGs), 17 goals, to seek cooperation among all sectors including government, private, territory and University networks to drive the goals for authentically sustainable development. One of the SDGs goals is to eradicate all kinds of poverty and also access resources and basic services that is affected to poverty and disaster related to climate. Therefore, the cooperation in all levels of these sectors, regional, national and international is the key elements driving forward to meet the achievement by 2030.

    Poverty is a problem that persists in Thai society regionally and nationally. The condition is results from a lack of economic security. On an individual level, causes misery in people's lives, including a lack of opportunity to improve the quality of life in many ways. Poverty also affects the development of the country in the end. The problems and causes of poverty come from factors within the individual and also by factors external to the individual.

    Due to regional and national issues of poverty, Regional Network on Poverty Eradication (RENPER) has been initiated which aimed to share and exchange body of knowledge and best practices of each agency in solving the poverty among their regions. RENPER is initially and officially established on October 26 – 28, 2010 by Universiti Malaysia Kelantan (UMK) witness by University of Battanbang, Banking University of Ho Chi Minh City, Dhaka University, Bangladesh Agriculture University, Yangon University, Andalas University, Bengkulu University, Universiti Sains Malaysia, Universiti Teknologi MARA, and Universiti Sultan Zainal Abidan.

    Every year, RENPER organizes International Seminar on Poverty Eradication which is hosted by university member. In 2020, Prince of Songkla University is honored to join RENPER and will organize and host the 9th RENPER at Pattani Campus with the theme "Breaking the Cycle of Urban Poverty: Challenge and Strategy" on October 21 – 22, 2020. The aims are to be a

platform for academicians, researchers, scholars, students and related parties in sharing and exchanging knowledge related to poverty and its impacts as well as providing effective solutions eradication in these regions.

4. Objectives

1. To create awareness of the challenges of regional as well as global contemporary issues arising from poverty in today's scenario.

2. To present new research findings in the field of poverty eradication and measures taken worldwide in this area.

3. To encourage exchange of ideas and information among researchers involved in researching and teaching.

4. To encourage explicit knowledge among researchers, academicians, governments, private sector and NGOs on issues pertaining to Poverty eradication.

5. To strengthen co-operation among participant universities via international seminars, conferences and forum on the subject of poverty eradication.

5. Procedure

Online conference

6. Participant

Lecturer, education officer, researcher, and interested parties both national and international

7. Theme and Tracks

Theme: Breaking the Cycle of Urban Poverty: Challenge and Strategy

Tracks:

7.1 Poverty and Sustainable Development

- Poverty Alleviation Strategies and The Challenge of Central and Local Government Organization
- Ways to Reduce Poverty in the world
- Economic Growth and Poverty Reduction
- Poverty Incidence and Reduction Strategies
- Entrepreneurship Development
- Impact of Covid 19 on above issues

7.2 Education, Knowledge and Local Wisdom

- Education, Poverty and Social Exclusion
- Education Practice: Trends and Issues
- Human Resource and Management

- E-Learning
- Life Long Learning
- Local Wisdom
- Impact of Covid 19 on above issues

7.3 Social Science, Humanities, Culture and Religion Studies

- Poverty and Global Justice
- Good Health and Well-being
- Environment Governance
- Gender Studies
- Cross-cultural Studies
- Human Rights in the Global Perspective
- Mobilizing Sustainable Cities and Communities
- Peace and Conflict
- Community and Development
- Impact of Covid 19 on above issues

7.4 Media and Communication Studies

- Social Media
- Crisis Communication
- Information Management
- IMC Integrated Marketing Education
- Impact of Covid 19 on above issues

7.5 Science, Technology, Health and Wellness

- The Role of Science, Technology and Innovation to Foster the SDGs
- Science, Technology, and Poverty
- Science and Technology Ways to Mobilize Development in Low-Income Communities
- Improving Clean Water and Sanitation
- Growing Affordable and Clean Energy
- Impact of Covid 19 on above issues

8. Venue and Date

Prince of Songkla University on MONDAY, September 13, 2021

9. Benefit

       1. Get the new research findings in the field of poverty eradication and measures taken worldwide in this area.

       2. Get the exchanged ideas and information among researchers involved in researching and teaching.

       3. Get the knowledge among researchers, academicians, governments, private sector and NGOs on issues pertaining to Poverty eradication for developing further.

       4. Get the co-operation among participant universities via international conference.

10. Registration

       All participants are requested to submit the abstract through the website: **https://pattaniconference2021.pn.psu.ac.th/** After notification of abstract acceptance, the registration fee must be paid immediately. Payment will be made through bank transfer.

11. Registration Fee:

Type	Registration and Payment (by August 30, 2021)	
	BAHT	**USD**
Presenters (Abstract/ Full paper)	1500	50
Co Presenters	900	30
PSU Presenters/ Renper members	500	17

12. Payment Must be Paid Through Money Transfer. Details are as Follows:

11.1 KTB Bank

Account Name:	PSU-RENPER International Conference By Miss Alisa Sares And Miss Buchitha Areeyaporn And Miss Chotika Juntavong
Account Number:	929-0-91900-0
Bank Name:	KRUNG THAI BANK PUBLIC COMPANY LIMITED (KTB)
Account Type:	Saving Account
Bank Branch:	Charoen Pradit
SWIFT CODE:	KRTHTHBK

11.2 Western Union

Receiver First Name :	ALISA
Receiver Last Name :	SARES
Address :	181 Jareanpradit Road, Mueang , Pattani, Thailand
Zip code :	94000

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Program of the 9th International Conference of Regional Network on Poverty Eradication

Morning Session

Zoom id: 999 – 003 - 0048

Facebook live: https://www.facebook.com/psupattanicampus/

08.30 – 09.00	Registration
09.00 – 09.10	Opening Remarks
	by Assoc. Prof. Imjit Lertpongsombat (Vice President for Pattani campus)
09.10 – 09.30	Welcome Speech by Asst.Prof.Dr. Niwat Keawpradub (President of Prince of Songkla University)
09.30 – 10.00	Speech by **Prof.Dr.Ridwan Nurazi**, RENPER President, University of Bengkulu, Indonesia
	Inaugural speech by the founder of RENPER: **Dato Prof. Dr. Ibrahim Bin Che Omar**
	Certificate Awarding Ceremony for 13 University Members by RENPER President
10.00 – 10.15	MOU Signing Ceremony
10.15 – 11.00	Introduction of Keynote Speaker I
	Title "**Practical Approaches to Poverty Alleviation**"
	by **Prof. Dr. Kanok Wongtrangan**, Member of the House of Representative, Thailand
11.00 – 11.45	Introduction of Keynote Speaker II
	Title "**From the Laboratory to Community; Case Studies on the Poverty Eradication from the Deep South of Thailand**"
	by **Assoc. Prof. Dr. Sukree Hajisamae, Director, Agritech and Innovation Center (AIC),** Pattani Campus
11.45 – 12.00	Group Photo Sessions
12.00 – 13.00	Lunch

Afternoon Session

13.00 – 16.00	Oral Presentations #Parallel Session
14.00 – 16.00	Council Meeting

16.00 – 16.30   Closing Ceremony

- Picture collection presentation from the event
- Speech by the new RENPER President
- Closing Speech by **Asst. Prof. Dr.Montira Leelakriangsak**
- Zoom id: 999 – 003 - 0048

Schedule for Presentations

Tracks 1 A: Poverty and Sustainable Development			
Session Chair: Dr. Hafiz Salae			
Code	**Time**	**Title**	**Presenter**
AA1	1.00 - 1.15 P.M.	From rags to self-sufficient: A story of handicraft makers of Southern Thailand	Prof. Dr. Farok Zakaria
	1.15 - 1.20 P.M.	**Q&A session**	
AA2	1.20 - 1.35 P.M.	The use of bark of Arthocarpus elasticus tree as materials for home industries of local crafts in Bengkulu	Assist. Prof. Dr. Yansen
	1.35 - 1.40 P.M.	**Q&A session**	
AA3	1.40 - 1.45 P.M.	Developing a pro-poorness policy through poverty mapping in Malaysia	Assoc. Prof. Wan Ahmad Amir Zal Wan Ismail
	1.45 - 1.50 P.M.	**Q&A session**	
AA4	1.50 - 2.05 P.M.	Poverty Eradication in Pattani: Kor Lae Model	Ms. Nursahida Useng
	2.05 - 2.10 P.M.	**Q&A session**	
AF5	2.10 - 2.25 P.M.	Social Capital and Implementation Effects: Participatory Action Research for Poverty Alleviation Through the Earthworm Fertilizer Pilot Project, Mayo District, Pattani Province	Dr. Ainee Aedasong
	2.25 - 2.30 P.M.	**Q&A session**	
AF6	2.30 - 2.45 P.M.	Reducing Poverty and Improving Equity by Using Knowledge of Sufficiency Economy Philosophy in Pakaharang, Pattani, Thailand	Dr. Eaknarin Ruangrak
	2.45 - 2.50 P.M.	**Q&A session**	

Tracks 1 B: Poverty and Sustainable Development			
Session Chair: Assoc. Prof.Dr. Zumilah Zainallaudin			
Code	**Time**	**Title**	**Presenter**
AF8	1.00 - 1.15 P.M.	Statistical analysis on relationship between floods and poverty: Case in Kelantan, Malaysia	Dr. Marinah Muhammad
	1.15 - 1.20 P.M.	**Q&A session**	
AF9	1.20 - 1.35 P.M.	Role of labor factors in poverty reduction: empirical evidence from Sumatra, Indonesia	Ms. Purmini Purmini
	1.35 - 1.40 P.M.	**Q&A session**	
AF10	1.40 - 1.45 P.M.	Village Owned Enterprises (Bumdes) Status and the Role for the Community Welfare in Pondok Kelapa Subdistrict, Central Bengkulu Regency, Indonesia	Mr. Rinaldo Sikumbang
	1.45 - 1.50 P.M.	**Q&A session**	
AF11	1.50 - 2.05 P.M.	Poverty Incidence and Reduction Strategies Using Database and GIS for Proactive Data Management	Asst. Prof. Dr. Somporn Chuai - Aree
	2.05 - 2.10 P.M.	**Q&A session**	
AF12	2.10 - 2.25 P.M.	Eradicate Urban Poverty through Digintal-based Social Innovation	Assoc. Prof. Dr. Nik Zulkarnaen Khidzir
	2.25 - 2.30 P.M.	**Q&A session**	
AF13	2.30 - 2.45 P.M.	Implementing the UMK Social Enterprise Framework (UMK EPS) on Students from Low-Income Families in Kelantan, Malaysia	Assoc. Prof. Mohammad Ismail
	2.45 - 2.50 P.M.	**Q&A session**	

Tracks 2: Education, Knowledge and Local Wisdom			
Session Chair: Dr.Warapark Maitreephun			
Code	**Time**	**Title**	**Presenter**
BA1	1.00 - 1.15 P.M.	Community Empowerment Program: English at Mosque (En@M)	Mrs. Linira Ghazali
	1.15 - 1.20 P.M.	**Q&A session**	
BF2	1.20 - 1.35 P.M.	Teachers' challenges in teaching application in indigenous school: a qualitative study	Mrs. Nik Nur Azizah Nik Halman

Tracks 2: Education, Knowledge and Local Wisdom			
Session Chair: Dr.Warapark Maitreephun			
Code	**Time**	**Title**	**Presenter**
	1.35 - 1.40 P.M.	**Q&A session**	
BF3	1.40 - 1.45 P.M.	Drone@school: narrowing the digital divide for underprivileged school children	Dr. Noor Janatun Naim Jemali
	1.45 - 1.50 P.M.	**Q&A session**	
BF4	1.50 - 2.05 P.M.	An overview of the teaching and assessing the K to 12 standards across modalities in the PEAC certified schools in the Philippines	Mr. Raffy Quines
	2.05 - 2.10 P.M.	**Q&A session**	
BF5	2.10 - 2.25 P.M.	Challenges in the use of natural resources in traditional medicine among semoq beri tribe in Hulu Terengganu	Mrs. Nurul Faezah Noor Azizan
	2.25 - 2.30 P.M.	**Q&A session**	

Tracks 3: Social Science, Humanities, Culture and Religion Studies			
Session Chair: Ms.Norielyn C. Tabag			
Code	**Time**	**Title**	**Presenter**
CA1	1.00 - 1.15 P.M.	Mediaand Poverty Representation: A Gender - Sensitive Approach	Ms.Verani Indiarma,
	1.15 - 1.20 P.M.	**Q&A session**	
CA2	1.20 - 1.35 P.M.	Survey of Household Water Bill Before and During Movement Control Order (MCO) Due to Covid-19: case of a community in Tanjung Malim, Perak, Malaysia	Associate Professor Dr. Aweng Eh Rak
	1.35 - 1.40 P.M.	**Q&A session**	
CF3	1.40 - 1.45 P.M.	Career Development with Social Capital for Sustainable Development	Mr. Jirachaya Jeawkok
	1.45 - 1.50 P.M.	**Q&A session**	
CF4	1.50 - 2.05 P.M.	Indicators predicts high empowered matured and older rural vomen leader in Malaysian freshwater fisheries community	Miss Norehan Saidi
	2.05 - 2.10 P.M.	**Q&A session**	

Tracks 3: Social Science, Humanities, Culture and Religion Studies			
Session Chair: Ms.Norielyn C. Tabag			
Code	Time	Title	Presenter
CF5	2.10 - 2.25 P.M.	Transient Poor Women's Breakthrough: Involvement in Local Electoral Politics	Dr. Titiek Kartika Hendrastiti
	2.25 - 2.30 P.M.	Q&A session	

Tracks 4: Media and Communication Studies			
Session Chair: Dr.Sariya Binsaleh			
Code	Time	Title	Presenter
DA1	1.00 - 1.15 P.M.	Impacts of Covid19 Pandemic on Village Own Enterprises in Central Bengkulu Regency, Indonesia	Ms. Retno A. Ekaputri
	1.15 - 1.20 P.M.	Q&A session	
DA2	1.20 - 1.35 P.M.	Analysis of Economic and Performance Impact of Covid-19 Pandemic on Bumdes in Pondok Kelapa District Central Bengkulu Regency, Indonesia.	Mr. Aristho Refo Putra
	1.35 - 1.40 P.M.	Q&A session	
DF3	1.40 - 1.45 P.M.	Study on the Performance of Village-Owned Enterprises (Bumdes) During the Covid19 Pandemic in Central Bengkulu Regency, Indonesia	Mr. E Marlis
	1.45 - 1.50 P.M.	Q&A session	

Tracks 5: Science, Technology, Health and Wellness			
Session Chair: Assoc. Prof. Dr.Apiradee Saelim			
Code	Time	Title	Presenter
EA1	2.30 - 2.45 P.M.	Low Cost Options in Tissue Culture Technology for Ruler Agriculture Development	Dr. Mohammed Arifullah
	2.45 - 2.50 P.M.	Q&A session	

	Tracks 5: Science, Technology, Health and Wellness		
	Session Chair: Assoc. Prof. Dr.Apiradee Saelim		
Code	**Time**	**Title**	**Presenter**
EA2	2.50 - 3.05 P.M.	Minerals and Nutritional Composition of Ikan Lunak fish product produced by fishermen's wives community (KUNITA) in Tok Bali during knowledge transfer programme	Dr. Nurhanan Abdul Rahman
	3.05 - 3.10 P.M.	**Q&A session**	
EA3	3.10 – 3.25 P.M.	Effectiveness of Vermicompos on Soybean Pest Attacks	Dr. Sempurna Ginting
	3.25 – 3.30 P.M.	**Q&A session**	
EA4	3.30 – 3.45 P.M.	Perception of Farmer toward Urban Organic Vegetable Crop Production in the City of Bengkulu	Professor Dr. Zainal Muktamar
	3.45 – 3.50 P.M.	**&A session**	

Tracks 1A: Poverty and Sustainable Development

From Rags to Self-Sufficient: A Story of Handicraft Makers of Southern Thailand

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Abstract

Handicraft making is one of the special skills of southern Thai people which they have been engaged for a long time as part of their free time at their backyard. While waiting for the main bread winner of the family goes to work, the wife equipped with their heritage skills have set their creative hands to earn some income in making handicraft. This paper aims at sharing the journey of making money by those involved in a cottage mainly handicraft in the province of Pattani and Narathiwat. How their life has turned from a humble poor stricken family to a self-sufficient state income due to their determination and believe in their own hand made handicraft. The story of krajod maker of Ban Thon, Narathiwat, the pottery maker of Mayo, the wood carving master of Barahom, the ex-PSU graduate batik stamping designer of Barahom and the sisters of Mayo temple based fine textile weaver are narrated in this paper case by case.

Keywords: handicraft, maker, self- sufficient state, Southern Thailand

The Use of Bark of 'Artocarpus Elasticus' Tree as Materials for Home Industries of Local Crafts in Bengkulu

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Abstract

Local craft home industries have been developed in Bengkulu City, which may provide unique souvenirs for tourists, and become one type of economic activities. 'Artocarpus Elasticus' tree bark could be used as souvenir materials. Although the craft home industries utilizing bark of 'A. Elasticus' have developed quite well, data on the need and amount of the tree bark use for the craftsmen activities have not been recorded. This information is needed for the improvement of the local souvenir industries as well as the estimation of supply for craft materials. This research aimed to study the use and economic values of tree bark of *A elasticus* for the craft home industries by observing 10 (ten) souvenir home industries in Bengkulu City. In total, 850 sheets per month of tree bark used by the craftsmen, in which 56.4 %, 24.4 % and 19.5 % were highest, medium and least quality sheets respectively. The total income of ten craftsmen were Rp. 126,025,000 (about US$ 8,721) per month, ranging from Rp. 5,400,000 (US$ 373) to Rp. 44,900,000 (US$ 3,106) per month per craftsman.

Keywords: Artocarpus Elasticus, economic activity, souvenir home industry, tree bark

How Does the Covid-19 Pandemic Form Situational Poverty in Malaysia?

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Abstract

The COVID-19 pandemic had resulted in the introduction of the Movement Control Order 1.0 (MCO 1.0) in Malaysia. This specific situation puts people at risk of falling into the situational poverty. Therefore, this article will explain how the MCO 1.0 resulted in situational poverty in Malaysia. A quantitative approach was implemented and a survey design was used. Data were gathered in different ways by using Google Forms. Results indicated that groups who lost their jobs during and after the MCO 1.0 were either self-employed, those who did not earn fixed wages, and those in the poor category, who were severely affected. Hence, they were pushed into situational poverty. Among the strategies that the government can use to overcome situational poverty, one in particular is the creation of opportunities for people to earn comprehensive incomes; furthermore, sustain and ease the chance for people to obtain second source of income.

Keywords: Covid-19 Pandemic, low income, Movement Control Order (MCO1.0), Situational Poverty

1. Introduction

Millions of people across the globe have been impacted by the COVID-19 pandemic; furthermore, it may have had unintended psychological consequences on individuals (Tsang, Avery, & Duncan, 2021). This situation also shows how global society is not fully resilient to a health emergency of such a scale (Chatterjee et al., 2020). It is a similar situation worldwide; there is a rapid increase in the numbers of COVID-19-infected individuals and countless deaths (Coccia, 2021).

From an economic perspective, Rose (2021) stated that the COVID-19 pandemic has directly affected all levels of each country's economy and can be observed significantly in the gross domestic products of countries worldwide. The COVID-19 pandemic has also affected various socio-economic issues present in society, including poverty. According to the World

Economic Forum (2020), 20% of poverty incidence increased as an impact of the COVID-19 pandemic. According to World Bank (2020), an estimated 40–60 million individuals are expected to have become poor. The total contributes 0.3%–0.7% of global poverty, making up 9% of it (World Bank, 2020).

According to Jensen (2009), situational poverty refers to certain conditions that cause individuals to become suddenly poor. It means that situational poverty directly affects two distinct groups, the first group, which is already poor and the second group, which is the one that becomes poor due to the events that are in effect. Situational poverty is also caused by other factors, such as job loss, death of the head of the household, divorce, accident, or even chronic illness. In our current context, the COVID-19 pandemic has affected many people's incomes, i.e., due to losing employment and earning reduced wages.

Moreover, low and middle-income groups were affected by the crisis, and suddenly became poor. However, it only happens for a temporary period. This situation shows the uniqueness of situational poverty, which occurs not only to the poor (earning MYR980 per month) or generational poor but also to low-income groups (earning MYR980–MYR2,614 per month), low–middle income groups (MYR2,614–MYR4,360 per month), and mid-high-income groups or M40 (MYR4,360–MYR9,619). This categorization is a household income cluster used in Malaysia (ICU, 2016).

As for Misra et al. (2012), poor communities are not vulnerable to any crisis. They also quickly return poor, especially if they have limited ability to deal with uncertain things (Amir Zal et al., 2020), including COVID-19. For Chivers (2017), this situation is difficult for poor communities to get out of poverty. If poverty is not effectively managed, it can cause the lives of poor communities to worsen and be plunged from the mainstream system (Kim & Loury, 2014).

The situation also directly affects the low and medium-income groups (B40 and M40). According to Cirillo, Corsi and D'Ippoliti (2017), the crisis caused the income of certain groups to be affected, and some of them lost their income due to being laid off or unable to work. Crisis

or disaster is the threat to poverty traps to all groups, especially those in urban areas (Panori, Mora & Reid, 2019). More worryingly, it is difficult for them to escape it (Canidio, 2015).

2. How Malaysia Responds To Covid-19

The COVID-19 pandemic has changed the daily lives of people all over the world (Kohút, Kohútov´, & Halama, 2021). The pandemic has also shown how the world is not fully resilient to a health emergency of such a scale (Chatterjee et al., 2020). Governments worldwide announced lockdowns and promoted social distancing in their countries to control the spread of the pandemic (Jung, Manley, & Shrestha, 2021). Furthermore, track-and-trace applications and other specific policies that require compliance by a relatively large proportion of the population to be effective were introduced (Lake et al., 2021).

How about Malaysia? Considering the pandemic risks, Malaysia took drastic but structured actions with a two-in-one goal, i.e., to break the chain of COVID-19 infection among the people while also not affecting its economy. One such step taken by Malaysia was the introduction of the Movement Control Order 1.0 (MCO 1.0). The MCO 1.0 is different from lockdowns or emergency orders which would have resulted in residents of Malaysia not performing any daily activities altogether. Instead, they were asked to "stay at home" while still meeting their day-to-day needs under strict conditions.

The MCO 1.0 was sure to directly impact the economy and the resulting formation of situational poverty in Malaysia. According to the Malaysian Institute of Economic Research (2020), 951,000 people lost their jobs, of which 647,000 were unskilled workers and 303,000 were skilled workers. Specifically in the small and medium enterprises (SMEs) sector, the impact of COVID-19 has resulted in 95% of SMEs facing a drop in sales, 80% of the temporary cap, and 93% of businesses being unstable for six months (Prihatin Rakyat Economic Stimulus Package [PRIHATIN], 2020). SMEs were unable to continue their routine business activities. As a result, 480,000 SMEs may go bankrupt, and approximately eight million people will lose their jobs (PRIHATIN, 2020).

The Malaysian government's immediate reaction was to announce a particular aid strategy, namely, the Prihatin Rakyat Economic Stimulus Package (PRIHATIN). This strategy included the Bantuan Prihatin Nasional, EPF Account 2 withdrawal, wage subsidy program, e-hailing driver cash assistance, special SMEs, micro entrepreneur facility assistance, and a six-month moratorium on loan repayment. These measures may slow down the probability of situational poverty and help the poor survive temporarily.

Given that a situation like the COVID-19 pandemic has never occurred before, situational poverty has never been discussed in Malaysia; hence, reality cannot be effectually explained. This article will explain how the MCO 1.0 formed situational poverty in Malaysia.

3. Research Methodology

This study was carried out to evaluate the effect of the implementation of Movement Control Order 1.0 (MCO1.0) in Malaysia using a fully quantitative approach and using a survey design. Questionnaires have three (3) main sections and do not include demographics. The three divisions are 1) respondents' spending patterns, 2) impact of MCO1.0 and 3) recovery strategies used by respondents.

The results were collected from different walks of life in Malaysia using the online platform Google Form. A total of 1,301 respondents answered the questions voluntarily, which was carried out for 11 days. Two types of sampling are convenience and snowball sampling.

4. Findings

The results are shown in two categories, namely, 1) the impact of MCO 1.0 on incomes and expenses and 2) the recovery strategies used. Each finding is divided into four main categories, namely, 1) employment status, 2) employment sector, 3) income gain mode, 4) total income per month.

1) Impact of The Mco 1.0 on Malaysians

The impact of MCO 1.0 on the lives of Malaysians is measured from four dimensions, namely, 1) matters respondents are worried about, 2) impact on financial resources or savings, 3) adequacy of financial or savings resources; and 4) the extent of food supply to survive. Details of these results are shown in Table 1.1. What respondents are worried about (%)?

a. Things to worry about

Eight items were examined regarding respondents' concerns when the MCO 1.0 was implemented, these were as follow: 1) lack of savings for emergency use; 2) COVID-19 infection; 3) insufficient daily expenses; 4) lack of money to buy food supply; 5) reduced savings; 6) ability to pay monthly bills; 7) ability to pay debts; and 8) loss of employment.

The results indicated that the concern of the respondents who worked before and during the MCO 1.0 (no job loss and full salary) was related to COVID-19 infection (58.2%). However, for respondents who worked before the MCO 1.0 and lost their jobs during it, the concern was COVID-19 infection (25.4%), lack of money to buy food supply (17.7%), and job loss (14.9%). Meanwhile, the concerns of respondents who lost their jobs during and after the MCO 1.0 were the lack of savings for emergency use (26.5%), COVID-19 infection, lack of money to buy food supply (17.6%), and job loss (11.8%).

Moreover, most workers from the private sector and government employment, who have a fixed salary, were worried about COVID-19 infection (41. % and 63.2%, respectively). However, self-employed respondents were concerned about the lack of money to buy food supplies (17.3%) and the infection (26.9%).

Regarding the breakdown of income gain mode, respondents who have salaries based on duty were primarily worried about COVID-19 infection (43.6%). Hourly-based respondents were concerned about COVID-19 (29.6%), lack of money to buy food supplies, and job loss (22.2%). Meanwhile, weekly salaried respondents worried about COVID-19 infection (31.3%) and the lack

of money to buy food supplies (18.8%). Monthly income respondents were primarily concerned about COVID-19 infection. Demand-based paid respondents were mixed in their concerns, namely, COVID-19 infection (25.2%), lack of money to buy food supplies (17.8%), and lack of savings (16.3%).

According to the income distribution per month, respondents who earn MYR580 and below were worried about the lack of money to buy food supplies. For respondents earning MYR580–MYR980, their concerns were COVID-19 infection (24.2), lack of savings for emergency use (19.7%), and job loss (18.2%). Meanwhile, respondents earning MYR981–MYR2,614, MYR2,615–MYR4,361, MYR4,361–MYR9,619, and MYR9,620 and above were worried about COVID-19 infection.

Table 1.1 What respondents are worried about (%)?

		None	No income for emergency use	Covid-19 Infection	Insufficient daily expenses	Lack of money to buy food supplies	Reduced savings	Ability to pay monthly bills	Ability to pay a debt	Job loss	Others
Job status	Work before and during MCO1.0 (no job loss and full salary)	2.5	10.3	58.2	2.2	7.1	4.9	1.2	4.5	7.1	2.0
	Worked before MCO1.0 and lost his job during MCO1.0	0	9.9	25.4	7.2	17.7	9.4	6.1	7.2	14.9	2.2
	Lost jobs during and after MCO1.0	0	26.5	17.6	5.9	17.6	8.8	2.9	8.8	11.8	0
Employment sector	Self-employed	0.6	11.5	26.9	5.1	17.3	9.6	5.1	10.3	10.9	2.6
	Private	2.5	12.7	41.1	2.5	7.6	7.3	2.9	5.1	17.2	1.0
	Government	2.0	9.5	63.2	3.1	8.0	3.9	0.8	3.7	3.4	2.4
Revenue-earning mode	Duty-based salary	0	17.3	43.6	6.4	8.2	7.3	4.5	4.5	7.3	0.9
	Hourly salary	0	11.1	29.6	3.7	22.2	3.7	3.7	3.7	22.2	0
	Weekly based salary	0	12.5	31.3	6.3	18.8	0	0	0	31.3	0
	Monthly based salary	2.6	9.9	57	2.6	7.6	5.0	1.6	4.4	7.3	2.0
	Salary on demand	0	10.3	25.2	3.7	17.8	11.2	2.8	12.1	13.1	3.7

		None	No income for emergency use	Covid-19 Infection	Insufficient daily expenses	Lack of money to buy food supplies	Reduced savings	Ability to pay monthly bills	Ability to pay a debt	Job loss	Others
Income per month	RM580 and below	0	11.6	20.9	4.7	27.9	16.3	2.3	9.3	7.0	0
	RM580 to RM980	0	19.7	24.2	9.1	10.6	7.6	4.5	6.1	18.2	0
	RM981 to RM2614	1.9	12.1	41.9	3.8	13	7.6	2.9	4.8	10.2	1.9
	RM2615 to RM4360	0.7	8.2	56.7	3.7	7.8	4.1	2.2	5.2	9.0	2.2
	RM4361 to RM9619	2.9	10.6	62.3	1.3	5.5	3.9	1.0	5.2	4.8	2.6
	RM9620 and above	6.9	5.2	72.4	0	0	3.4	0	1.7	8.6	1.7

b. Impact of MCO 1.0 on incomes and savings

Table 1.2 presents the results of the impact of MCO 1.0 on income and savings sources. The implementation of MCO 1.0 did not affect the jobs and salaries (82.8%) of respondents who worked before and during the MCO 1.0 (no job loss and with full salary). Respondents who worked before the MCO 1.0 and lost their jobs during the MCO 1.0 lost their income sources (54.1%). Respondents who lost their jobs during and after the MCO 1.0 also lost income sources (70.6%).

For the breakdown by employment sector (Figure 7.10), MCO 1.0 did not affect the salaries of respondents working in the government sector (90.5%). The salaries of more than half of those who worked in the private sector were also unaffected (52.5%), but some faced unpaid leaves (18.8%) and lost half of their wages (15.6%).

The results based on income gain mode showed that respondents who have work-based salary were unaffected (40.9%). Salaried hourly earners dealt with unpaid leaves (40.7%). Weekly salaried respondents faced income loss (56.3%). Meanwhile, the jobs and salaries of monthly-paid respondents were unaffected (81.8%). Respondents who earned wages on demand dealt with missing income sources (80.4%).

The findings based on monthly income revealed that respondents earning MYR580 and below faced loss of income sources (62.8%). For respondents earning MYR580–MYR980, they experienced income loss (39.4%) and unpaid leaves (27.3%). The jobs and salaries of half of the respondents earning MYR981–MYR2,614 were unaffected. The same was the case for respondents earning between MYR2,615 and MYR4,360, MYR4,361 and MYR9,619, and MYR9,620 and above.

Table 1.2 Impact of MCO1.0 on income or savings sources (%)

		It does not affect work and salary	Dismissed from work	Loss of half salary	Unpaid leave	Lost source of income	Others
Job status	Work before and during MCO1.0 (no job loss and full salary)	82.8	1.5	7.1	2.7	3.2	2.6
	Worked before MCO1.0 and lost his job during MCO1.0	1.1	3.9	6.1	29.3	54.1	5.5
	Lost jobs during and after MCO1.0	5.9	0	17.6	5.9	70.6	0
Employment sector	Self-employed	3.2	0.5	7.1	3.8	77.6	7.7
	Private	52.5	5.7	15.6	18.8	5.4	1.9
	Government	90.5	1.2	2.2	2.7	1.0	2.4
Revenue-earning mode	Duty-based salary	40.9	2.7	11.8	16.4	22.7	5.5
	Hourly salary	14.8	11.1	18.5	40.7	11.1	3.7
	Weekly based salary	0	6.3	0	31.3	56.3	6.3
	Monthly based salary	81.8	2.3	6.1	5.1	2.6	2.1
	Salary on demand	0.9	0.9	5.6	5.6	80.4	6.5
Income per month	RM580 and below	9.3	0	11.6	11.6	62.8	4.7
	RM580 to RM980	7.6	6.1	13.6	27.3	39.4	6.1
	RM981 to RM2614	53	4.1	10.8	12.1	17.1	2.9
	RM2615 to RM4360	75	2.6	6.0	5.2	7.5	3.7
	RM4361 to RM9619	89.4	0.6	1.9	1.6	4.8	1.6
	RM9620 and above	86.2	0	5.2	1.7	3.4	3.4

c. Adequacy of sources of income or savings

Table 1.3 presents the results related to employment status and shows that respondents who worked before and during the MCO 1.0 (no job loss and with full salary) had sufficient income and savings for two to four weeks. In contrast to the respondents who worked before the MCO 1.0 and lost their jobs during the MCO 1.0 and those who lost their jobs during and after the MCO 1.0, their income and savings sources changed dramatically. If before the MCO 1.0, their income and savings could last up to two to four weeks; during the MCO 1.0 period, it could only last less than two weeks.

The breakdown of the employment sector displayed the same pattern across the employment sector. Their income and savings could primarily be used for two to four weeks before the MCO 1.0. During the MCO 1.0, a few patterns changed.

According to the breakdown by income gain mode, significant changes occurred. Specifically, the incomes and savings of weekly salaried respondents could only last less than two weeks. Previously, most of the incomes and savings sources of respondents lasted for two to four weeks. The study results, which were divided according to the total monthly income, showed that the respondents who earn MYR580 and MYR580–MYR980 monthly were the most threatened. Their incomes could last less than two weeks. This pattern is different from before the MCO 1.0 where their incomes and savings could last up to two to four weeks.

Table 1.3 Adequacy of income or savings (%)

		Less than 2 weeks		2 weeks		2 to 4 weeks		4 to 6 weeks		6 to 8 weeks		Half a year		One year		Others	
		Before	Current	Before	Current	Before	Current	Before	Current	Before	Current	Before	Current	Before	Current	Before	Current
Job status	Work before and during MCO1.0 (no job loss and full salary)	3.0	7.8	4.6	13.5	37.3	30.8	21.5	17.6	10.9	10.9	12.8	11.6	8.5	6.4	1.4	1.4
	Worked before MCO1.0 and lost his job during MCO1.0	12.7	39.2	13.3	15.5	29.3	25.4	17.7	6.6	14.4	3.3	8.3	6.6	2.8	1.7	1.7	1.7
	Lost jobs during and after MCO1.0	20.6	41.2	20.6	11.8	29.4	29.4	14.7	14.7	11.8	0	2.9	0	0	2.9	0	0
Employment sector	Self-employed	16.7	44.2	16.0	10.3	26.9	22.4	16.7	9.0	10.9	3.2	7.1	5.1	3.2	3.2	2.6	2.6
	Private	4.8	15.3	6.7	19.1	36.3	31.8	23.2	11.5	10.2	8.3	11.1	8.6	7.0	4.8	0.6	0.6
	Government	5.8	5.8	11.9	11.9	30.7	30.7	19.7	19.7	11.4	11.4	12.7	12.7	6.4	6.4	1.5	1.5
Revenue-earning mode	Duty-based salary	9.1	26.4	13.6	14.5	33.6	35.5	20.9	10	10.9	3.6	3.6	4.5	7.3	4.5	0.9	0.9
	Hourly salary	3.7	48.1	29.6	22.2	48.1	14.8	11.1	3.7	3.7	0	3.7	3.7	0	7.4	0	0
	Weekly based salary	18.8	62.5	18.8	12.5	43.8	25.0	6.3	0	12.5	0	0	0	0	0	0	0
	Monthly based salary	3.1	7.4	3.5	13.8	36.9	30.4	22.1	17.9	11.4	11.1	13.6	11.9	8.1	6.3	1.3	1.4
	Salary on demand	15.0	37.4	15.0	11.2	24.3	24.3	14	10.3	15	4.7	9.3	8.4	3.7	0.9	3.7	2.8
Income per month	RM580 and below	20.9	46.5	18.6	16.3	27.9	25.6	9.3	4.7	18.6	2.3	2.3	2.3	2.3	2.3	0	0
	RM580 to RM980	15.2	53	16.7	19.7	40.9	16.7	16.7	4.5	6.1	3.0	4.5	3.0	0	0	0	0

		Less than 2 weeks		2 weeks		2 to 4 weeks		4 to 6 weeks		6 to 8 weeks		Half a year		One year		Others	
		Before	Current	Before	Current	Before	Current	Before	Current	Before	Current	Before	Current	Before	Current	Before	Current
Income per month	RM981 to RM2614	6.0	17.8	9.8	20	41.6	34.3	20.6	14.0	9.8	6.0	8.3	5.1	3.2	1.6	0.6	1.3
	RM2615 to RM4360	2.6	8.6	3.7	15.3	42.9	35.8	21.3	15.7	10.8	12.3	11.9	7.8	5.2	4.1	1.5	0.4
	RM4361 to RM9619	2.6	4.8	2.6	7.1	27.7	25.8	23.2	21.6	13.5	10.6	16.5	19	11.3	8.1	2.6	2.9
	RM9620 and above	3.4	3.4	3.4	17.2	12.1	0	17.2	13.8	13.8	17.2	19	19	29.3	27.6	1.7	1.7

5. Conclusions, Implications and Recommendations

Income loss and being burdened by financial commitments have significant impacts on respondents' lives. They have limited options to deal with both situations while trying to find new jobs. Among the options are reducing expenses, using savings, borrowing, and pawning certain assets to cover living costs. Situational poverty also has a considerable impact on their social image. They had stable lives with adequate needs before, surrounded by a moderate environment with its classes, able to access social support systems well, and now suddenly they lost all of it.

Therefore, a strategy should be immediately developed, considering the return aspects of their income sources. These efforts should include focusing on the re-acquisition of new jobs or opportunities that provide equal income or more. Why do people need additional income sources before a disaster, similar to the COVID-19 pandemic, occurs? Throughout the pandemic, they have lost their income sources and used their savings.

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Poverty Eradication in Pattani: Kor Lae Model

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Abstract

Pattani was the poorest province in Thailand in year 2015 with poverty rates of 34.91% (The World Bank, 2020). Kor Lae village is located in Tambun Langa, Mayor District, Pattani province, Thailand. It is listed as one of the poorest provinces which fall for urgent acceleration for development in NRD2C, official database from Community Development Department, Ministry of Interior, Thailand. NRD2C contains nationwide socio-economic data at village level which data is surveyed and collected every two years. There are 91 households in Kor Lae village listed below poverty line, which after data collection from research team, 80 households are eligible for urgent support. The village is geographically located on the plateau and inaccessible of the water from main river. Major population is the elderly and agriculture are the main occupation of the villagers. Prince of Songkla University, Pattani Campus is undertaking the development of a support system for area based on comprehensive and precise poverty alleviation project which emphasize on Pattani Province. Participatory Action Research (PAR) was carried throughout the project with the integration of qualitative and quantitative approach. All population of 80 households are included in the sampling size. Problem Tree Analysis and SWOT Analysis were used to analyze qualitative data. Descriptive statistics was used to analyze quantitative data. The earthworm fertilizer pilot project is successfully implemented in Kor Lae village. Villagers benefited from cost reduction on fertilizer expenses. Furthermore, extra income from selling vermicomposting production. Vermicomposting Production has become a learning center for internal and external villagers.

Keywords: Pattani, poverty, poverty eradication, vermicomposting

1. Introduction

Poverty rate in Thailand has increased in year 2016 and 2018 from 7.21 percent to 9.85 percent and the number of Thai people living in poverty increased from 4.85 million to more than 6.7 million (The World Bank, 2020). Office of the National Economic and Social Development Council reported country poverty threshold, which conceptualized as a minimum standard required by an individual to fulfill basic consumptions needs and unit in baht per person per month. Top 10 poorest provinces of Thailand are Pattani, Mae Hong Son, Tak, Buriram, Yala,

Nan, Chai Nat, Narathiwat, Kalasin, and Kanchanaburi respectively. The increase in poverty rate in year 2018 was extensive to 61 out of 77 provinces. In year 2017, the South of Thailand became the region with the highest poverty rate. In year 2015, Pattani was the poorest province in Thailand with poverty rates of 34.91%. With the insurgents in Thailand's Deep South provinces, public infrastructure are deficient. Access to public services, public health and compulsory education are limited to some groups. Basic Minimum Need (BMN) data collected annually by the Community Development Department is a household information that presents life quality of household members in different aspects at a specific period. In year 2017, there are 3,331 households (2.69%) in Pattani has average income per year of individual household members below than Basic Minimum Need (BMN) threshold which is 38,000 Baht per year of individual household members.

Prince of Songkla University, Pattani campus conducted an area-based collaborative research on reducing poverty and improving equity in Thailand: a case study of Pattani province which aims to review a process of poverty alleviation and to comprehensive a survey data of bottom 40% households from a census-based Basic Minimum Need (BMN) and Village Basic Information (NRD2C) official database from Community Development Department, Ministry of Interior, Thailand. This is including working together with Pattani government offices on data collection of five poverty dimensions which are healthcare, education, income, living standard and access to public services. 11,703 households in Pattani were carried out for a research. Result found that poor people in Pattani have good indicator on human capital, physical capital, and natural capital. The research project has divided into geographically 3 zoning area which are city, plateau, and seashore. Zone 1 is city area located at Kueya village, Pakaharang subdistrict, Muaeng district. Zone 2 is plateau located at Kor Lae village, La-nga subdistrict, Mayor district. Zone 3 is seashore located at Moo 5, Klang Village, Panare district. 3 Pilot projects in each zoning area with different approach were executed under an area-based collaborative research on reducing poverty and improving equity in Thailand: a case study of Pattani province. First pilot

project is to set up Sufficiency Economy Learning Center in Zone 1 to strengthen capacity on physical capital and human capital. Second pilot project is earthworm fertilizer where derived from community-based research forum (CBRF) in Zone 2. Lastly, third pilot project is to cooperate with government agency and organize 6 occupational trainings and workshops which are quails breeding, vegetable farming, donna trichogaster pectoralis fish breeding, local pastry, and dress making.

Kor Lae village is located in Tambun La-Nga, Mayor district, Pattani province. "Kor Lae" is derived from local Melayu language means canal. In the past villagers benefitted a lot from great canal in the village. Hence, they named the village with the same word of canal which is "Kor Lae". There are 2 access points to the village; national highway no. 42 (Songkhla – Narathiwat) and national highway no. 4061 (Yala – Palas). Kor Lae has 2 seasons; summer (February - July) and raining (August – January). Most areas are rice field and farmland. Main occupation for the villager is farming for instance sweet potato, cucumber, and cow-pea. Some groups of villagers are doing dressmaking, specialized on Kopiah (Muslim headwear) and Muslim male dress. All villagers (100%) are Muslims and most of them are elderly. Most work-force age population is working outside of the village to seek other occupation opportunity rather than farming. Kor Lae is listed as one of the poorest province in Thailand which fall for urgent acceleration for development in NRD2C official database from Community Development Department, Ministry of Interior (TPMAP, 2019).

2. Literature review

Kor Lae Demography Information

Network of Civil Society Organization for quality of life improvement (2018) reported that Kor Lae is agricultural based village. Mainly is rubber tapping for the total number of 50 households, farming for the total number of 20 households, worker in Malaysia for the total number of 20 households, freelance worker for the total number of 15 households, government officer for the total number of 10 households, tailor for the total number of 10 households and

construction worker for the total number of 5 households. Agriculture areas available for rubber tapping is 80 rai or 128,000 square meters, rice field 10 rai or 16,000 square meters, dry crop farm 52 rai or 83,200 square meters (sweet potato 50 rai or 80,000 square meters and sugar cane 2 rai or 3,200 square meters). Social formation in Kor Lae can be categorized into 3 main groups; 1) Occupational group 2) Saroh Mati Funeral fund 3) Women's group. Occupational group, 30 members, was formed in 2005 with the purpose to extend production capacity of worker in the village. Saroh Mati Funeral fund, 60 members, was formed in 2018 with the purpose to provide assistance with funeral costs. Each member need to contribute with the amount of 200 Baht per funeral event. Women's group, 25 members, was formed in 2009 with the purpose to help women in the village with occupational and other perspective.

Household debt in Kor Lae are mainly from Bank for Agriculture and Agricultural Cooperatives for the total number of 80 households with average debts per household of 20,000-50,000 Baht. Followed by Islamic Bank of Thailand for the total number of 15 households with average debts per household of 10,000-50,000 Baht (Network of Civil Society Organization for quality of life improvement, 2018). Villager in Kor Lae possess Social welfare in the form of State government welfare card, Child support grant, Elderly living allowances, Social Security and Disabled living allowances for 300, 55, 50, 30, and 18 persons respectively.

Participatory Action Research (PAR)

Participatory Action Research is an approach which integrate Participatory Research and Action Research. This method involve all related parties to be working together including researcher, targeted community, villagers, government sector and private sector. Main purpose of this method is to solve specific problems of a certain community by the people in the community which is called "participant". They will participate in every process of the research which increase efficiency in problem solving and successful rate in implementing (Crane, P. & O'Regan, M., 2010). Key activity of this method is data collecting. When researcher and participants are well collaborated, data collecting and interpreting will be more precise. Hence, Participatory Action

Research is a system to improve understanding and improving a particular situation that found gap between theory and implementation. Stringer (2007) mentioned that the best learning process is to take an actual action and the best action to be done is through Action Research. Thus, research and implementation are not to be separated.

Participatory Action Research promotes participation and equality. Everyone is equal, free from any threatening and has fully right to express any thoughts. Philosophy of Participatory Action Research is well corresponded with postmodern tradition which encourage mutual understanding and treat participants as a part of researcher, not objectivity. (Kelly (2005) and Attwood (1997) recommended that philosophy of Participatory Action Research is consist of concept of right to demand and choose what best for oneself which will lead to sustainable development. Participatory Action Research might come in a public space form which participant and researcher are working together to present a public policy related to social and economic. Participatory Action Research can be considered as cycle of reflection and implementation (Marshall & Rossman, 2006; Selener, 1997). Kamjadpai (2010) suggested in his research that Participatory Action Research can be divided into 6 stages; 1) preparation and choose a specific community 2) problem identification 3) team set-up and participant classification 4) project assessment and evaluation planning 5) implementation and 6) project publication with participant.

Lean Canvas Business Model

Lean Canvas is an improved version of Business Model Canvas (BMC) intended for a startup business entrepreneur. It is a tool assist a business entrepreneur to craft the business idea and transform into pilot model. This tools is widely used among entrepreneurs. It provision the entrepreneur to see overall picture of entire business process and understand actual needs of the customers well (Maurya, 2012). Lean Startup is a methodology for business development and new product development. Main purpose of Lean Startup is to shorten Product Development Cycles (PDC) and cut off any unnecessary procedures. It involves Business Hypothesis Testing Experiment and Validated Learning. Key activity is to understand customer's pain point and

recognize actual demand of targeted customer. The better understanding demand of customer, the faster the product development.

There are 9 elements in Lean Canvas Business Model; 1) Customer Segments 2) Problem 3) Solution 4) Unique Value Proposition (UVP) 5) Channels 6) Revenue Stream 7) Cost Structure 8) Key Metrics and 9) Unfair Advantage as shown in Figure 1. Customer Segments is to define customer according to demographically, behavioral, psychology, and geographically. The better customer segmentation, the faster product implementation and the sharper marketing strategy. Customer might be the same person with buyer, however, in some cases there are different. Hence, an entrepreneur shall be able to identify who is the targeted customer. Problem is to list significant problem that is faced by the targeted customer. This is to highlight the pain point of the customer. Solution is the ideal of how problem faced by the targeted customer can be resolved. Unique Value Proposition (UVP) is the process to identify product features and benefits that could matched with customer demand and solve those mentioned problems. Channels mean marketing channel and product delivery channel. It is including communication channel with the targeted customer. Revenue Stream is where an entrepreneur need to identify how the business can generate the income for instance Business to Business (B2B) or Business to Customer (B2C). Cost Structure is to list all costs occurred during the business implementation. An entrepreneur shall be able to identify the list of fixed costs, variable costs, administrative costs, marketing costs, and manufacturing costs. Key metric is the indicator of the business operation. An entrepreneur shall set the KPI as goal to achieve. Unfair Advantage is a business strategy which lead to survival in the business competitions among rivals.

Problem	Solution	Unique Value Proposition	Unfair Advantage	Customer Segments
	Key metrics		Channels	
Cost Structure			Revenue Streams	

Fig 1: Lean Canvas Business Model

3. Methodology

This pilot project used mixed method within a Participatory Action Research approach to address demands of villagers in Poverty Eradication. The project integrated qualitative methods which is interview and community-based research forum (CBRF), with quantitative method including questionnaire on the survey to understand occupational training needs to enhance employment rate and increasing household income and Social capital management and community development Questionnaire. Problem Tree Analysis was used to analyze root cause of current problem faced in Kor Lae village. SWOT Analysis was used to explain context of the village. Population of this study is 80 households in Kor Lae village. Researcher distributed questionnaires to every single 80 households in the village.

4. Results

Data is collected and interpreted quantitatively and qualitatively. Questionnaires on Social capital management and community development are categorized into five dimensions which are human capital, physical capital, financial capital, natural capital, and social capital as

illustrated in Table 1. Social capital management in Kor Lae village is having highest Physical Capital (3.05), followed by Natural Capital (2.89), Financial Capital (2.66), Human Capital (1.79) and Social Capital (1.65).

Table 1 Social capital management and community development of Kor Lae Village

Human Capital	1.79
Highest education level	1.42
Studying	1.26
Employed	1.16
Non-agricultural income	1
Health	3.86
Social welfare	1.75
Physical Capital	3.05
Accommodation	3.93
Accommodation condition	3.36
Hygienic condition	3.35
Water supply / electronic supply	2.88
Public road	3.96
Government announcement communication channel	3.81
Usage of Technology Digital in accessing social welfare	1.19
Financial Capital	2.66
Average household income	2.28
Household expenses	1.15
Saving	3.48
Debts	3.38
Assets	1.34
Natural Capital	2.89
Agricultural land	1.75
Water supply for Agricultural	1.05
Benefit from Natural Resources for Living	1.09
Benefit from Natural Resources for Generating Income	1.05
Accommodation is located in Natural Disaster area	4
Agricultural Land is located in Natural Disaster area	4

Social Capital	1.65
Social Interaction and Group Formation	2.73
Community Aid in emergency cases	1
Community Regulations and community practice	2.69
Conflict Management in community	1.8
Knowledge person in community development	1.03
Benefit from Knowledge person is problem solving	2
Participated in community management	3.63

Occupational training needs

Result of Occupational training needs to enhance employment rate and increasing household income is shown in Figure 2. Villagers are interested in occupational training to composting production for 46%, followed by Agricultural for 42%, and lastly Technicians for 12%. Village representative described that Kor Lae is mainly agricultural production, however, agricultural product is not satisfying. Farmers spend large amount on composting and fertilizer to enhance their agricultural products. Therefore, if village is able to produce their own composting, expenses on agricultural can be reduced. Furthermore, if composting is excess, villager can sell this high-value products to another villages.

OCCUPATIONAL TRAINING NEEDS OF KOR LAE VILLAGE
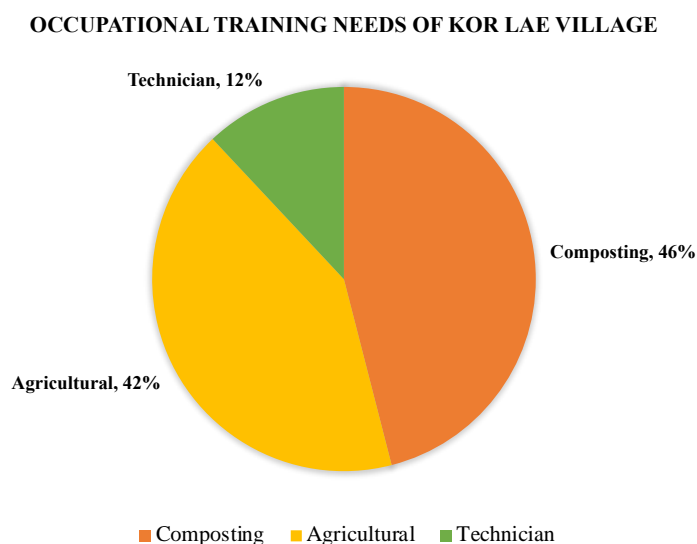
Fig 2: Occupational training needs of Kor Lae Village

SWOT Analysis of Kor Lae Village

From community-based research forum (CBRF), observation and interview, qualitative data analysis of Kor Lae village can be explained by using SWOT Analysis as shown in Table 2.

Table 2 SWOT Analysis of Kor Lae Village

SWOT Analysis of Kor Lae Village	
Strength (S)	1. Aware and recognize community problem
	2. Leadership skills of a Village headman
	3. Villagers are fully cooperative and collaborative
	4. 7 out of 70 households that is identified as poorest household in Basic Minimum Need (BMN) and NRD2C official database are participated in this project. Accounted for 7 percent
	5. Villagers are ready to learn
Weakness (W)	1 poorest household from Thai People Map and Analytics Platform (TPMAP) which is developed by the Office of National Economic and Social Development Board (NESDB) and National Electronics and Computer Technology Center (NECTEC), National Science and Technology Development Agency (NSTDA), Ministry of Science and Technologies is not listed
Opportunity (O)	1. A new product in village
	2. Joining an agricultural cooperative
	3. One Tambun One Product (OTOP) support from government
	4. Agricultural market in Pattani
	5. Centre for Community Enterprise registration
	6. Integrated farming
Threat (T)	Female is not interested in joining vermicomposting production.

Kor Lae Vermicomposting Lean Canvas Business Model

Lean Canvas Business Model is analyzed through brainstorming in a workshop setting environment to ensure the business validity and the success of this community project. Details of Lean Canvas Business Model is explained in Table 3 and illustrated in Figure 3.

Table 3 Kor Lae Vermicomposting Lean Canvas Business Model

Kor Lae Vermicomposting Lean Canvas Business Model	

1. Customer Segments	*B2B : Business to Business*
	  1. Botanist shop in Pattani Province
	  2. Agricultural equipment shop in Pattani Province
	B2C : Business to Customer
	  1. Tree lovers
	  2. Farmer
	Segmentation :
	  - Age above 10 years old
	  - Any genders
	  - Live in Pattani or near by
	Interested in organic fertilizer and natural fertilizer

3. Unique Value Proposition	1. No waiting time for order shipping process 2. Save costs on shipping fees 3. Guarantee a quality product 4. Vermicomposting product is tested quality proved
4. Solution	1. Vermicomposting product is available is local market / shop 2. Quality proved test and certified

5. Channels	*Offline*
	  1. Vermicomposting production house
	  2. Kor Lae village headman office
	  3. Village weekly market
	  4. Local grocery shops
	  5. Agricultural market at PSU Pattani (every Tuesday)
	Online
	  1. Facebook Page
	Network Partner
	  1. Mayor Agriculture District
	  2. Mayor Community Developer
	  3. Pattani Land Development Station
	  4. Vermicomposting group

6. Revenue Streams	Per 3 months production period
	  - Vermicomposting 1,200 packs x 20 THB = 24,000 THB
	  - Vermicompost Liquid 300 bottles x 20 THB = 6,000 THB

	Kor Lae Vermicomposting Lean Canvas Business Model

7. Cost Structure 1. Fixed Cost : 89,550 THB (Setting Cost)

Item	Amount	Price Per Unit	Total Amount (THB)
1. Production House	1	55,000	55,000
2. Equipment			
- Basin	100	59	5,900
- Drill	1	1,450	1,450
- Water supply system	1	1,500	1,500
- Mixing Bowl	3	700	2,100
- Hoe	6	250	1,500
- Shovel	2	200	400
- Watering Can	4	100	400
- Net	40 m.	50	200
- Cement Pipe	4	500	2,400
- Threshing basket	5	200	1,000
3. Earthworm breeder	15 kg.	500	7,500
4. Acrylic sign board	1	1,200	1,200
		Total	89,550

2. Variable Cost : 8,100 THB (per 1,200 kg. production)

Item	Amount	Price Per Unit	Total Amount (THB)
1. Cow manure	30	50	1,500
2. Printed packaging bag	3	1,200	3,600
3. Sack	30	5	1,500
4. Vermicomposting quality test kit	1	1,500	1,500
		Total	8,100

3. Operational Cost : 1,050 THB (per 1,200 kg. production)

Item	Amount	Price Per Unit	Total Amount (THB)
1. Electricity	100	3	300

Kor Lae Vermicomposting Lean Canvas Business Model			
2. Water	200	3	600
3. Local management fees	50	3	150
		Total	1,050

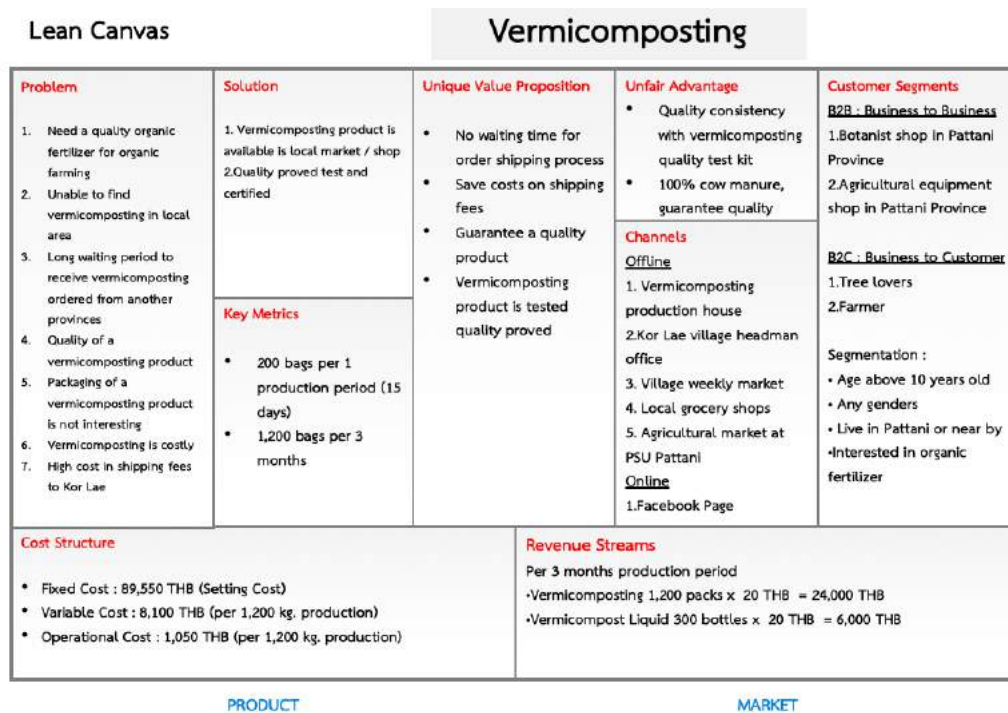| 8. Key Metrics	200 bags per 1 production period (15 days) 1,200 bags per 3 months
9. Unfair Advantage	Quality consistency with vermicomposting quality test kit 100% cow manure, guarantee quality

Fig 3 : Kor Lae Vermicomposting Lean Canvas Business Model

5. Discussions and Contributions

Researchers and villagers were working together in Participatory Action Research manner to integrate academic knowledge with existed local wisdom in the village. Kor Lae villagers involved in every brainstorming and workshop sessions. Nevertheless, villagers are main driven in every decisions made in this pilot project of zone 2 in an area-based collaborative

research on reducing poverty and improving equity in Thailand: a case study of Pattani province by Prince of Songkla University Pattani campus. Entire model can be illustrated in Figure 4 Kor Lae Poverty Eradication Model. The project started after questionnaire on social capital management data collected and interpreted. Five dimensions of social capital management in human capital, physical capital, financial capital, natural capital, and social capital are calculated and analyzed. Researchers proceed with problem identification to understand the need of villagers.
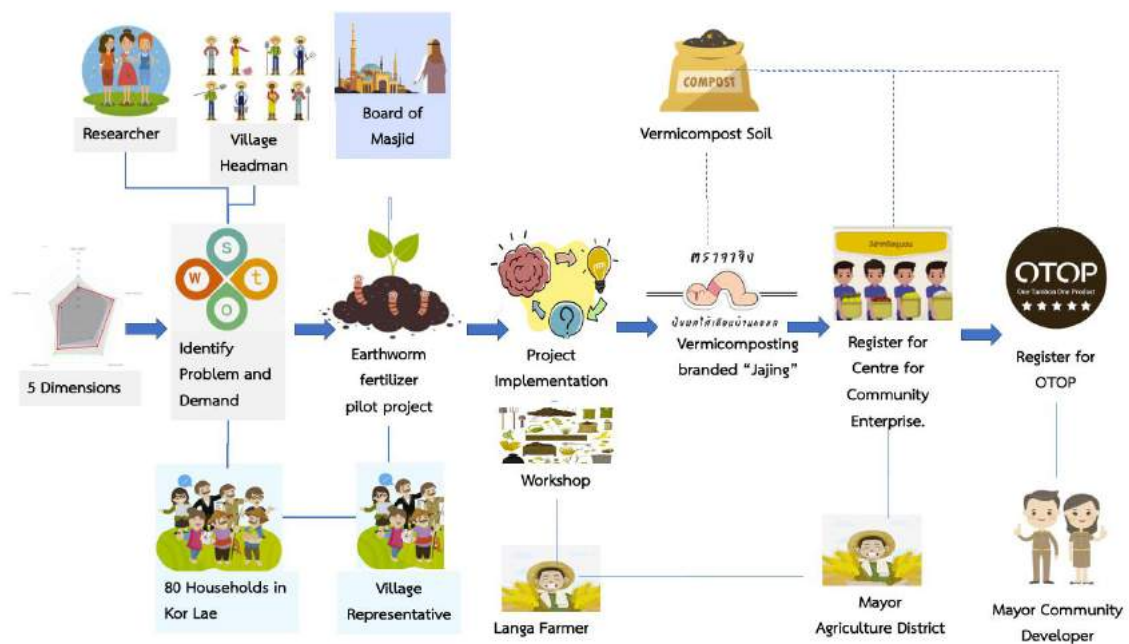
Fig 4 : Kor Lae Poverty Eradication Model

First community-based research forum (CBRF) was conducted with full supported from village headman. Researchers introduced themselves along with clarified on the purpose of working with Kor Lae village. In this forum, SWOT of Kor Lae village is proceed to understand local context as shown in Figure 5. Villagers can communicate in Thai language well which made easier for researchers who are not from local area.

Fig 5 : First Community-based research forum (CBRF) at Kor Lae village headman office

Second community-based research forum (CBRF) is conducted with a survey to understand occupational training needs to enhance employment. Conclusion from the forum is to proceed with organic fertilizer. Main purpose is to enhance their agricultural products and to reduce costs on purchased fertilizer. Researchers then discussed on which kind of fertilizer are most suitable for villagers. Result from first community-based research forum (CBRF) on SWOT analysis of the village shown that Kor Lae is an agriculture based village, however, agriculture products in the villager are not satisfying. Villagers spent a lot to purchase fertilizer from external. Furthermore, there were no vermicomposting production in local area. Lean Canvas business model was analyzed to ensure the success and sustainable of this project.

Third community-based research forum (CBRF) is done to propose a vermicomposting project to villagers. Presentation was made to enhance understanding of vermicomposting process. Action plan for vermicomposting production was presented by researchers. Discussion was made with several questions for clarification. Finally, villagers accepted the proposed pilot plan and registered their names in the project. A workshop and field trip at vermicomposting production house located in another district was arranged with the assistance of researcher.

Participants gained lots of knowledge and experienced hands-on vermicomposting production. They feel more confident that the project is achievable.

Vermicomposting production house is located in the Masjid area. Village headman allocated some space for this production house with good intention to be the learning center for all villagers. While Kor Lae vermicomposting production house is under construction by the some representatives, researcher at the university discussed and designed for an attractive vermicomposting packaging bag together with marketing plan as shown in Figure 6. The logo is designed and available for villager to reuse in the future. Facebook Page is created by researcher and villager representative is appointed as admin to manage the page and vermicomposting orders.

Fig 6 : Kor Lae vermicomposting production house and vermicomposting products

Official opening ceremony of vermicomposting production house was done with honorable guests from government agency who are Mayor Deputy District Chief, Mayor agriculture district, Mayor community developer and vice president of Prince of Songkla University Pattani campus. All villagers attended this function to witness the success project achieved by village representative. After production is steady, the representative group register this vermicomposting production for center for community enterprise and One Tambon One

Product (OTOP) with the assistance of researchers in order to receive support from government agency in the future.

6. Conclusion

Kor Lae Model in Pattani Poverty Eradication Project was successfully implemented in Kor Lae village, Tambun Langa, Mayor district, Pattani province. This model is resulting from pilot project of area-based collaborative research on reducing poverty and improving equity in Thailand: a case study of Pattani province under zone 2 responsible. Kor Lae Model is explained by the integrated work of researchers and villagers in Participatory Action Research (PAR). Villagers voices are heard equivalently and decision was made by the result of highest chosen option. A group of village representative enrolled themselves to test out this pilot project before magnify the success story to all villagers in Kor Lae. Lean Canvas business model is used to ensure the feasibility and profitability of the project.

Main output from this model are 1) poor people were assisted with occupational training not less than 10% of target poorest household. 2) vermicomposting production house has become a learning center on vermicomposting production for internal and external village. 3) vermicomposting products are available and ready for business. 4) vermicomposting liquid is another product for sale. 5) vermicomposting soil can be used for agricultural farming as well as for sale. 6) Facebook Page / Packaging/ Logo and all related to marketing are produced and available to use in long term. 7) Knowledge board and information pamphlet are designed and available for exhibition and promote products.

Outcome of this project is the poverty eradication model that can be applied in another poverty area. However, it is recommended to SWOT and understand the context of target village. Processes in Kor Lae model might need to be changed according to the nature of particular village. Key Challenge in Kor Lae Model is working population in the village is very small. Elderly and children are major population which might not able to work excessively. Key success in Kor Lae

Model is participation from villagers and the final decision was able to fulfill villager's actual needs and requirement well.

Impact to villagers in Kor Lae according to Return on Investment (ROI) can be justified as decreasing household expenses in purchasing fertilizer. In every 3 months of production period, the vermicomposting production house is able to produce vermicomposting and earthworm for the total value of 30,000 THB. If vermicomposting production house is extended, vermicomposting production will be increased as well. Impact to villagers according to Social Return on Investment (SROI) can be described as village is sustainable to producing organic fertilizer for agricultural usage. Vermicomposting production house has become a learning center on vermicomposting for villagers internally and externally.

Recommendation for policy maker in order to successfully perform Poverty Eradication Project in other provinces are 1) researchers shall conduct several community-based research forum (CBRF). 2) network partnership in local area is very important for instance agriculture district and community developer. 3) if researchers are able to communicate same slang and same language with villagers will be more advantage. 4) seek for actual requirement of the villagers rather than propose pilot project according to academic research only. 5) a group representative or the frontier speaker to villagers louder than researchers.

Future plan for Kor Lae Model is to utilize coconut pulp which is available and left unused in the village in vermicomposting production instead of purchasing from external. Furthermore, female in the villager is not comfortable with earthworm in vermicomposting production. Additionally, coconut pulp can be sale and increase more income to household.

Acknowledgments

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Social Capital and Implementation Effects: Participatory Action Research for Poverty Alleviation Through the Earthworm Fertilizer Pilot Project, Mayo District, Pattani Province

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Abstract

Undertaking poverty remains a significant challenge in today's society. It is listed as the first mission in the list of 17 goals in Sustainable Development Goals (SDGs), which are to be incorporated by all developed and developing countries. Thailand's poverty rate is rising in recent years. Many provinces in Thailand face poverty and inequality, including Pattani, Thailand's top poverty-stricken province. The main objective of this article was to study the social capital available in the community and the impact of the implementation under participatory action research (PAR) for poverty alleviation under the Earthworm Fertilizer Pilot Project in Kor Lae village, Mayo District, Pattani Province, Thailand. Results showed that important social capital leading to the successful implementation process, including; human resources in the community, trust, efficient group representative, and cooperation network. The major outcome that impacts the group level is that community members are self-sustainable in producing organic fertilizers for agricultural use, reducing household expenses, and income-earning from the sale of vermicomposting and other derivable products. Finally, the main outcome which impacts at the social level includes incorporating ready-to-produce equipment with the fertilizer production house, information and knowledge board, learning center on worm manure production that can be a model for other communities.

Keywords: operational impact, participatory action research, poverty alleviation, social capital

Reducing Poverty and Improving Equity by Using Knowledge of Sufficiency Economy Philosophy in Pakaharang, Pattani, Thailand

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Abstract

The sufficiency economy concept is a key to improving poverty and reducing the economic susceptibility of the poor. The aim of this study is to reduce the poverty and improve equity by using the model of sufficiency economy philosophy in Pakaharang, Pattani, Thailand. This study is a part of the project on "Area-Based Collaborative Research on Reducing Poverty and Improving Equity in Thailand: A Case Study of Pattani Province Project". A total of 215 poor households were surveyed based on data from the Thai People Map and Analytics. Then, the eleven poorest families in this village were selected for further analysis in order to understand the knowledge of the sufficiency economy philosophy. Subsequently, we gave the suitable knowledge in sufficiency economy philosophy for each family for four months by focusing on the concept of "poor families have a place to live, food to eat, money to save and invest". The result shows that these poverty families have dramatically developed better living qualities such as income, food, social acceptance, happiness, knowledge, education, ideas, money management and investment.

Keywords: improving equity, Pattani, philosophy, reducing poverty, Sufficiency Economy

Tracks 1B: Poverty and Sustainable Development

Statistical Analysis on Relationship Between Floods and Poverty: Case in Kuala Krai, Kelantan, Malaysia

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Abstract

The frequency of floods occurrence is increased in the east coast of Peninsular Malaysia due to the increasing of extreme rainfall events over 40 years. This may face worsening living condition of poor people in flood-prone areas. This paper investigates quantitatively and qualitatively on relationship between flood and poverty at the household level. It is based on data from questionnaire survey conducted in Kuala Krai, Kelantan, Malaysia right after six months of the Kelantan big yellow flood 2014 to trace and retrieve back the respondents. Hence, another set of data have been collected again using same respondents through face to face interview using developed interview protocol. By using descriptive statistics, we found that poor people tent to live in flood-prone areas, and the flood can cause the poverty faced by them get worse. This is due to the catastrophic impact of extreme flooding that cause loss of property, houses are badly damaged and most sadly the flood victims will lose their homes. Therefore, this study also discusses on the resettlement communities as an option for countering the effect of flood and alleviating poverty.

Keywords: floods, poverty, rural flood-prone area, resettlement communities

1. Introduction

Flood events in Malaysia are predicted to be increased due to the increasing of heavy rainfall in the monsoon seasons over 40 years (Noor, Ismail, Chung, Shahid, & Sung, 2018). The most affected are the countries in east coast of Peninsular Malaysia such as Kelantan, Terengganu and Pahang. This is because during these monsoons where the North-east monsoon occurring between November to March and Southwest monsoon occurring between May to September, winds carrying moisture from the seas dump plenty of rainfalls at the East-coast and West-coast of the peninsular (Suhaila, Deni, Zin, & Jeman, 2010).

From historical overview several major flood events experienced in the last few decades at the east-coast of Peninsular Malaysia dates as far back as 1886 where it was reported one severe

flood had caused extensive damages to Kelantan. Next was the flood in 1926 and 1967 where disastrous floods surged again at the east coast cross Kelantan, Terengganu and Perak. A few years later in 1971 another catastrophic event were reported with Pahang severely affected (Wing, 2004).

In November 2005, a flood in Kota Bharu was described as the worst natural flood in history at that time. Due to geographical characteristics, unplanned urbanization and proximity to the South China Sea, city like Kota Bharu has become extremely vulnerable to monsoon flood every year. Afterwards, in the year 2006, 2007 and 2008 heavy monsoons rainfall again have triggered major floods along the east-coast as well as in different parts of the country. The hardest hit areas are again along the east coast of Peninsular Malaysia in the states of Kelantan, Terengganu and Pahang (Chan, 2015).

Recently the 2014 flood was the largest recorded flood in the history of Kelantan and was called as the Kelantan big yellow flood because the yellow color of the flood due to its high mud content (Baharuddin et.al., 2015). Kuala Krai one of a district in Kelantan was the hardest hit with 16,734 families were displaced in 83 relief centres (Irwan et al., 2017). The floods wreaked havoc on the Kuala Krai community in Kelantan, resulting in human deaths, property damage, crop destruction, and livestock losses. Additionally, communication networks as well as infrastructure such as power plants, highways, and bridges were damaged, disrupting some economic activity. Those previous floods phenomenon may exacerbate the living conditions of poor people in flood prone area.

Studies have shown that poor people often live in risky environments, such as on floodplains or in urban areas at high risk of flood (Satterthwaite, 2007). Other research has shown the relationship between poverty and natural disasters (Olsson, Opondo, Tschakert, Agrawal, & Eriksen, 2014; Karim, & Noy, 2016), while some studies have considered how climate change will affect poverty in certain countries (Hallegatte et al., 2010; Winsemius et al., 2018). Economically, poor people are the most vulnerable to the effects of floods and other natural

disasters (Dercon, 2004). The impact of such disasters differs greatly across regions and countries (see e.g. Liebow, 1996; Singh, and Holland, 2009; Rentschler, 2013; Rodriguez-Oreggia, De La Fuente, De La Torre, and Moreno, 2013). It has been confirmed that poverty means people are more likely to suffer the effects of disasters (Elliott & Pais, 2006; Masozera, Bailey, & Kerchner, 2007). At the household level, flood vulnerability is discriminated between men and women and people of different ages (Rakib, Islam, Nikolaos, Bodrud-Doza, & Bhuiyan, 2017). There are also studies on the role of floods in perpetuating a cycle of poverty at the local level (Hallegatte et.al., 2010; Pelling, 1997; Khandlhela, & May, 2006; Narayanan, & Patnaik, 2010; Ferdinand, O'Brien, O'Keefe, & Jayawickrama, 2012; Israel, & Briones, 2014; Fang, Zhao, Rasul, & Wahid, 2016; Mahanta, & Das, 2017; Ali, 2017). However, it is still lacking and limited to be used as a reference for literature review. Therefore, there is an urgent need to study the relationship between floods and poverty at the local level.

The purpose of this study is to use qualitative and quantitative analysis to examine the relationship between floods and poverty at a local level. This study makes suggestions on how to alleviate the effects of floods at a local level.

2. Literature review

Flooding can cause poverty and disproportionately afflict the poor. Flooding can make certain people in communities poor by damaging property, houses, infrastructure, livelihoods, and productive capital. In comparison to individuals who are not poor or wealthy, those who are already impoverished can have their situation worsened by a flood disaster. The poor households in Bangladesh who were touched by the flood in 2004 lost more than twice as much of their overall income as the non-poor households (Brouwer et al. 2007). Bulling (2011) agrees, stating that flooding threatens the lives and livelihoods of poor people living in flood plains, low-lying coastal areas, and steep hillsides. This is in contrast with the predicament of the wealthy, who may live in the same perilous regions as the poor yet still escape floods because they have the financial means to construct flood-resistant shelters. Because of their improved financial standing

and capacity to purchase flood insurance, the wealthy can also afford to replace their flood-damaged property.

Flooding can also have a significant influence on the poor's livelihood. It has the potential to aggravate poverty levels by destroying poor people's livelihoods and affecting their capital. Crops, dams, and boreholes are examples of poor livelihoods that may be harmed by flooding, disrupting people's daily routines. The poor's livelihoods are threatened by floods because of their human, physical, natural, financial, and social capitals or assets (Department for International Development [DFID] 2010). Floods, for example, can result in human injury or death (human capital), infrastructure destruction (physical capital), land degradation (natural capital), and financial institution business disruption (financial capital) and disturb social networks (social capital). As a result, poor people's capitals may diminish, and poverty levels may rise, because impacted groups may not be able to put their resources to the best possible use in order to achieve positive results. The impact of flooding is not limited to the poor; wealthy houses can also be affected. However, because they have the tools and resources to alleviate flood damage, the wealthy always have a higher chance of minimizing damages to their livelihoods and assets.

Poverty also makes people more vulnerable to floods. While flooding has the potential to make people impoverished or exacerbate their circumstances, poverty has also been identified as a contributing factor to flood susceptibility. Flooding and poverty are depicted as two interconnected and linked social problems that work together to make human life more unpleasant. Flooding and poverty are depicted as a system that has an impact on human cultures due to their interconnectedness. Dealing decisively with one or both problems would damage the system. As a result, poverty has been shown to contribute to flood vulnerability while also amplifying flood risks and impacts. According to Sarmiento and Miller (2006), a population living in poverty is more likely to be affected by flood threats. Poor households located uphill or in locations not prone to flooding, on the other hand, may be less affected by flooding than those living in flood-prone areas.

Poverty also leads to people settling in dangerous areas. Because they are impoverished, some communities are forced to dwell in flood-prone areas. The fundamental reason for such maneuvers is that the impoverished are attempting to improve their living circumstances. People living in poverty are also more vulnerable to floods and they are generally overrepresented in hazard-prone locations (Winsemius et al., 2015). Poverty may be the reason why some people settle near rivers, and why low-income people are forced to seek houses in flood plains, which were formerly avoided (Abramovitz, 2001; Van Niekerk, 2011). According to Loayza et al., (2012), in some rural regions, dwelling near water provides poor people with cheaper transportation options and recurrent floods may boost their agricultural productivity. As a result, disadvantaged populations are finding it increasingly impossible to avoid settling in flood-prone locations.

The poor's flood risk is exacerbated by a lack of adequate shelter. The poor's need for human shelter has long been considered a fundamental element to their flood susceptibility. Poverty makes it difficult for the impoverished to recognize the presence of flood hazards and the dangers they entail. The poor may attempt to construct residences in flood-prone areas, such as 'constructing' flood vulnerability. In the end, the poor have been forced to interact with the flood hazard for extended periods of time. Because of the cheaper housing prices in flood-prone locations, the poor are also pushed to seek shelter there (Bin & Landry, 2012; Husby et al., 2014). Because of their poverty, they have fewer options when it comes to the type of housing they utilize, with some opting for low-cost, inadequate structures that are vulnerable to flooding. When such constructions are destroyed by floods, the poor lose not only the structures, but also the property housed within them.

Finally, poverty has an impact on the poor's ability to respond to and recover from natural disasters such as floods. Poor households, according to Kundzewicz and Kaczmarek (2000), not only lose more due to flooding, but also have a weaker capacity to deal with floods than non-poor households One of the main reasons is that the poor have fewer resources to deal with floods on their own without relying on outside help. They have less access to savings, credit, and social

security (Highfield, Peacock, & Van Zandt, 2014; Masozera, Bailey, & Kerchner, 2007). Minimizing flood damage and eradicating poverty in societies is thus a positive step toward raising the standard of living and increasing the quality of life in rural areas.
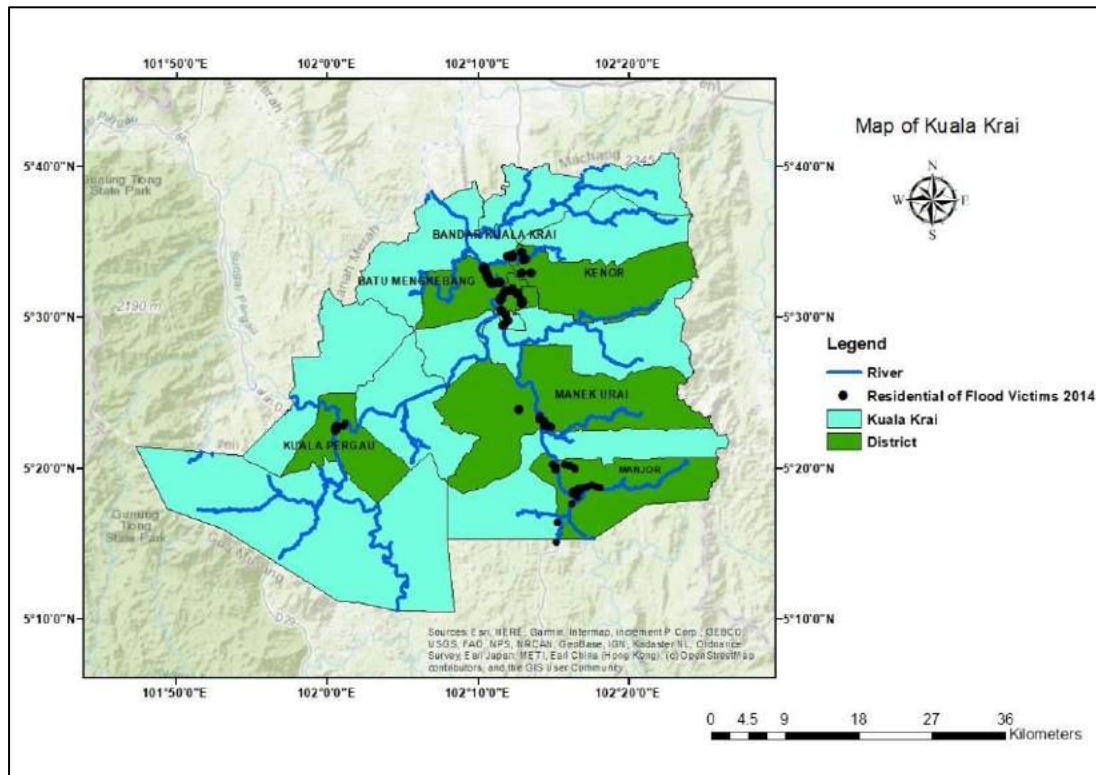
3. Methodology

3.1 Study area

Fig 1: Four study area map in Kuala Krai, Kelantan, Malaysia

This study has been conducted in Kuala Krai, Kelantan which is situated about 18 miles south of Kelantan city, Kota Bharu. lies between the longitude 5° 31' 50.9268" N and latitude 102° 12' 6.6636" E. It covers an area of 2287 km^2 with a total population of 109,461 people that make Kuala Krai relatively high population density in Kelantan (Department of Town & Country Planning, 2011). The terrain of this district is hilly in the East, West and South and lowland in the North. The elevation above sea level is mostly between 153m - 305m. While the highest level is more than 915m which is the side bordering Jeli district. The two main rivers namely Galas River and Lebir River met on Kelantan River in Kuala Krai. Due to these physical factors which is the

elevation and the collision of these two main rivers that form Kelantan river in Kuala Krai, making this district vulnerable to flood events causing by heavy rainfall occurrence during the north east monsoon period every year.

Figure 1 shows a map of Kuala Krai, Kelantan with the aforementioned topographic features visualized. This map has been developed using ArGIS software. The map shown 150 residential locations of flood victims in 2014 where previously were respondents for study made by Muhammad, Bahar, Khan and Jemali (2020). The map also highlighted the main river that situated in Kuala Krai and also highlighted four sub -districts based on 150 samples of 2014 flood victims 'residential locations. It is clearly showing, the houses of these flood victims are located along the main river in Kuala Krai and the four sub-discricts that were severely affected during the 2014 floods were Batu Mengkebang, Bandar Kuala Krai and Kenor that have been shaded as study area 1, Manek Urai as study area 2, Kuala Pergau as study area 3 and Manjor as study area 4. Study area 1 and 2 are represented suburban area meanwhile study area 2 and 4 represented rural area.

3.2 Materials and Methods

This study have been conducted by two stages that started with data collections and ended by floods and poverty relationship determination using statistical analysis. This study involved two type of data which are primary and secondary data. The primary data has been analysis using descriptive statistics meanwhile the secondary data is very useful to track and retrieve the 2014 Kelantan big yellow flood victims in Kuala Krai area for further interview regarding the impact after several years of the catastrophic floods.

The primary data are collected from a survey using questionnaire and interview protocol through face to face interview with 150 flood victims of the Kelantan big yellow flood 2014 who are also the respondents for a previous study conducted by Muhammad et al. (2020) right after six month this huge flood occurred. The quantitative data from previous study has been referred in collecting qualitative data from this face to face interview. Mix method of qualitative and

quantitative method has been used because it can integrate both types of data during collection, analysis and discussion for holistic and precise findings. Besides, mix method is very useful in understanding contradictions between quantitative results and qualitative findings. Further, this method can also give a voice to study participants and ensure that study findings are grounded in participants' experiences which is very suitable for this study.

4. Results and Discussions

4.1 Demographics of 2014 flood victims in Kuala Krai

This study begins with frequency analysis to get an overview of respondents' demographic information where majority of them are Malay and 1 out of 150 respondents is Chinese. The important demographics information for this study are age, gender and occupation that can represent the social vulnerability in flooding. Factor such as age, gender and occupation are important physical or mental characteristic that affect a person's ability to cope and respond to flood. Figure 3 shows the distribution of these three variables in determining social flood vulnerability in Kuala Krai.

The graphs in Figure 2 explain that people in range of ages from 40 to 59 years old are most exposed to the flooding based on the samples from 2014 flood victims in Kuala Krai Kelantan. The data also illustrated that there is no significant different in frequency between male and female among the flood victims. It means gender status has no effect in determining the level of flood social vulnerability based on the sample data of 2014 Kelantan flood in Kuala Krai. Lastly, based on data collected in the field shows that unemployed people are most affected by flooding in Kuala Krai based on 2014 Kelantan flood. On the other hands farmer and self work people also experienced the same impact as well as businesses. In general, unemployed, farmer and self-workers are related to the poor people. These findings have motivated us to investigate further on relationship between flooding and poverty based on 2014 flood victims sample data.
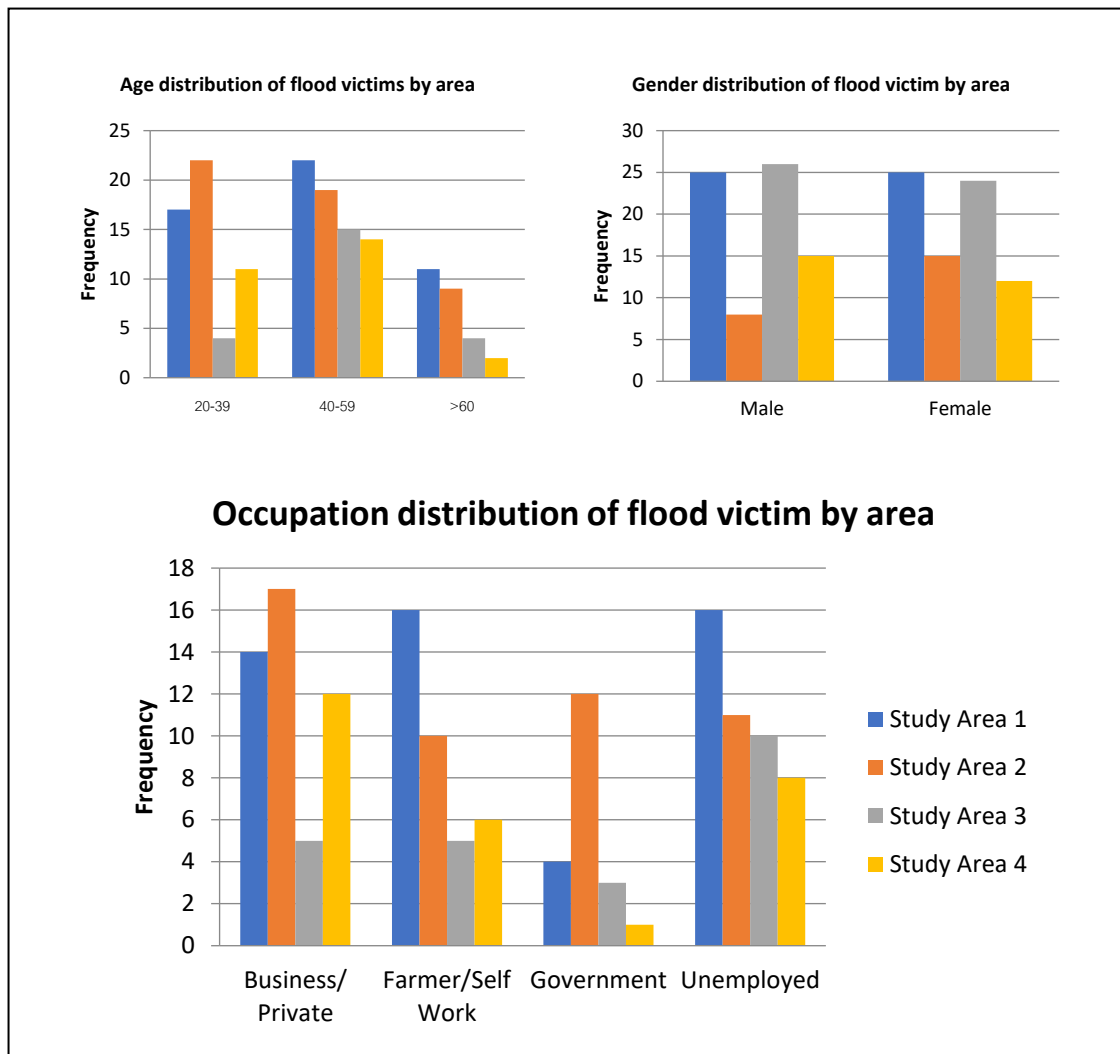
Fig 2: Age, gender and occupation distribution of flood victim by area of study in Kuala Krai

4.2 Relationship between flooding and poverty

There is a clear link between flooding and poverty. Some respondents stated that they were obliged to settle in flood-prone areas in quest of sustainable livelihoods because they were poor. They claimed that the availability of water along riverbanks and near dams compelled them to settle in those locations because they have to engaged in farming activities for survival. Besides, fertile soils can be found along riverbanks, which they prefer because they cannot afford to buy fertilizer for their crops. They also augmented their food reserves with wild fruits and wild vegetables discovered near waterways. As a result, their poverty status exposed them to flood hazards. These qualitative findings have also supported with the finding from quantitative data

shown in Table 1 that give a summary of settlement distribution of 2014 flood victims by type of their occupation. Notice that the one that involved in farming prefer to stay near the river rather than people who work in government of private sectors and also involved in business.

Table 1 Residential distance from the river by type of occupation

| Distance from river | Type of Occupation | | | |
	Business/ Private	Farmer/ Self Work	Governmen t	Unemployed
<100 m	18	19	8	18
>100 m	31	17	12	27

Further, some respondents who settling in flood prone areas indicated that they had no financial and material resources to make them afford the construction of better and stronger housing. When the floodwaters came, they were typically found wanting since their weaker structures were easily harmed, resulting in the collapse or washing away of the structures. It was also discovered that poor families who were already vulnerable to flooding were unwilling to relocate due to the high expenditures. Due to a lack of financial and material resources, the respondents stated that they could not relocate and begin construction on new structures. They claimed that relocation was only possible if the government and its working partners, which in this case were non-governmental organizations and humanitarian agencies, provided support. Quantitative data also found that 50% percent of the houses located less than 100 meters from the river suffered complete destruction and devastation during the major floods in Kelantan in 2014, and most of the houses are belong to the poor people, Table 2.

Table 2 Residential distance from the river by type of housing damage

| Distance from river | Housing damage | | | |
	Minor	Moderate	Severe	Destruction
<100 m	10	18	6	29
>100 m	34	21	24	8

Flooding not only makes the poor more vulnerable, but it also makes certain community members destitute. Based on Table 3, seven respondents out of 150 had total lost more than hundred thousand ringgit. Based on interviewed, most of them were involved in business and

indicated that they were better off in terms of property ownership prior to the floods. Some families and individuals were left penniless when the floods destroyed their homes and livelihoods. As a result, this study indicated that poverty increases flood risk, and flooding either causes or worsens poverty. Besides, disadvantaged communities living in flood-prone areas may be forced to rely on severely weakened livelihoods and capital. Flooding has a significant impact on poverty levels because livelihood capitals might be reduced as a result of flood damage.

Table 3 Residential distance from the river by amount of total lost in ringgit Malaysia (RM)

Distance from river	Total lost in ringgit Malaysia (RM)				
	<1K	1 - 9.9K	10 - 49.9K	50 - 99.9K	>100 K
<100 m	1	2	25	31	4
>100 m	9	11	41	23	3

5. Conclusion and Recommendations

Floods and poverty are inextricably linked. Flooding has the potential to cause poverty and has the greatest impact on the impoverished. It can make certain people in communities poor by damaging property, houses, infrastructure, livelihoods, and productive capital. In comparison to individuals who are not poor or wealthy, those who are already impoverished can have their situation worsened by a flood disaster. Flooding can also have a significant influence on the poor's livelihood. It has the potential to aggravate poverty levels by destroying poor people's livelihoods and affecting their capital. Crop damage, death of livestock and destruction of business goods due to flooding can impact the livelihood of the farmers and small and medium business entrepreneurs which may be affected resulting in their everyday pattern of life being disturbed and hence become a cause of poverty.

From other perspective, poverty makes people more vulnerable to floods. While flooding has the potential to make people impoverished or exacerbate their circumstances, poverty has also been identified as a contributing factor to flood susceptibility. Therefore, flooding and poverty are depicted as two interconnected and linked social problems that work together to make human life more unpleasant. Poverty also leads to people settling in dangerous places such as flood prone

area. Some communities because of being poor are forced to settle in areas that are prone to flooding. The main reason for them to settle in flood prone area because the poor would be trying to improve their standards of living by surviving with all recourses that can easily found at this particular area. The poor's flood risk is also exacerbated by a lack of adequate shelter. The poor's need for human shelter has long been considered a fundamental element to their flood susceptibility. Poverty makes it difficult for the impoverished to recognize the presence of flood hazards and the dangers they entail.

As a result, this study suggests that human settlements need to be established away from flood-prone areas. It is also suggested that the government aid the needy in shelter construction by providing sufficient sturdy building materials. The government and stakeholders should also consider developing a program to improve the poor's living conditions. Finally, the study suggests that a multi-stakeholder approach be used to identify flood-prone locations, create flood hazard maps, and create adequate, implementable flood control plans.

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Role of Labor Factors in Poverty Reduction: Empirical Evidence From Sumatra, Indonesia

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Abstract

This research aims to analyze the role of labor factors, such as education level, female workers, unemployment rate, and workers in the agricultural sector on poverty in regencies and cities in Sumatra. Data were collected from 154 regencies and cities in Sumatra from 2013 to 2018. Using the Logit model, the result showed that unemployment and workers in agricultural sector have positive effect, contrary the education level has negative effect, while female workers has no significant effect on poverty. It means that the greater the unemployment level and workers in the agricultural sector, the larger the probability for regencies and cities to become poor. Conversely, the more the number of workers with higher education levels, the fewer the probabilities of the regencies and cities to become poor. One of the policies recommended for poverty alleviation is the creation of jobs in various sectors of agriculture, especially in the processing industry and service sector. Furthermore, the qualities of workers need to be improved through the provision of education. Therefore, the development of agricultural-based processing industries in regencies and cities in Sumatra is highly needed.

Keywords: agriculture sector worker, female worker, higher education level worker, poverty, unemployment

1. Introduction

Poverty has always been a hot topic of discussion for resolving economic problems in developing countries, such as Indonesia. The poverty rate in Indonesia doubled in 2017, with a gradual decrease of 9.22% in 2019. However, since the inception of the COVID-19 pandemic in the beginning of 2020, which has devastated the world economy, including Indonesia, the rate increased again. Sumatra is the third-largest island in Indonesia with a high poverty rate and the second-largest government spending region after Java (Rambe & Purmini, 2020). Furthermore, the economy of its regencies/cities is also under Java, which means that the economic development in this region is more advanced than other Islands. Therefore, based on these

indicators, the peoples' welfare in this region needs to be better than other islands besides Java with a lower poverty rate.

From 2014 to 2019, several regencies/cities in 4 provinces in Sumatra had a high poverty rate. Out of the 34 provinces, 2 are always included among the 10 poorest provinces in Indonesia, namely Aceh and Bengkulu. Therefore, from this explanation, it is necessary to determine the root of the poverty problem in Sumatra by determining the associated factors.

According to Meo et al. (2018), one of the poverty determinant factors is unemployment, which is currently very low in Sumatra, indicating that most of the population is working. In addition, those working are not paid decently, hence they are unable to get out of poverty. Therefore, it is necessary to examine the employment factors that play a role in reducing the poverty rate of regencies/cities in Sumatra.

Another employment factor related to poverty is the business sector. According to Gounder (2013), Iqbal, Siddiqui, and Zafar (2020), and Purmini and Rambe (2021), the proportion of workers in the agricultural sector has a positive effect on poverty rates. The workers are not unemployed, rather they produce limited agricultural products. For example, in Bengkalis and Natuna regencies with low poverty rates, the proportion of workers in the agricultural sector in these areas is also low (Purmini, & Rambe, 2021). On the contrary, although Aceh Singkil and Seluma regencies have the largest proportion of workers in the agricultural sector, they have high poverty rates. This explanation indicates that the dominance of workers in the agricultural sector has the opportunity to increase poverty in Sumatra.

The education level of workers is also a poverty determinant level within a community (Purmini, & Rambe, 2021; Fernandez-Ramos et al., 2016). For example, in Bengkalis and Natuna regencies, in Sumatra, the majority of workers have a bachelor's education. Meanwhile, in West Tanjung Jabung and Seluma regencies, the proportion of workers that graduated from high school and undergraduates is deficient. This explanation confirms previous findings that higher levels of public education tend to reduce poverty.

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Furthermore, the presence of women in the agricultural sector to supplement family income is also a poverty determinant. Batana (2013) stated that in undeveloped countries, the largest percentage of working women came from poor families.

Based on this explanation, it is necessary to analyze the probability of regencies/cities experiencing poverty reduction using these factors. Therefore, this research aims to analyze the effect of unemployment, education level, and female workers poverty rates on the agricultural sector in regencies and cities in Sumatra.

Poverty has been studied from various perspectives. For instance, Okoronkwo (2013) stated that it is a situation where a person is unable to fulfill their life needs. Meanwhile, Akwara et al. (2013) defined it as a person's inability to obtain proper food, shelter, clothing, and recreation.

Similarly, Arsyad (2010) stated that the poor are always unable to meet basic needs, such as access to socio-economic resources that exist in the community, due to the inability to work and earn an adequate income. Furthermore, they have low self-esteem and are unable to determine their destiny and get discriminatory treatment.

In poor families, there is hunger, destitution, and a lack of basic health facilities. This is emphasized by the research carried out by Arsyad (2010), which stated that poverty is a situation of hunger felt by someone that does not have a house, job, = read due to lack of money to attend schools, and does not have funds for treatment when sick.

The absolute and relative concepts are types of poverty (Kuncoro, 2010). Akwara et al. (2013) stated that absolute poverty is the inability of a person or group to provide the necessities of life and protection of human dignity. These necessities include food, clothing, shelter, water, health services, basic education, transportation, and work. The poverty rate is the percentage of the population whose income is below the minimum threshold.

The absolute poverty line concept is used to determine the minimum level of income that a person needs to meet the physical needs of food, clothing, and housing for survival (Arsyad, 2010). The poverty line is the level of family income below the specified limit to be classified as poor (Hall & Lieberman, 2005). Therefore, a person with an income below the specified poverty line is classified as poor.

Another concept is relative poverty. According to Akwara et al. (2013), certain sectors of society are unable to meet their basic needs. This occurs due to the inability of the community to achieve the standard of living in their area (Kuncoro, 2010). Although in absolute terms, a person is not poor when the income is above the poverty line. It is difficult for the poor to get out of poverty and as a set of self-reinforcing mechanisms by which countries breed poverty (Kraay, & McKenzie, 2014).

Alleviation is considered unsuccessful when it fails to take into account the factors causing people to become poor, for example, natural and structural poverty. Mistakes in determining the causes of poverty and supporting factors impact the ineffectiveness of the solutions offered in poverty alleviation efforts. Therefore, several factors that influence the poverty rate are described.

The Relationship between Unemployment and Poverty

Empirical research shows a positive effect of unemployment on poverty. For instance, Meo et al. (2018) and Amalia et al. (2018) examined poverty in Pakistan and Papua (Indonesia), respectively. Similar research was carried out in Nigeria by Aiyedogbon, and Ohwofasa (2012) and in Java, Indonesia, by Ridlon, and Sari (2020) and Muthalib et al. (2018).

Based on these studies, it can be stated that unemployment has a positive effect on poverty. A breadwinner is someone that caters to the necessities of other family members. Therefore, ahead without a job increases the probability of a poor household.

Empirical research shows that unemployment increases the probability of being poor. This condition was found in Turkey (Bilenkisi et al., 2015), Portugal (Crespo et al., 2013), Benin (Alia et al., 2016), China (Gustafsson, & Sai, 2020), and Nigeria (Mohammad, & David, 2019; Akerele et al., 2012). From this explanation, it can be stated that an increase in unemployment increases the probability of poverty.

Relationship of Labor in the Agricultural Sector with Poverty

Agriculture in rural areas is still the dominant sector in the economy of developing countries. Several preliminary studies raised issues related to agricultural sector workers with poverty in various countries, such as in China (Wang et al., 2009), South Asia (Sadaquat & Sheikh, 2010), Fiji (Gounder, 2013), Indonesia (Satrio, 2018), Vietnam (Nguyen et al., 2013; Pham, & Riedel, 2019), and Pakistan (Iqbal, Siddiqui, & Zafar (2020). The results showed that the agricultural sector tends to be identical to rural areas, with many unpaid workers in developing countries because they work on their family land.

Wang et al. (2009) reported that people dependent on agriculture are always poor in China. This result is corroborated by the research carried out by Sadaquat and Sheikh (2010), which stated that in South Asian countries, the majority of women are poor because they work in the agricultural sector. Gounder (2013) also showed that people in rural areas are poorer than those in urban because they work in the agricultural sector in Fiji.

According to Satrio (2018), people that work in the agricultural sector have low incomes in Java, Indonesia. Satrio further stated that working in the agricultural sector increases the probability of people becoming poor. Similar research was carried out by Iqbal, Siddiqui, and Zafar (2020) in Pakistan. They stated that workers in agriculture make up 65% of the total number of workers, and some are unpaid. This condition causes households in rural areas to be poorer than those in the urban. Similarly, Pham and Riedel (2019) stated that the proportion of the workforce is a very determining factor in poverty in Vietnam. The results of Nguyen et al. (2013)

strengthened this explanation by stating that in Vietnam, those that work in the agricultural sector have a high probability of being poor.

Relationship between Education and Poverty

Empirical research shows that education reduces poverty rates. This is in accordance with the research carried out in various countries such as Nigeria (Akerele et al. (2012), Portugal (Crespo, Moreira, & Simoes, 2013), Mexico (Fernandez-Ramos et al., 2016), Indonesia (Satrio, 2018) and Pakistan (Iqbal, Siddiqui, & Zafar, 2020).

Studies carried out in China (Glauben, Herzfeld, & Rozelle, 2012), Benin (Alia, Alia, & Fiamohe, 2016), Fiji (Gounder, 2013), and 26 European countries (Hidalgo-Hidalgo & Iturbe-Ormaetxe, 2018), showed the role of education in reducing the probability of poverty.

This explanation showed that high education reduces the probability of people becoming poor by providing better education and jobs.

Women's Relationship with Poverty

Most people think that the role of women in the household is to take care of children. Therefore the head of the household needs to work to earn a living. In poor conditions, women participate in making a living to fulfill the family needs and help elevate them from poverty. Verick (2014) stated that a high level of women's work participation in developing countries reflects poverty. This is supported by the research carried out by Batana (2013) on 14 Sub-Saharan African countries. According to Batana (2013), the largest percentage of working women came from low-income families in developing countries.

However, some women cannot work in the formal sector, which provides high incomes. According to Verick (2014), working-class women earn lower incomes than men in developing countries. This is because the majority works as domestic workers. Azid et al. (2010) stated that in Pakistan, poverty had pushed more women to work in the informal sector, which has low productivity and pay.

Sadaquat and Sheikh (2011) also stated that many women work in the agricultural sector as unpaid family workers in Pakistan. The participation of women in paid activities tends to decrease, with an increase in the number of those in unpaid work.

This is almost the same in India, with a continuous decline in the participation of women working in paid activities. Conversely, the number of women carrying out unpaid work tends to increase with a decrease in incomes and a rise in their chance of becoming poor. Therefore, women's decision to earn a living for their families is not able to bring them out of poverty (Sharma, & Singh, 2019).

Different conditions were expressed by Bilenkisi et al. (2015) during the investigation of poverty in Benin. It was found that working women tend to elevate their families from poverty in Benin. Similarly, Filandri and Struffolino (2019) stated that in 31 countries in Europe, working women lifted their families out of poverty.

2. Methodology

Secondary data obtained from the Central Statistics Agency, especially from the National Socio-Economic Survey (Susenas) activities in 154 districts/cities in Sumatra from 2013 to 2018, was used to carry out this research.

The dependent variable is categorical with the average poverty rate of districts/cities in Sumatra. Those above and below the average poverty rates are denoted by 1 and 0, respectively. The independent variables are in the form of ratio and category. The three independent variables that use ratio data are the number of unemployed people, workers in the agriculture sector, those with higher-level education (Senior High School and above), and female workers.

The logit regression method was used to determine the purpose of this research due to its ability to provide information on the probability of a district/city becoming poorer with an increase or decrease in the influencing factor.

In processing logit data, the enter method is used, which is defined as follows (Baltagi, 2005):

$$\Pr[y_{it} = 1] = \frac{e^{\mu_i + x'_{it}\beta}}{1 + e^{\mu_i + x'_{it}\beta}}$$ …………………………………………………….. (1)

In this study, the logit regression model used is as follows:

$$\Pr(\text{Pov}) = \frac{\exp^{(\beta 0 + \beta 1 UE + \beta 2 ASW + \beta 3 HEW + \beta 4 FW + \beta 5 DRSS)}}{1 + \exp^{(\beta 0 + \beta 1 UE + \beta 2 ASW + \beta 3 HEW + \beta 4 FW + \beta 5 DRSS)}}$$ ………………………...(2)

Where Pov denotes poverty rate (%), UE is unemployment, ASW denotes agriculture sector worker, HEW is higher educational level worker, FW is female worker, ð is an error term, β_i is the coefficient of the independent variable, t is the time (2013-2015 and 2017-2018), and i is the district/city in Sumatra.

The overall and partial (wald) tests were carried out in the logit regression model. Furthermore, the overall model testing is carried out by determining χ^2, *classification result, omnibus test, Hosmer* and *Lemeshow test,* as well as *Pseudo R Square* (Baltagi, 2005; Wooldrodge, 2013). Meanwhile, the Wald test was used to determine the significance of the independent variables in determining poverty as a partial test. Finally, the probability of being poorer affected by each independent variable is measured by the odds ratio. The formula for calculating the odds ratio (odds ratio) is as follow:

$$Li = ln\,ln\;[\frac{Pi}{1-Pi}]$$ ………………………………………………………………. (3)

3. Results and discussions

Figure 1 shows the average district/city poverty rate for each province. The poverty rate is not easy to reduce in just one or two years. Therefore, Figure 1 provides information on poverty rates at the beginning and end of the observation period from 2013 to 2018.
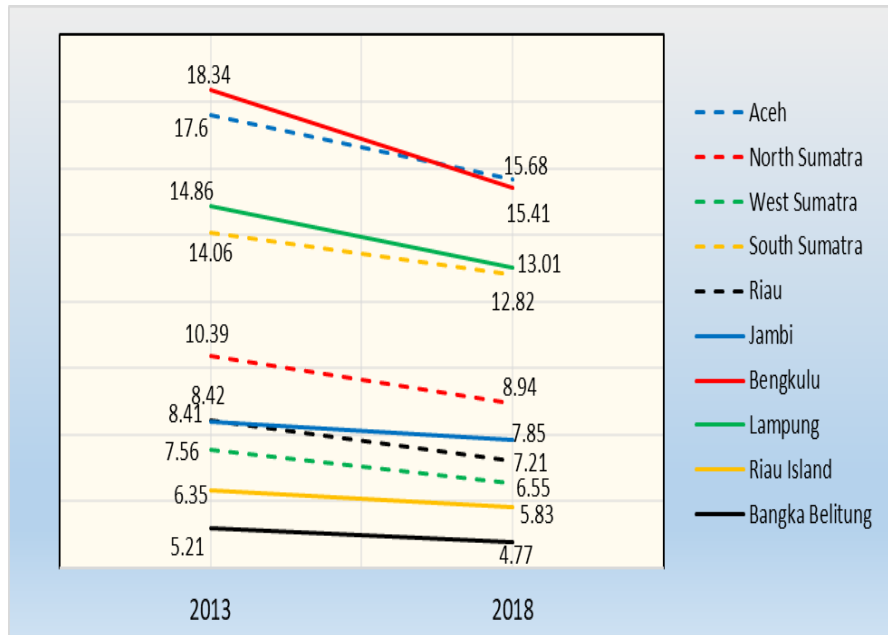
Fig 1: Average Poverty Rate in Regency/City of each Province in Sumatra in 2013 and 2018.

Districts/cities in all Sumatra provinces have the ability to reduce poverty rates at slow and fast paces. The highest average poverty rates in 2013 and 2018 were in Bengkulu and Aceh Provinces. However, irrespective of these rates, the most significant decline in the poverty rate from 2013 to 2018 was in Bengkulu Province. This shows the success of district/city efforts in Bengkulu province on average in reducing poverty. However, alleviation efforts still have to be carried out because it is still high.

The reverse was the case in Bangka Belitung Province, whereby the average district/city poverty rate from 2013 to 2018 was in Sumatra. This information shows that the average condition of community welfare in six districts/cities in this province significantly reduced the poverty rate in 2018.

Table 1 describes the average, highest and lowest districts/cities in each province. From 2013 to 2018, the lowest poverty rate of 2.28% occurred in the city of Sawah Lunto, West Sumatra Province. This shows that the economy in this city is developing evenly. Furthermore, as a mining and tourist city, job opportunities in Sawahlunto are capable of providing sufficient income to

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fulfill the standard needs of workers. However, despite being the city with the lowest poverty rate, it experienced a slight increase in 2018.

Table 1 Average Poverty Rate of District/City on Each Province of Sumatra in 2013-2018

No	Province	District/City	
		Highest Poverty	Lowest Poverty
1	Aceh (16.6%)	West Aceh – Aceh Singkil	Banda Aceh
2	North Sumatra (9.6%)	Gunung Sitoli – West Nias	Deli Serdang
3	West Sumatra (7.0%)	Mentawai Islands	Kota Sawah Lunto
4	South Sumatra (13.4%)	Lahat – Musi Banyuasin	Pagar Alam
5	Riau (7.8%)	Meranti Islands	Pekan Baru
6	Jambi (8.1%)	East Tanjung Jabung	Sungai Penuh
7	Bengkulu (16.8%)	Kaur - Seluma	Central Bengkulu
8	Lampung (13.9%)	North Lampung	Mesuji
9	Riau Island (6.1%)	Lingga	Natuna
10	Bangka Belitung (4.9%)	Belitung	West Bangka

Source: Statistic Indonesia, data processed.

The highest poverty rate in 2013 occurred in the Meranti Islands District (Riau Province) at 35.74%. Although there was a 27.79% gain in 2018, this district is still the poorest in Indonesia due to limited infrastructure. Furthermore, employment opportunities are limited with the significant distance needed to be traveled between sub-districts, thereby limiting economic growth

The Relationship between the Variables Under Study

This sub-section analyzes the relationship between the independent variables and the poverty rate. Figures 2 to 5 show the relationship between poverty rates and unemployment, workers in the agricultural sector, those with high school education and above, as well as the number of female workers.
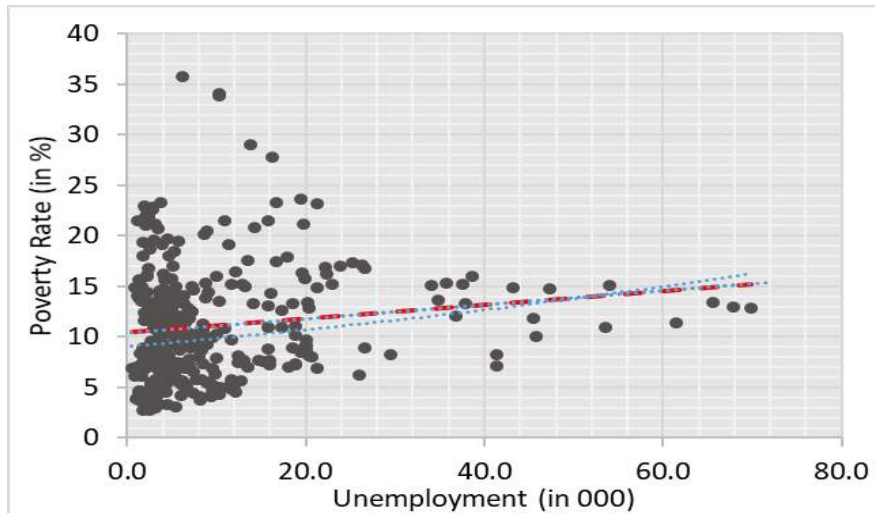
Fig 2: The relationship between the number of unemployed and the poverty rate
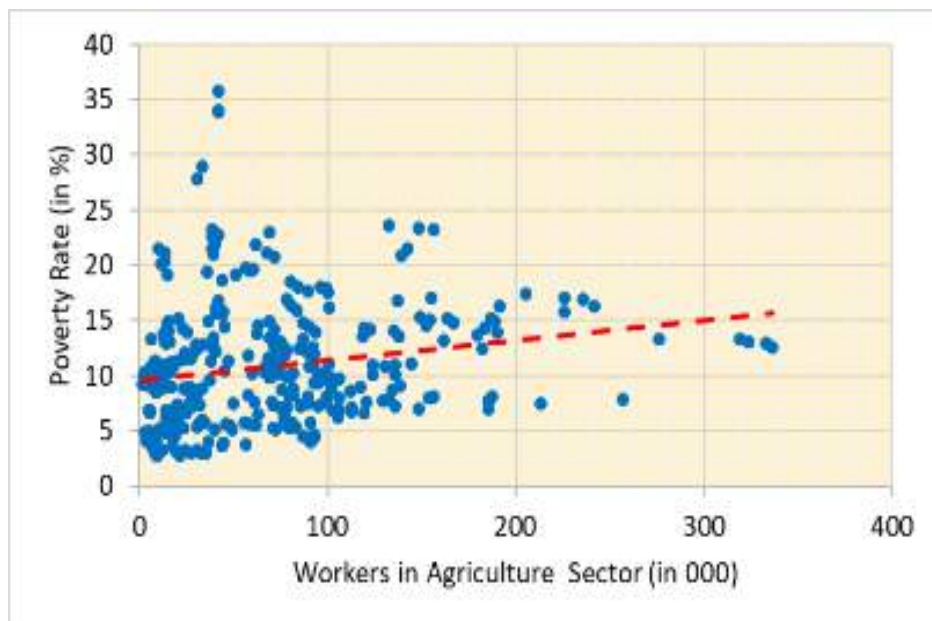
Fig 3: Relationship between agricultural sector workers and the poverty rate

Figure 2 illustrates the positive relationship between the number of unemployed people and the poverty rate. Generally, unemployed people have no source of therefore, their ability to fulfill their daily needs is low, which eventually makes them become poor. According to Figure 3, there is a positive relationship between the number of workers in the agricultural sector and the poverty rate. This positive trend means that an increase in the number of workers in the

agricultural sector leads to a rise in the poverty rate. Based on the data, it is clear that districts with a high number of workers in the agricultural sector have a high poverty rate. This is explained in preliminary studies, which stated that there are many unpaid and poor workers in the agricultural sector, despite the fact that they work a lot. Figures 2 and 3 indicate the strengthening of the research hypothesis. Conversely, there is a negative relationship between the number of workers with a higher education level and the poverty rate, as shown in Figure 3. This negative trend shows that more workers with a higher education level reduce the poverty rate. Higher education provides better jobs and higher incomes, thereby increasing the ability to fulfill the needs of life. With this condition, they are no longer poor. Indications on the strengthening of the research hypothesis are also shown in Figure 4 and further tested.

Furthermore, Figure 5 shows the relationship between the number of female workers and the poverty rate. The scatter diagram indicates that the data does not spread normally, rather the majority is collected in the middle, with a positive direction, even though the relationship may not be strong. This does not corroborate the research hypothesis because 3 employment factors need to be further tested in the regression model.
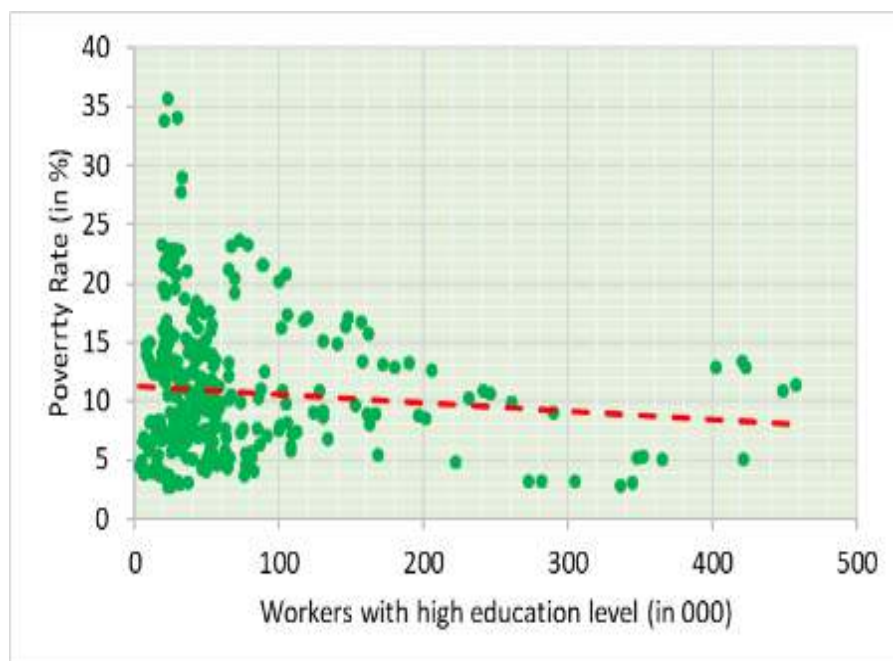
Source: Central Statistics Agency, data processed

Fig 4: Relationship between workers with high school education and above with poverty rate
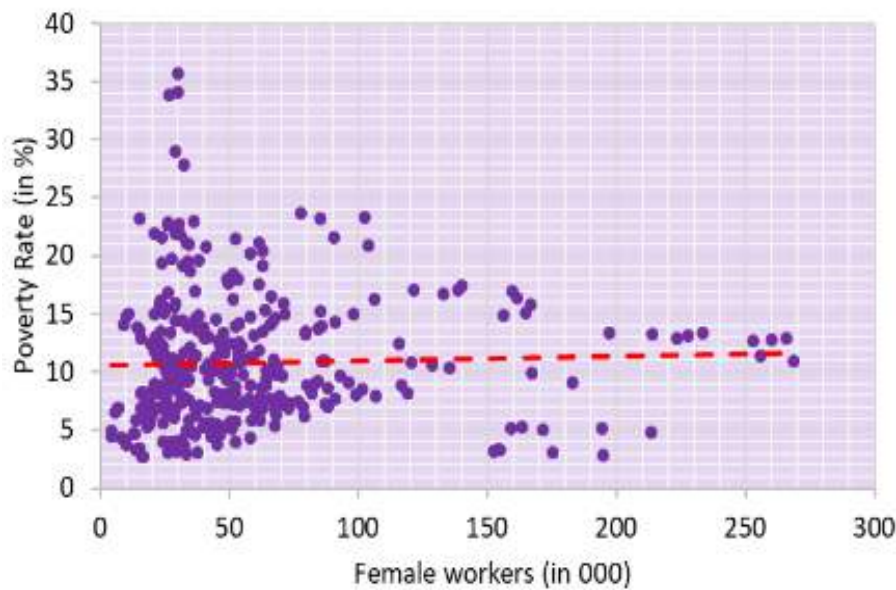
Source: Central Statistics Agency, data processed

Fig 5: Relationship between female workers and poverty rate

Logit Regression Model

This research analyzes the effect on the number of unemployed workers in the agricultural sector, their higher education level, and female workers on poverty rates using the logit regression method with SPSS software.

Table 2 Logit Regression Model Testing

	β	Wald	Exp(β)
C	2.054*	3.4349	7.796
UE	0.337***	8.490	1.400
ASW	0.271***	6.827	1.312
HEW	-1.189***	21.635	0.305
FW	0.465	3.670	1.592
Classification result		61.3%	
Omnibus test		χ^2=57.006☐ Prob= 0.000	
Hosmer & Lemeshow test		χ^2=5.476☐ Prob=0.706	
Pseudo R^2		Corn & Snell R^2= 0.072	
		Nagelkerke R^2= 0.096	

Source: Author's calculation

The overall and wald tests were carried out in the logit regression. The first test carried out is the overall, by comparing *-2log likelihood* value with χ^2. The model is said to be fit assuming the value of *-2log likelihood* < χ^2 table. In this research, the value of *-2log likelihood* is

908.871, while the χ^2 table is 918.937. Therefore, *-2log likelihood* $< \chi^2$, hence this model is considered fit, and other tests are carried out, as shown in Table 2.

Furthermore, the classification results were tested, where the number of districts and cities with poverty rates above and below the average was 180, and 288, at a percentage of 61.3%. Therefore, this logit regression model is considered valid and can be further tested.

This is followed by the omnibus test with the value of χ2 at 57,006 and significant at α = 5%. This means that H0 was rejected, and all independent variables have a significant influence on the model. Furthermore, it was continued with the Hosmer and Lemeshow test.

H0 in *Hosmer* and *Lemeshow test* shows a difference between the model and the observation. With χ2 of 5.476 at α>5%, it is said that H0 is not rejected, therefore the model does not differ from observations rather it is fit.

The next test of the whole model is Pseudo R^2 which is based on the Nagelkerke R^2 value of 0.096. This means that the model's ability is only 9.6% in explaining local government spending efficiency opportunities. Of all the model tests that have been carried out, only pseudo R^2 showed poor results. However, in general, the logit regression model in this research is fit and can be continued in partial testing to examine the efficiency opportunity.

The partial test was carried out by examining the z-statistic based on the significance level using the wald test. Of the 4 independent variables, H0 was rejected at α = 5 % for 3 variables with a significant effect on the poverty rate. Furthermore, of the three significant variables, only workers with a Senior High School education and above have a negative effect on poverty rates. The greater the number of workers with high school education, the lower the poverty rate.

Conversely, 2 other variables, namely sectoral agriculture workers and unemployment, positively affect poverty rates. This is because the greater the number of workers in the agricultural sector, the higher the unemployment level and the poverty rate. Meanwhile, the number of female workers does not significantly affect the poverty rate.

After determining the effect of each independent variable on the poverty rate, the logit regression method provides information on the probability of being poorer or vice versa. The model's interpretation of the probability is determined by carrying out the exponential of the regression coefficient, namely exp(β), which is called the odds ratio, for all significant variables, as shown in Table 2.

The odds ratio showed that the probability of the poverty rate is poor. Of the 3 significant variables, unemployment was the largest with 1,400. This means that the probability of becoming poorer is 1.40 times assuming the number of unemployed people increases by 1%. This result is parallel with the research carried out by Gustafsson, and Sai (2020), Mohammad, and David (2019), Alia et al. (2016), Bilenkisi et al. (2015), Crespo et al. (2013), and Akerele et al. (2012).

These results describe the conditions in Sumatra, where the breadwinner becomes the foundation for family members in fulfilling the necessities of life. This is because an unemployed head increases the poverty rate of that household.

Furthermore, the number of workers in the agricultural sector variable has an odds ratio of 1.312, which means that the probability of becoming poorer is 1.312 times assuming the number of workers in the agricultural sector increases by 1%.

The result found that an increase in the number of workers in the agricultural sector leads to a rise in the poverty rate in Sumatra. This is in accordance with the studies carries out by Iqbal, Siddiqui, and Zafar (2020), Pham and Riedel (2019), Satrio (2018), and Gounder (2013). Poverty rates in rural areas in Fiji are higher than in urban areas. In other words, people in rural areas are poorer than those in urban. According to Gounder, this condition occurs because people in the village work in the agricultural sector. Meanwhile, Satrio (2018) stated that in West Java, respondents working in the agricultural sector have a greater chance of being poor. Similar research was carried out in Pakistan (Iqbal, Siddiqui, & Zafar, 2020), where most of the people working in the agricultural sector are unpaid family workers. Sumatra also experienced similar

problems found in various countries, where some workers are employed in the agricultural sector to help their parents without being paid. This led to low income, irrespective of the long number of working hours. This condition in rural areas is related to disguise unemployment, which indicates that agricultural production does not decrease, assuming these workers refuse to participate.

Another significant variable is the number of workers with higher-level education, where the probability of decreasing the poverty rate is 0.283 times, assuming the number of workers with Senior High School education increases by 1%. This means that more workers with higher-level education are able to reduce poverty levels. These results are in line with the research conducted by Iqbal, Siddiqui, and Zafar (2020), Alia, Alia, and Fiamohe (2016), Fernandez-Ramos et al. (2016), Crespo, Moreira, and Simoes (2013), and Satrio (2018). Based on the cross-section data explained by studies, the chances of getting out of poverty are greater for respondents with higher education.

Meanwhile, this research, which uses secondary data in the form of panels, obtained that the greater the number of workers with Senior High School education and above in the district/city, the lower the poverty rate. For instance, a minimum level of education is required to get a job in the formal sector, such as government, banking, industrial companies, etc. This means that people without certain required education are forced to look for work in the informal sector. Generally, the income of those working in the formal sector is higher than the informal in Sumatra. Many workers with high school education and above live in big cities where industrial and service businesses dominate economic activity. On the other hand, in most districts, where the informal sector dominates economic activity, the income is still low.

Therefore, based on this explanation, the implications of the research results are described. First, there is an increase in the number of workers in the agricultural sector and the unemployed, with a higher poverty rate. Therefore, the implication is that efforts are needed to increase worker productivity in the sector and create employment opportunities to support

agricultural products. This has the ability to encourage the creation of added value from agricultural production in each district/city, especially in areas with a primary economic structure. Jobs in the agricultural sector that need to be encouraged are processing industries based on agricultural products (downstream), such as horticulture or food with raw materials from production in their respective regions, such as marine catches. The horticultural processing industry's growth makes people certainly become consumers of agricultural products in their respective regions. Furthermore, the added value of agricultural production provides additional income. This effort also increases employment, thereby decreasing the number of unemployed people, with a possible future decrease in the poverty rate. Furthermore, for the variable of workers with higher-level education, this research needs efforts to encourage the community to continue increasing their education level up to university. This effort can be carried out in various ways. One of which is by strengthening educational institutions facilitated by the government through educational programs and infrastructure provision by making regulations for the business world to assist in funding education for the community. Local governments need to be able to provide educational infrastructure as well as school and college supplies in their area. They should also have a teaching capacity to develop programs to ensure Senior High School and university graduates have the qualities needed by the business world.

Furthermore, the government can also encourage the business world to support the improvement of community education in its area. An example is in strengthening corporate social responsibility (CSR) activities in the form of scholarships to keep underprivileged communities in school, internships opportunities for Senior High School and college students, and financial support from the business world for school/college programs/activities carried out by students. With this implementation, more workers are likely to graduate from Senior High School and college, with a possible decrease in this district's poverty rate in the future.

4. Conclusion

Based on data analysis and discussion, it is concluded that unemployment and agriculture sector workers positively affect poverty levels. Conversely, higher educational level workers have a negative effect on poverty levels. This research implies that the government encourages increased worker productivity in the agricultural sector by strengthening the product processing industry (commodity downstream), which supports agricultural production in each district/city. The strengthening of this industry tends to create job opportunities later, thereby decreasing unemployment. Efforts to strengthen the industry are carried out by making policies and regulations that support the business climate and encouraging growth and development, such as providing training and facilitating access to capital. Furthermore, the government needs to encourage the business world to be more active in strengthening and improving human resource quality by ensuring that more people receive upper-middle education when they enter the workforce.

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Village Owned Enterprises (Bumdes) Status and the Role for the Community Welfare in Pondok Kelapa Subdistrict, Central Bengkulu Regency, Indonesia

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Abstract

This study describes the status of Village own enterprises (BUMDes) and the role for the welfare community in Central Bengkulu Regency. Central Bengkulu Regency has 10 sub-districts with a total of 62 BUMDes. Results shows the status of Village Owned Enterprises (BUMDes) all has the legality decree and complete organization structure, each BUMDes has at least 1 types of business. Each village accompanied by 1 field officer, to help on the administration report and business activities. In term of the community welfare, describe in 3 categories: economic benefits, social benefits and institutional benefits. It found that community received same services from business unit. BUMDes also facilitates the community in obtaining services from the village government. However, community perceived minimal benefit on education and health services.

Keywords: organization status, village owned enterprises, welfare

Poverty Incidence and Reduction Strategies Using Database and GIS for Proactive Data Management

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Abstract

Poverty reduction is an important problem of many countries since poverty problem is related to many factors. Household poverty can be changed in time, location, and circumstance. Solving this problem is not easy to proceed within the short-term period. To reach the household capital, one needs to have database and information from bottom-up and top-down data together. This paper presents the method to verify the poverty problem by investigating the database management system and GIS platform for proactive data management. Database has started to provide for ten provinces for first phase project in Thailand. MySQL and PHP tools were used for database management working on web application. GIS map using Cesium API provides the spatial tool to reach where the poverty household located. Users can view informative radar plot from provincial capital to household capital for searching, scanning, evaluating, forwarding, and monitoring the poverty group. The proactive dashboard is useful to help the target group of poverty households by sending information to policy organization and local government. The investigated poverty database can be used for expanding to all provinces in Thailand for holistic management.

Keywords: database, GIS, holistic management, poverty incidence, poverty reduction

Eradicate Urban Poverty Through Digital-Based Social Innovation

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Abstract

Urban poverty in Malaysia has been considered as an increasingly visible phenomenon due to impacts of urbanization. According to Statista Report, in 2019, the poverty rate of the urban population of Malaysia was at 3.8 percent, while rural poverty was at 12.4 percent. In 2019, Malaysia revised its national poverty line income, increasing it from 980 Malaysian ringgit to 2,208 Malaysian ringgit. The main factor for the increase national poverty line especially in urban area because the cost of living relatively high in most of urban cities in the country. There are many initiatives by government, private agencies and non-government organization (NGO's) had been implemented to eradicate urban poverty and its significant impact to urban society. Taking advantages of high quality of Information Communication Technology (ICT) infrastructure and complete ecosystem, Digital-based Social Innovation could be implemented effectively. The widespread adoption and integration of ICTs has reduced information and transaction costs, improved service delivery, created new jobs, generated new revenue streams, and helped conserve resources. ICTs have also transformed the way businesses, people, and governments work, interact, and communicate. Due to maturity of digital infrastructure in urban area could support the Digital-based Social Innovation initiative as one of the alternative strategies to eradicate urban poverty. Consequently, Digital-based Social Innovation could be implemented effectively with relatively low cost. Therefore, social innovation project using digital- based technology could be easier to be implemented. Finally, the social innovation outcome could ensure cities and urban society settlement inclusive, safe, resilient, and sustainable in battling with emerging challenges that triggered urban poverty crisis.

Keywords: digital technology, ICT, social innovation, sustainable development goal, urban poverty

Implementing the UMK Social Enterprise Framework (UMK EPS) on Students From Low-Income Families in Kelantan, Malaysia

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Abstract

Indeed, the primary constraint for many students involved in an entrepreneurship activity is the limited network to expand their businesses. The students, nevertheless can choose to implement a social entrepreneurship framework to overcome this constraint. This article is prepared to share the UMK experience UMK in producing social entrepreneurs (EPS Apprentices) among students from low-income families based on the UMK Social Enterprise Framework (UMK EPS). UMK EPS is made up of three business orientations, namely 1) welfare; 2) profit; and 3) hybrid-. In addition, UMK EPS contains five stages of project implementation, i.e., 1) first stage - potential mapping and database; 2) second stage - potential matching; 3) third stage - capacity building; 4) fourth stage - support system; and 5) fifth stage - mentoring and intervention. UMK EPS is expected to build many EPS Apprentices and consequently achieve its social mission.

Keywords: capacity building, entrepreneurship, low-income, social enterprise

1. Introduction

The most widespread issue associated with a huge number of university graduates is indeed fundamentally securing an employment after graduation. Considering the current turbulent economic situation forced upon by the COVID-19 pandemic, this problem of graduate unemployment is only becoming worse. According to the World Economic Forum (WEF) in 2021, the COVID-19 pandemic has caused 114 million people to lose their jobs in 2020 and the estimated working hours lost in 2020 were equivalent to 255 million full-time jobs, leading to $3.7 trillion in lost labour income.

Meanwhile, data from the World Bank in 2020 revealed that the COVID-19 pandemic has increased the incidence of poverty worldwide - between 40 to 60 million individuals will become

poor. In Malaysia, hardest hit Small and Medium Enterprises (SMEs) - which are at their initial stage of growth - , faced a decline in sales (95 percent), had to temporarily shut down (80 percent), and experienced unstable businesses for six months (93 per cent). Furthermore, the Malaysian Institute of Economic Research (MIER) (2020) predicts 951,000 Malaysians are to lose their jobs because of the pandemic, of which 647,000 and 303,000 are unskilled and skilled workers respectively.

In addition, a report published by the Department of Statistics Malaysia (DOSM) (2020) revealed that 46.6 percent of the respondents had lost their job during the early stages of the COVID-19 pandemic. Ultimately, this resulted in a situation where employees not only no longer having a source of income or experiencing a decreased income, but they are also squeezed by debt and are forced to use up their savings (InsPeK, 2021). Furthermore, DOSM (2021) also reported that the unemployment rate in Malaysia currently stands at 4.8 per cent with the number of unemployed graduates currently at 4.35 million persons, an increase of 5.6 per cent from 4.12 million persons in 2019. Meanwhile, the rate of graduate unemployment rate of the country spiked 4.4 per cent, with the current number of unemployed graduates at 202.4 thousand persons (2019: 165.2 thousand persons; 3.9%).

By looking at the latest issue on poverty from a global and local perspective, it may be observed in general that the pitfalls of poverty tend to occur among youths, especially after they finished joining the higher education system. In fact, many countries such as the United States and China are cognisant of this issue (Chivers, 2017; Zhang, 2017). The pitfalls of poverty occur due to the correlation of graduates with debts, particularly education/student debt, which worsens when the job market cannot provide adequate job opportunities. At the same time, with the probability of the graduates being unemployed is also high, this makes it difficult for them to repay their debts, and worse, it can trap them in a vicious endless cycle of poverty.

2. Student Entrepreneurial Issues

Within the Malaysian context, the issue of unemployment can actually be resolved using various strategies. The strategies include employing a specific entrepreneurship-focused policy, namely the "MOHE Entrepreneurship Development Policy 2016-2020". The first and second initiatives of the HE Entrepreneurship Development Policy 2016-2020 focus on a particular perspective, namely Initiative 1 which implements the Employment Generation Framework or the Job Creation Framework.

Meanwhile, Initiative 2 of the policy focuses on improving the ecosystem that supports student entrepreneurial development. In the latest round of progress, MOHE introduced another policy entitled the "HE Entrepreneurship Action Plan 2021-2025" for higher educational institutions (MOHE, 2021a). Furthermore, to ensure that the ecosystem is implemented effectively, the "MOHE Guide to Entrepreneurship Integrated Education (EIE) was produced by MOHE (MOHE, 2021b).

Indeed, focusing to solve the long-term graduates' problems through entrepreneurship is the most effective way. According to Ratten (2021, p.g. 91), "entrepreneurship is essential in times of crisis as it provides a positive outlook to new conditions". This means that the best way for the Government to tackle poverty is undoubtedly by focusing on the scopes of entrepreneurship activities. Considering the latest wave of entrepreneurship movement, the Government would also do well by concentrating their effort in enhancing the existing social enterprise (SE) framework.

As Tanimoto (2008) explained, social enterprises can solve problems in a society by involving stakeholders and bringing them together in an entrepreneurial ecosystem. The SE framework enhances the role of entrepreneurship to solve problems in a community through the provision of clear social missions. According to Bornstein (2004), social entrepreneurship is growing fast worldwide, and there is a significant increase in the number of social entrepreneurs starting a

venture to solve many socioeconomic problems. Not only that the numbers of social enterprises are increasing, but the breadth and scope of these entrepreneurs' missions and the speed at which the socioeconomic changes are taking place are also causes for much fascination.

The social missions of social entrepreneurs can be achieved through the creation of a platform for stakeholders to collectively solve socioeconomic problems and consequently improve the society's well-being. Additionally, social entrepreneurs can solve the graduate unemployment problem by building their capacity and linking them to relevant stakeholders. This recommendation is in line with Farmer et al.'s (2020) point which proposed social entrepreneurship to be promoted as a method of welfare reform to transition people out of disadvantaged circumstances by addressing poverty, unfulfilled capabilities and social exclusion. Upon pondering over those issues and the myriad of opportunities abound, this article describes how the social entrepreneurship project that was implemented among students from low-income families in Universiti Malaysia Kelantan, Malaysia was carried out.

3. Implementing the Social Entrepreneurship Model (UMK EPS) on Students from Low-Income Families in Universiti Malaysia Kelantan, Malaysia

a. Definition of Social Enterprise

The Malaysian Global Innovation and Creativity Centre (MaGIC) (2021) formally defines a social enterprise (SE) as a business entity that is registered under any written law in Malaysia that proactively creates any positive social or environmental impact in a way that is financially sustainable. Despite the broad definition given by MaGIC, in the most salient feature of SE is in its unique mission to create a social change, and become a change agent, or in other words, becoming a social entrepreneur.

According to Dzuleira Abu Bakar (2021), "social entrepreneurs or businesses are change-makers. They have the ability to reset capitalism, challenge charity organisations and disrupt the way social good is delivered. They can create, uplift and empower an economy and the society". Social entrepreneurs are essential to compensate for the incapacity of state-led institutions by offering needed support for the short- and long-term recovery of communities (Farny et al., 2019).

Thornton (n.d) believed that social entrepreneurs are reformers and revolutionaries, but with a social mission. They make fundamental changes in the way things are done in the social sector. Furthermore, they seek to create systemic changes and sustainable improvements in the society. Although they may act locally, their actions can stimulate global improvements in their chosen arenas: education, health care, economic development, the environment, the arts, or any other social fields.

b. UMK EPS Social Enterprise Framework

Using MaGIC's (2021) definition of SE, there are three elements that make up an SE that can therefore be deduced, namely 1) its social mission; 2) its target beneficiary; and 3) its business model. As far as this article is concerned, the social mission of this UMK EPS model is built on the problems faced by UMK students from low-income families. Meanwhile, as for the capacity of the project goes, it will be built on two scopes, namely, capacity to build on existing businesses; and disclosing the theoretical and practical skills of SE. As for its social mission, the project wishes to target UMK students from low-income families who are also their main target beneficiary.

Three categories of orientation define the UMK EPS business model, namely 1) welfare; 2) profit; and 3) hybrid. Details of the UMK EPS framework are as follows:

1) Welfare: Entrepreneurial activities empower community-based change agents through entrepreneurial activities, including providing capital without profit.

2) Profit: Entrepreneurship activities are carried out for profit. Where there are costs to be incurred, contributors should consider a reasonable time frame and should not be based on the profit framework of a typical business.

3) Hybrid: This orientation considers a combination between a welfare and profit-based orientation. This orientation dictates entrepreneurial activities to not be carried out solely to achieve welfare goals but that they also consider cost, capital and profitability of their endeavours. This orientation allows profits to be returned to the society, some of which are retained as capital to ensure that the business can be maintained for a long time.

The framework of the UMK EPS model is also (see Figure 1) known as the social entrepreneurial ecosystem. In general, the implementation of this framework is chiefly focused on students who are only starting up in business, especially those who are not officially registered at the Malaysia Company Registration (SSM). The students selected for the project are known as EPS Apprentices. Considering that they are new to the business, the project works to help them establish businesses that will allow for the creation of more jobs in the future, thus, ending the cycle of poverty.
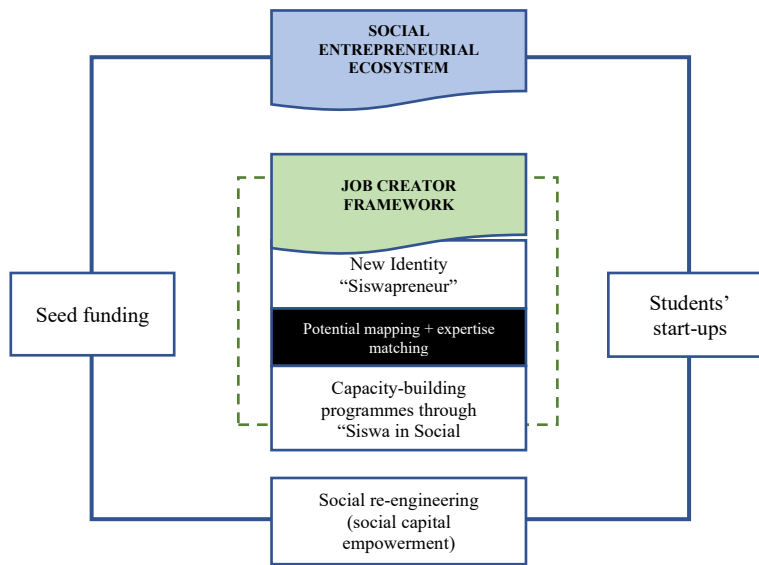
Fig. 1: The UMK EPS Working Framework

By creating jobs, the student entrepreneurs will help solve many of the socioeconomic problems related to poverty that are expressed clearly through their businesses' social missions. This line of work is known as "social re-engineering through social capital empowerment". This will then lead to the creation of the Job Creator Framework, which is essentially an effort to develop a new identity for the student entrepreneurs known as the "EPS Apprentice". The framework also has extensive work processes, namely potential mapping and expertise matching, and capacity-building programmes through a system called "Students in Social Enterprises (SISE)".

c. UMK EPS Implementation Stage

The UMK EPS project was implemented based on five (5) social re-engineering entrepreneurship ecosystems (see Figure 2).
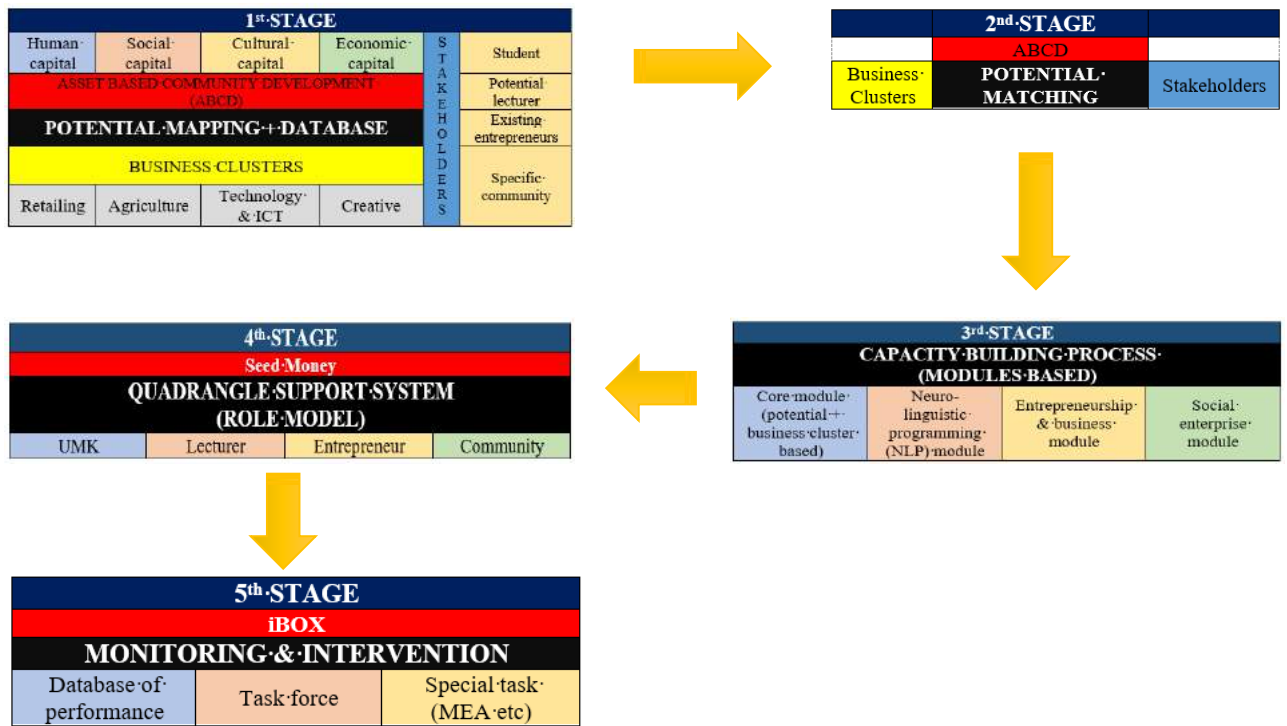
Fig. 2: Five Stages of Project Implementation

Under 1st Stage:

*Students

*Potential lecturers

*Specific communities

*Retail

Under 3rd Stage:

*Module-based

*Business cluster-based

Under 4th Stage:

*Lecturers

*Entrepreneurs

Under 5th Stage:

*Special tasks

1. First Stage - Potential Mapping and Database

The first stage involves mapping the potential of an individual student in which the data is then transferred to a particular database. This stage is most critical as it involves identifying the actual potential of poor students (hereinafter known as EPS Apprentices) and stakeholders. This mapping approach is different from previous approaches as previously they were only focused on the problems and the needs of poor students. In contrast, the new approach is based on the asset-based community development (ABCD) theory and focuses on the unique potential of each student. The mapping process is essential in order to identify suitable students and stakeholders to be involved later in the project.

2. Second Stage - Potential Matching

In this stage, a potential matching between a selected EPS Apprentice and a stakeholder in a business cluster takes place. This matching process is continued by contemplating on the data obtained and by evaluating the stakeholders' strength to shape the business to be implemented by the particular EPS Apprentice. This matching process is critical based on two aspects: 1) to gauge the potential of each EPS Apprentice according to each business cluster; and 2) to examine how the apprentice corresponds with the various expertise of the stakeholders. Indeed, these two features of the matching process directly affect the third stage of UMK EPS.

3. Third Stage - Capacity Building

Entailed within this stage is the process of equipping the EPS Apprentices with a solid preparation to engage in planned business activities. This stage requires active involvement of the EPS Apprentices and the stakeholders, namely lecturers, entrepreneurs and the community. The four (4) different modules that these actors play an important role in are as follows:

a. the core module;

b. the neuro-linguistic programming (NLP) module;

c. the entrepreneurship and business modules; and

d. The social enterprise module.

Each of the modules is composed of a sub-module that all students must follow, especially for EPS Apprentices, in which the modules are the main requirements for them to move to subsequent stages of the project. In addition, the core modules depend on the business cluster in which the EPS Apprentice and his or her stakeholders are matched. These modules are also specially developed according to the business cluster and the type of enterprise that the EPS Apprentices and their stakeholders will implement in the future.

4. Fourth Stage - Support System

The main crux of this stage involves the EPS Apprentices beginning to register their enterprises in an official manner. They will then be given seed money for their company's fundamental operations. However, they need to make detailed plans on how the seed money will be used with the assistance of an appointed mentor. The apprentices will be assisted and supported by a group of pushers comprising existing lecturers and entrepreneurs. The lecturers and entrepreneurs will act as role models helping them to execute their businesses in actual circumstances on specific target groups.

5. Fifth Stage - Mentoring and Intervention

This stage emphasises monitoring through a system developed by InsPeK UMK, i.e., the iBOX. The iBOX reviews every development and change in a company and module consisted of each EPS Apprentice and his or her stakeholder. This monitoring system is carried out by a special team formed to examine outcomes, equipped with an intervention plan if needed. The special team will also determine the unique tasks that the EPS Apprentices and their mentors need to perform, such as

participating in a case study or in specific competitions such as the MOHE Entrepreneurial Awards (MEA). The aim of the unique tasks is to keep the EPS Apprentices and their stakeholders focused on their planned business endeavours.

4. Conclusion

Indeed, creating EPS Apprentices who understand and effectively run a social enterprise is not an easy task. Since UMK EPS focuses on helping students to start up in entrepreneurial activities, the attempt to shape them into EPS Apprentices requires a 2-in-1 strategy. The strategy involves introducing them to an actual business environment and allow them to contribute to society by requiring their businesses to have a specific social mission.

The UMK EPS model was developed to build holistic EPS Apprentices. This effort includes introducing them to wide-ranging business scopes, asking them to not only focus on the on-campus' business environment, but beyond it. The implementation of the model saw the apprentices being attached to a specific business industry, appointing the industry players as mentors, implementing case studies and incorporating what they have learned from them into their businesses.

This effort is essential as it aligns with the fundamental principles of the UMK EPS model to have a clear social mission, an effective business model, and a strong network with stakeholders in order to solve the problem of poverty among students from low-income families. The UMK EPS model is also expected to help form many EPS Apprentices and eventually achieve its social mission.

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Tracks 2: Education, Knowledge and Local Wisdom

Community Empowerment Program: English at Mosque (En@M)

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Abstract

The state of Kelantan has the second highest poverty rate in Malaysia (Statistica 2020). Being one of the poorest states in country, it faces several issues and challenges, with education, especially English Language learning, as one of them. Realizing this, The Council of Religion of Islam and Malay Custom, Kelantan (MAIK) had initiated a collaboration with the English Department from the Faculty of Language Studies & Human Development (FBI), Universiti Malaysia Kelantan (UMK) and a few other local governing bodies to come up with a community empowerment program. English at Mosque or En@M was aimed to assist underprivileged Muslim children in learning and acquiring the English language. The lessons were conducted for 12 weeks and the students were tested at the end of the course. To date more than 200 underprivileged children have been trained. Significant improvements in the proficiency level were achieved. Despite all the positive outcomes, a few issues were faced. The main issues were, difficulty in recruiting teachers especially in the rural areas, inability to use the modules effectively by the teachers, attendance related issues of the students due to lack of commitment and school timetable clashes. Overall, En@M has proven to be effective in helping the underprivileged to learn English, but further studies can be done in finding out the effectiveness of the modules used and whether teaching English at Mosque is the way forward in helping the poor to develop themselves and use their knowledge to come out of poverty.

Keywords: community empowerment, English language, module, mosque, underprivileged

Teachers' Challenges in Teaching Application in Indigenous School: A Qualitative Study

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Abstract

Educational issue and negligence among the Orang Asli's students happened since 1998 until now. The negligence arises due to one way delivery method and non student-centered. Thus, teachers in SK Sungai Berua use edutainment as an alternative to improve the quality of achievement in education of Orang Asli's students. However, they have to face various challenges in utilising edutainment. This research was conducted to make in depth analysis related to challenges that the teachers have to deal in applying edutainment. This study employed field study which was done in six months. It is an ethnography qualitative research and the data was collected by using participation observation and interview. By conducting these methods, the opportunity to join the learning and teaching session in the class with the Orang Asli's students emerged to ensure the data collection on the information on their personality, attitude, learning habit as well as the problems faced by the students can be done. For interview, six teachers, six Orang Asli's villagers (parents) and three Orang Asli's students were chosen as respondents for purposive sampling. The data collected were analysed using QSR NVivo 8 where the transcription process, data organisation, data conditioning, coding and thematic were done. The findings showed there a few challenges in utilising edutainment such as lack of guidance from authorities, lack of learning aids, students's attitude and personality, multitasking of teachers, students's low level of comprehension and difference in languages. A few recommendations can be taken to improve the edutainment such as providing training to the teachers, providing more interactive edutainment module and using local materials in edutainment. Edutainment is a transformation in learning and teaching which associate the students with a fun learning experience. Thus, all parties should come together to ensure the approach of edutainment for Orang Asli's students can be realised successfully.

Keywords: edutainment, educational negligence, ethnography, Orang Asli, teachers' challenges

1. Introduction

National Education Philosophy has been developed in Malaysia in order to give guidance and inspiration on all forms of endeavors towards educational system. The government put a high expectation of achievement in education, not only in mainstream society, but also in education of Orang Asli (Department of Orang Asli Development (JAKOA, 2005).

The government provide a few initiatives from time to time to give educational chances to Orang Asli (Norwaliza *et al*., 2016). However, the educational negligence among Orang Asli is still happens continuously compared to mainstream society (Mazdi et al., 2014). According to Mohd Fauzi & Nor Aini (2009), Orang Asli community is still marginalized although there are few among them showing interest towards education. According to Sharifah *et al*. (2011), only 30% of Orang Asli students finished their secondary school, estimated less than half from national average, 72%. Compared to national average, only 61% of Orang Asli students in primary school pass in core subjects of Primary School Achievement Test (UPSR). 35% of aboriginal primary schools are in low – performing school bands (Band 6 and Band 7) compared to only 1% in public schools (Sharifah *e*t al., 2011). This phenomenon arises due to one way delivery method and non student-centered which has prevented them from developing educational performance as well as their learning styles in their own way (Ramlah, 2002).

Academic achievement of Orang Asli students in Sekolah Kebangsaan Sungai Berua are in critical condition too. For example, their achievement in UPSR is still at an alarming level. In 2015 and 2016, there were no candidate scored grades A and B in any subjects of UPSR. In fact, UPSR result in 2017 are seen as more critical when no candidate obtained grades A, B and C in any subject.
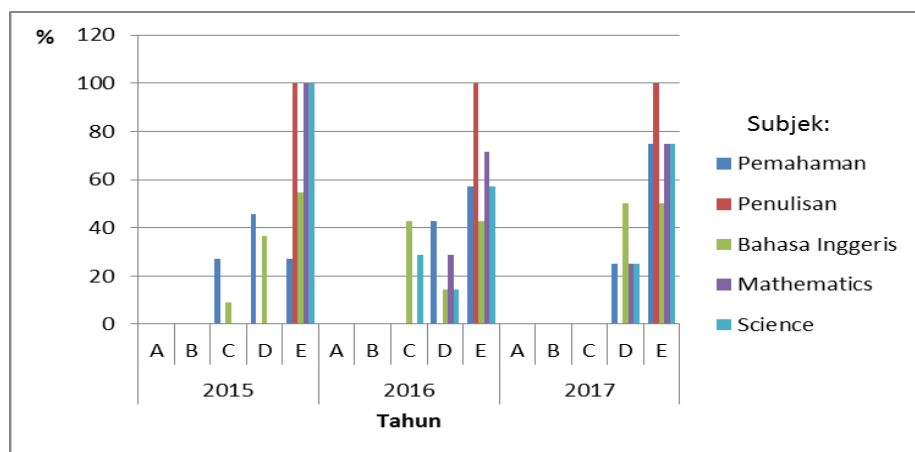
Source: Administration Office of SK Sungai Berua, (2018)

Fig 1: UPSR Results of SK Sungai Berua 2015-2017

However, the negligence problem can be reduced by introducing a student – centered education system. Therefore, the learning process will be more fun and effective. Edutainment are seen as a potential approach that can help to stimulate interest among Orang Asli students towards education. The implementation of the edutainment approach can nurture the cognitive and social skills of students (Mohd Razak, & Mashitah, 2015).

Unfortunately, edutainment cannot be used as the main approach in learning activity in SK Sungai Berua due to the challenges that the teachers have to face from time to time. This approach requires creativity from the teachers, skills and appropriate tools. This is because when students enjoy their learning, then teachers will enjoy teaching (Mohd Razak, & Mashitah, 2015).

2. Literature Review

Education of Orang Asli

Nowadays, the indigenous education issue is beginning to be taken seriously by various parties. Mohamad Johdi & Abdul Razaq (2009) conducted a study on the awareness of the Orang Asli community towards education, the academic achievement of their children in school and identified the factors of dropout of some of them. The result of the study showed that awareness among Orang Asli communities has long existed. However, cultural influences have narrowed their mind in order to change their style and standard of living. In fact, the parents are already aware about the importance of education. However, the parents are unable to help their children in lessons because they are uneducated and illiterate. This is the reason on why they send their children to study in the city and hand over all the responsibilities to the school.

Education of Orang Asli in Terengganu

According to Ramle (2001), Orang Asli in Terengganu received late formal education compared to other communities. This is due to the lack of facilities in school at that time. It was recorded the existence of Orang Asli schools in Terengganu, namely SK Sungai Pergam in 1970, meanwhile SK Sungai Berua in 1978 (Ramle, 2001). In the achievement aspect, researcher can

see that the level of education of Orang Asli is at a low level and the number of enrollment of students at that time is less encouraging.
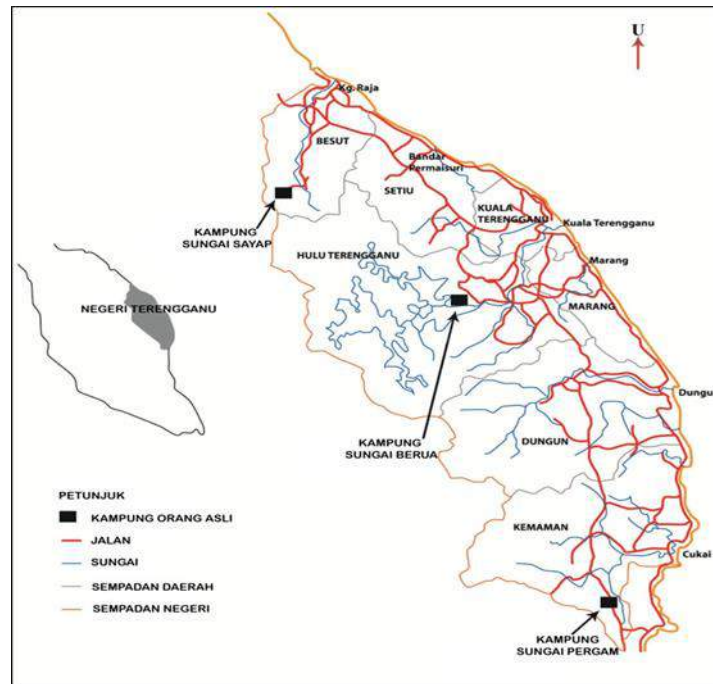
Source: Ramle, (2001).

Fig 2 : Orang Asli's Settlement in Terengganu

Edutainment

Edutainment is a new approach in education which can make students feel more relaxed and fun. A Russian researcher, Yakimenko (2015) carried out a study to identify the characteristics and potential of edutainment technology methodology based on literature reviews and analysis. Cognitive processes are not required in a formal environment (usually boring) and can usually turn into healthy entertainment and at the same time, student will gain a lot of inputs. According to a researcher, Okan (2003), the purpose of edutainment is to balance the emotions of computer users by using colorful graphics and designs, interactive pedagogy so that they will bear in their mind that learning process is something that is fun and entertaining.

3. Methodology

The research design that was used in this article is based on qualitative research. Creswell (2014) clarify that qualitative method can assist authors in explaining, understanding, exploring and

making disclosures about the phenomena studied. In detail, this qualitative research used is an ethnographic approach with purpose of describing, analyzing and interpreting forms of cultural sharing of a group such as behavior, beliefs, language, economy, political structure, interaction, life and communication styles (Creswell, 2014). The study involved various types of primary and secondary data. To obtain the primary data, various methods were used including observation, participatory observation and interview. Observations were conducted to survey the daily learning culture of Orang Asli students with their teachers, the facilities provided in the school and the response of students to the learning process in the classroom. By carrying out the method, researcher can find out in more detail and depth about the personality, attitude, manner and culture of students' learning in the classroom and the problems faced by teachers in implementing edutainment techniques.

By referring to secondary sources such as students' academic achievement information that was obtained from the school's Administration Office, it became the guideline of this study as problems in schools could be seen more clearly and the purpose of this study became more rational. In addition, the information that was obtained from books, internet and reading past journals allows researcher to collect information on the implementation of edutainment activities in other schools. The information is very useful and facilitates fieldwork when meeting with informants as the researcher can see clearly about what they want to ask.

4. Results

Teachers' Challenges in Implementing Edutainment

a. Lack of Guidance from the Authorities

As the result, the researcher revealed the main reason on why edutainment cannot be applied well in learning session in SK Sungai Berua is due to the lack of teachers' knowledge regarding easy ways to apply edutainment. They are given less exposure, information, courses and training on edutainment even though it has been applied in other schools for a long time. Comprehensive exposure should be given to the teachers as they are the main source in imparting knowledge to their students. Teachers are also not provided with necessary materials such as appropriate edutainment modules from the authorities to be used as a reference for them to implement edutainment. The previous

modules need improvement from time to time. According to the researcher's observation, the teachers in the school are very committed to their profession. However, lack of knowledge and exposure hampers their efforts and abilities in implementing edutainment.

b. Lack of Teaching Aids

The usage of teaching aids in SK Sungai Berua is still at an unsatisfactory level. This is due to the lack of encouragement and provision of teaching aids in Orang Asli schools. Researcher have identified that this issue gives a problem to the edutainment that was carried out in the school because teaching aids is one of the important mediums to increase the effectiveness of an edutainment activity.

Teaching aids such as slide projectors and computer-aided devices are available in Orang Asli schools. However, the function is limited to certain activities or programs only. The teachers are less skilled in handling teaching aids provided for educational purposes, especially in edutainment activity. There are also teachers who think that teaching aids does require high costs. If they want to produce their own teaching aids for edutainment activities, it requires a long period of time, more focus and energy. Researcher realized that the intellectual level of Orang Asli students was different compared to the mainstream students. Typically, they will easily get bored with common teaching methods such as the usage of whiteboards and books. If the teachers are able to diversify the approach of edutainment with the assist of teaching aids in more creative ways such as the use of musical instruments, ICT, pictorial diagrams and applying appropriate body language, students will be more entertained and interested in the teachers' presentation.

c. Student's Attitude and Personality

Orang Asli students are seen to have different attitudes and personalities compared to mainstream school students. Typically, mainstream children at their age are going through the process of growing up, they want more attention and treatment when with adults, especially their teachers at school. However, the nature of Orang Asli students is different due to the social gaps that exist in their communities. For example, they become very shy when they are approached by outsiders, even their own teachers. This is the reason on why the teachers have to give more efforts in order to persuade

them to participate in educational activities with teachers. They need extra time to adapt themselves to something new. They easily feel threatened by the outside community and there are a few them who feel that there are parties who want to invade their culture.

At the initial stage, there are students who refuse to come to school and this is the reason on why they were unable to participate in edutainment activities that was held by the teachers. In addition, there are also Orang Asli students who are very naughty and like to annoy their friends who are eager to follow the edutainment learning sessions in the classroom. However, this problem is temporary because when these troubled students start following edutainment activities in the classroom, they tend to like this approach and will start engaging themselves in edutainment activities from time to time.

d. Multitasking of Teachers

Based on the interview that was conducted with the informants, researcher found that one of the main factors that cause teachers are not able to pay maximum attention on edutainment is because they have to settle a lot of tasks (multitasking). Nowadays, being a teacher is very challenging because their job scope is not teaching only but they have to do other duties and outside of their field such as clerical work and welfare management of students.

This phenomenon can be seen clearly in SK Sungai Berua because the teachers seem to be very busy with their task of administration and management of students. Moreover, they not only manage student affairs, but they also play a role in eradicating disciplinary problems among Orang Asli students. In addition, Orang Asli students are provided with three times a day meal and the people who responsible for managing this task are also the teachers at the school.

e. Student's Low Level of Comprehension

Teachers also have to face difficulties in applying edutainment due to the very low comprehension of students in SK Sungai Berua and the lack of modules that are suitable for them. Teachers should create their own modules and adapt them according to their level of understanding. The previous modules that were provided by the authorities are seen as inappropriate due to the usage of high level of vocabulary and syllabus and this problem has made it difficult for teachers to apply edutainment as they think that they need to give more effort compared to mainstream students.

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Teachers should repeat the same syllabus frequently and take extra time to provide a comprehensive understanding to the Orang Asli students who participate in edutainment activities.

f. Differences in Languages

Based on the observation, the researcher can see the difference in languages between teachers and students is one of the challenges in the application of edutainment in SK Sungai Berua. There are a big number of Orang Asli students who are unable to communicate in Bahasa Melayu. This issue is the main reason on why the students unable to understand the edutainment learning well. Language differences have also forced teachers to go through a difficult phase of interaction with Orang Asli students in the school. There are many words in the edutainment module or syllabus that have been drafted by the teacher, had to be changed according to suitability and vocabulary that is identified to be understandable by them. This problem has caused the time period for teachers to complete a syllabus to be quite longer than the original expected period.

5. Discussions and Contributions

a. Providing Training to the Teachers

The teachers at SK Sungai Berua said that they need a course or training on the application of edutainment techniques and special modules for Orang Asli children. For example, they want to master various skills such as ICT usage, learn basic musical instruments and utilization of interesting body language in teaching activity. These basic skills need to be mastered so that edutainment activities can run smoothly, in line with the objectives of this approach introduced. This does not mean that a teacher has to be a good singer or musician, but it is sufficient to succeed in an edutainment activity.

b. Providing More Interactive Edutainment Module

In the context of providing more interactive edutainment modules, this means the authority must provide edutainment modules that contain interesting elements and appropriate to the intellectual level of Orang Asli. For instance, edutainment modules in the form of songs or games. The choice of vocabulary in the lyrics of the song should be simple and concise so that it

can be understood by Orang Asli students. If the edutainment module is in the form of a game, it should be not difficult and appropriate to the intellectual level of the Orang Asli.

c. Using Local Material in Edutainment

An effective edutainment methodology refers to a method that can make the edutainment become more effective when it was applied to Orang Asli students. Meanwhile the environmental materials refer to each material that related to natural or artificial materials found around them. Orang Asli is a minority community with a strong relationship with nature and they appreciate culture as a major influence in their lives. In their lives, the field of education is not something that is considered a priority because the field of education is far separated from their culture.

Thus, the teachers should maximize the usage of Orang Asli's environment materials as a creative initiative in teaching methodology to enhance their interest in order to engage in the learning activities with teachers. Through this study, the researchers believe that the approach of edutainment using the materials in their environment is effective. For example, learning sessions conducted in the classroom can be replaced with classes outside the classroom to obtain a more natural and conducive atmosphere for the Orang Asli students. The best learning environment for Orang Asli students means a calm atmosphere when they are close to nature. This is because, the Orang Asli community and nature are inseparable. Similarly with the medium or instrument used in entertainment education, a more effective medium is something that is close to and liked by them. For example, teachers can use a variety of traditional Orang Asli games and musical instruments. This can make Orang Asli students feel close to their culture even though they are studying in school.

6. Conclusion

There are a few challenges that have to be faced by teachers in SK Sungai Berua in order to implement edutainment for Orang Asli students. The challenges that have been explained are lack of guidance from the authorities, lack of supply of teaching aids, attitudes and personalities of students, multi-tasking teachers, low students' comprehension and language differences.

However, the challenge will certainly be addressed by the continued efforts and support of all parties. The role of a teacher, is very important because the teacher is the backbone in producing quality students. Edutainment and teachers are seen to have a very close relationship because of the efforts of teachers who will determine the success of edutainment activities. The commitment from teachers is expected to help improve the quality of education of the Orang Asli community as well as eradicate the problem of dropouts that plague them.

Acknowledgments

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Drone@School: Narrowing the Digital Divide for Underprivileged School Children

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Abstract

Most rural communities have issues with technologies where they are not able to enjoy the benefits of ICT even in this millennium era. This issue had consequences to the education sector, with 70% of Malaysian students resulting in a lack of interest in Science, Technology, Engineering, and Mathematics (STEM) subjects. In fact, by taking the right approach, these challenging subjects can be just as fun and exciting to learn. Therefore, a collaborative project in strengthening the university for society's role was carried out in rural areas in Kelantan, Malaysia aimed to promote the exchange of ICT technical and knowledge among underprivileged students as well as to expose them to the recent technology to reinforce STEM education. Using drone technology as the medium, inquisitiveness and curiosity of the underprivileged school children towards science and ICT were evaluated. Responses from participants were very encouraging even though the project is carried out through an online platform. We are optimistic that this micro-project initiative will benefit local communities living in rural areas and bridge the digital gap to meet the needs of the national agenda in strengthening the ability of citizens to participate in the development of the digital economy.

Keywords: drone, rural community, science and technology, STEM education

1. Introduction

Malaysia has shown determination in efforts to bridge the digital gap between rural and urban residents to meet the needs of the national agenda which is to strengthen the ability of citizens to participate in the development of the digital economy. The implementation of ICT-based initiatives for the development of communities is a great opportunity. However, almost all rural communities in the world have a problem with technology and technical facilities and have not been able to obtain any benefit from the advantages of using ICT (Khan et al., 2012). The digital gap between urban and rural areas formed different perceptions and awareness towards science curricula in school. This issue is very related to primary education where the Science,

Technology, Engineering, and Mathematics (STEM) curriculum implementation especially in the rural area.

The teaching of STEM has taken on new importance as economic competition has become truly global. STEM education has evolved that removes the traditional barriers of science and engineering, hence focuses on innovation and the applied process of designing solutions to complex contextual problems using current tools and technologies (Kennedy & Odell, 2014). This idea can be seen in the current document of the Malaysia Education Blueprint 2013-2025 (Preschool to Postsecondary Education) (Ministry of Education, 2013).

Education development in Malaysia has been reviewed and surprisingly the STEM discipline in Malaysia was given low attention compared to other disciplines (Jayarajah et. al., 2014). Engaging students in high-quality STEM education requires programs to include rigorous curriculum, instruction, and assessment, integrate technology and engineering into the science and mathematics curriculum and also promote scientific inquiry and the engineering design process. For this, competencies in all internal and external factors include ICT integration, organizing co-curricular activities (Ahmad Zamri, 2017) and teaching delivery methods were counted to champion this agenda. Therefore, a pilot project in embracing ICT technology as an alternative / interactive tool for science education in rural areas is proposed to bridging the digital gap and improving the perception and awareness of STEM education among rural/underprivileged students in Kelantan. The Drone@school aimed to promote knowledge exchange and ICT technical skills in narrowing the digital gap to the underprivileged community hence exposing the students in rural areas to recent technology in strengthening the Science, Technology, Engineering and Mathematics (STEM) education.

2. Methodology

It takes two phases in completing this study. To begin with is the development of a module that suits children aged 9 to 12 years old. The interactive module is developed with the aid of the online application called TelloEdu by Ryze Technology. It is an official and authorized

application that supports and is fully compatible with Tello and Tello Edu drone models. The content is very inspiring for users to connect the world through game programming. Next, the implementation of the module is carried out through an online platform. Participants were given the theory on the drone, the application and the benefits of learning the coding to fly a drone as well as the practical session. The participants are required to fill up the pre-and post-survey to evaluate their understanding of science and technology before and after the program implementation. The summary of approaches use and objective of this project is presented below:
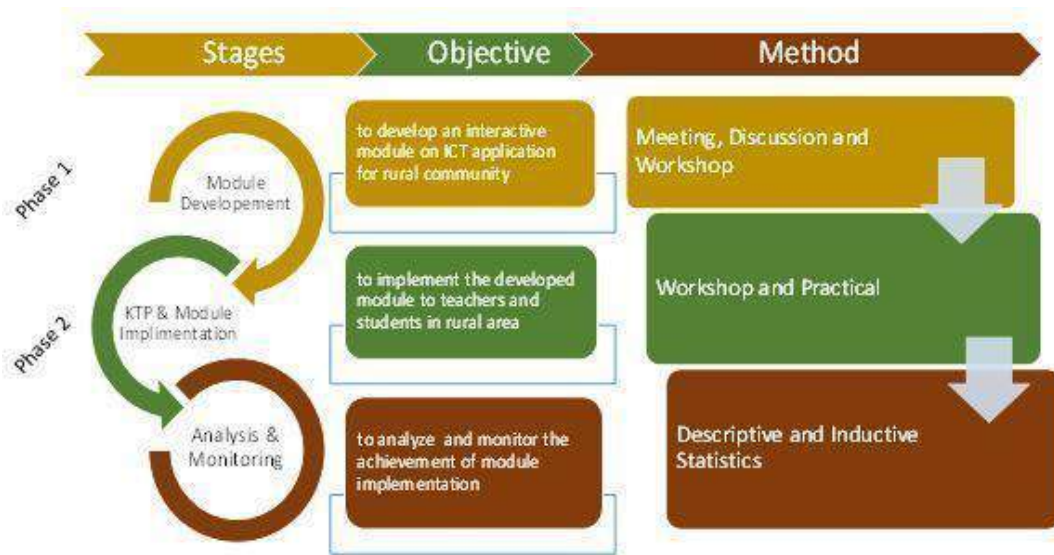
Fig 1 : The framework of the study

3. Results

A total of 30 underprivileged students participated in this project. Students were selected by the school teachers considering the availability of internet connections and devices to be used during the program. Since the Covid-19 pandemic era, the usage of digital devices in online-based learning is a common method for these students. Therefore, in evaluating the level of technology usage among the participants, most of them are familiar with operating gadgets such as tablets, smartphones and laptops. However, only 6% of the participants are familiar with using and operating a drone at home.

The project aims to develop the ICT literate society and STEM knowledgeable school children in near future. It is also hoped that through this project, the gap of ICT knowledge among rural students in Malaysia will be narrowed down. Implementation of the drone module to the school children focused for children to learn on the physical and technical of drone and how it works. Students are taught the basic coding to fly the drone. While flying, they are enjoying the science behind this flying device. Children have also been taught on how to analyze and interpret the captured data from the drone. The pre and post-survey of the program showed that an increment of understanding towards STEM knowledge through drone application. Before the program ran, only 8 children understood the meaning of STEM education and its application at school. This Drone@school program has opened students' minds about the fun of learning science and mathematics practically using drone technology. After the program, students were re-assessed on their understanding towards STEM education and its application in school . The post-survey analysis showed that their knowledge on STEM increased with 28 of the students (93%) showing positive responses (Figure 2). It shows a good indicator that the program gives a beneficial influence on the children's interest towards STEM education.
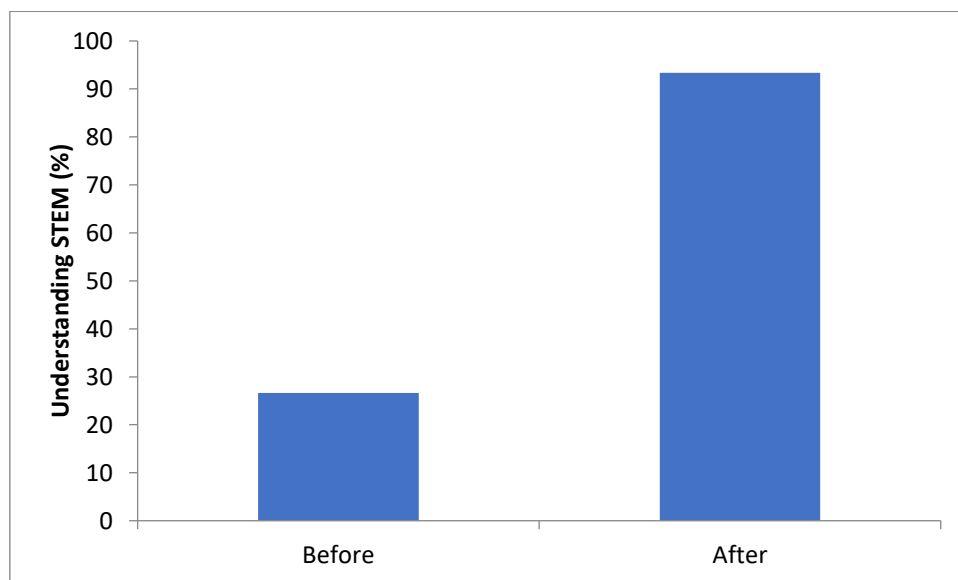
Fig 2: The percentage of children who understand STEM education before and after the implementation of the program.

The application or software use and teaching approach could also be the responsiveness factors in attracting children's interest towards understanding and familiarizing themselves with the drone. It is a great way to teach programming and there is nothing more fun than having a computer control a drone. The TelloEdu can simulate the flight before actual flying and children can also pilot the drone with their own creativity. From this coding program, children combined their mathematics knowledge as well as science and technology design subjects to plan the strategy in piloting a drone. This application and teaching approach embedded in the module is much more educational and fun as prescribed by the teacher who is also an observer in the program. This project has addressed a few issues related to digital literacy among underprivileged students in Jeli, Kelantan. It is also promoting a better understanding of the benefits of the internet and a holistic approach to skills development and strategy.

4. Discussions and Contributions

This is a #universityforsociety's project. This engagement is hoped could give a huge impact on both experts and the surrounding community. By extricating this digital gap, the improvement of STEM education and awareness among underprivileged or rural students in Kelantan is expected to increase using this strategy. To ensure the sustainability and operation of the project, few actions need to be taken including monitoring the implementation of the pilot project twice a year on the selected schools. Hence, the program should continuously run with different schools in the rural area as well as apply the knowledge-transfer-program (KTP) to the STEM teachers through the train for trainers (ToT) program. It is to ensure that teachers will also get the benefit and be familiar with the drone application before they can teach their children with their own language. The module used in this program should be improved from time to time if needed. With the success of this project implementation, the program planned to be expanded to another rural area in Malaysia using a similar method and improved module.

5. Conclusion

Promotion and creation of a pilot project in occupying ICT-based technology using drone technology application is the best tactic in building a knowledgeable society, especially in the rural area. This collaborative project achieved its goals which are to promote the exchange of ICT technical and knowledge among the underprivileged community as well as to expose the rural society with recent technology in strengthening STEM education. Interactive and effective use of recent technology easily engaged the student with tangible engineering activities and exercises. Through this project, the gap of ICT knowledge among rural students for the focal group was narrowed down.

Acknowledgements

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An Overview of Teaching and Assessing the K to 12 Standards Across Modalities in the PEAC Certified Schools in the Philippines

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Abstract

PEAC or Private Education Assistance Committee is the trustee of the Fund Assistance to Private Education (FAPE), a trust fund of the Education Service Contracting (ESC) program under the Department of Education (DepEd). DepEd has commissioned PEAC, through its National Secretariat, to establish a quality assurance certification system to ensure that ESC participating private junior high schools meet DepEd's recognition standards. Thus, this paper aims to give an overview of the capacity building program for private schools and private school teachers through the In-Service Training program. Teaching and assessing the standards are key factors to achieve the aims of K to 12 curriculum in the Philippines, to develop 21st century skills among Filipino learners to make college and work ready. Furthermore, this paper also aims to examine the implementation of K to 12 Standards across modalities in PEAC certified schools in the Philippines specifically in areas of teaching and assessing the K to 12 standards across modalities in the new normal set-up. The main instrument that will be used for collection of data is through survey, target respondents are teachers, who are teaching from PEAC certified schools to ensure the reliability and credibility of the data. Descriptive statistics mainly mean was used to treat the data to see if the teaching strategies and assessment were evident, satisfactorily evident, partially evident and not evident. Based on the data teaching strategies were deemed satisfactorily evident and assessments got evident as the verbal interpretation. This indicates that the training that PEAC is conducting with their certified schools is indeed effective, also the respondents are all abiding with the standards that DepEd and PEAC set to have an effective and aligned teaching strategies and assessment, so that the students will become more resilient, college-ready, work-ready and future-ready, and to become locally and globally competitive.

Keywords: assessments, FAPE, INSET, K to 12 standards, modalities, PEAC

1. Introduction

In accordance with the protocol of Department of Education (DepEd) Order 21 series of 2019, the K to 12 Basic Education program is one of the most major reforms in the Philippines. K to 12 Basic Education Program encompasses at least one (1) year of early childhood education, six (6) years

of elementary education, and six (6) years of secondary education. Secondary education includes four (4) years of junior high school and two (2) years of senior high school education. It was only 2010 when the Philippines added two (2) years of senior high school, following other countries which have six (6) years of high school education.

Since then, there have been many arguments on what the appropriate standards is are in teaching strategies and assessments. As for non DepEd schools, the Private Education Assistance Committee (PEAC) is the one handling the training for the teachers in private schools to ensure that private institutions are following the standards that the DepEd set for the basic education. In addition, once the school has been certified by PEAC, that specific school will have the following benefits: (1) Education Service Contracting (ESC), (2) Teachers' Salary Subsidy (TSS), and the (3) In-Service Training of the Government Assistance to Students and Teachers in Private Education (GASTPE) program. One the main goal of PEAC is to help and aid students in their learning without sacrificing the quality of education.

The goal of this study is to add to the body of knowledge in terms of standardizing the teaching strategies and assessments to some PEAC certified schools. Also, to answer the research questions: (1) What are the strategies utilized by the teacher-respondents in teaching the K to 12 Standards across modalities? And (2) What are the strategies utilized by the teacher-respondent in assessing the K to 12 Standards across modalities? And to close the gap on the dearth research on teaching strategies and assessment across modalities.

2. Literature Review

Republic Act (RA) No. 10533, popularly known as the Enhanced Basic Education Act of 2013, was signed into law on May 15, 2013. RA 10533 added two years of Senior High School (SHS) to make the Philippine ladder of education K to 12.

According to the Department of Education (DepEd) Order 21 series of 2019, the K to 12 Basic Education program is one of the most major reforms in the Philippines. K to 12 Basic Education Program encompasses at least one (1) year of kindergarten education, six (6) years of elementary education, and six (6) years of secondary education. Secondary education includes four (4) years of junior high school and two (2) years of senior high school education.

DepEd Order 43 series of 2013 highlights the rationale, goals and objectives of the K to12 Curriculum that DepEd shall work with the Commission on Higher Education (CHED) and Technical Education and Skills Development Authority (TESDA) to craft harmonized education curricula for Filipino graduates to be locally and globally competitive.

Furthermore, the K to 12 curriculum points out that the pedagogical approaches to be used are constructivist, inquiry-based, reflective, collaborative and integrative.

To explain this further, in the context of the K to 12 Basic Education Program in the Philippines, constructivism views learners as active constructors of meaningful knowledge from what they need to acquire, make meaning with, and transfer knowledge and meanings to real life situations. Inquiry-based learning allows students to ask questions, investigate, explain, and establish connection from the patterns and conditions that they learn. In addition, reflective learning allows students to evaluate their own learning and do self-assessment on what and why they need to learn concepts in the classroom. DepEd Order 21 series of 2019 highlights that collaborative learning develops among the learners the value of cooperation, respect, camaraderie and tolerance. Lastly, the K to 12 Curriculum should be integrative in nature and this means that it highlights the connection and relationships of ideas and concepts between and among disciplines or what is popularly known as horizontal and vertical articulation and alignment.

On this note, in terms of implementing the policies stipulated in the Implementing Rules and Regulations (IRR) and as a policy laid down in the 1987 Philippine Constitution that the "State recognizes the complementary roles of public and private institutions in the educational system and shall exercise reasonable supervision and regulation of all the educational institutions." This means that DepEd

recognizes the role of private institutions and organizations in supervising and regulating the implementation of all the policies in the IRR for the private schools and institutions or non-DepEd schools.

The Private Education Assistance Committee (PEAC) serves as trustee of the Fund for Assistance to Private Education (FAPE), a permanent and irrevocable trust fund created by Executive Order (E.O.) 156 series (s.) 1968 to address the needs of the private education sector. EO No. 156 s. 1968 as amended, permits PEAC the "express to manage and administer contributions, donations, grants, bequests, gifts and/or loans from the Government of the Republic of the Philippines for programs of assistance to private education", (PEAC Website, 2019).

The programs of the PEAC include the Education Service Contracting (ESC), Teachers' Salary Subsidy (TSS), Senior High School Voucher Program (SHS VP), and the In-Service Training of the Government Assistance to Students and Teachers in Private Education (GASTPE) program.

Cognizant of its vision and mission to uphold quality education in the private schools, PEAC trained certifiers and monitors to visit schools and check the schools' compliance with DepEd standards and policies, (PEAC Website, 2019).

In addition, PEAC established the ESC Certification Program in 2004 to guarantee that member schools meet the DepEd's junior high school program minimum requirements. The certification evaluation instrument was recently updated to include K-12 standards as well as other Department of Education policies. In this regard, in order for private schools to be provided financial support through the ESC program, they must undergo a certification process.

The ESC Certification Program is a tedious process that's why private schools who are due for certification and re-certification need to prepare the necessary documents. One of the preparations done by private schools who are PEAC certified is to send their teachers to the In-Service Training (INSET) program developed, designed, and conducted by PEAC to implement the K to 12 reforms that are also included in the certification evaluation instrument.

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Part of the certification assessment instrument includes standards of compliance in the area of Curriculum, Assessment and Instrument. Hence, the most essential aspect determining the quality of student learning, the attainment of learning expectations, the delivery of the curriculum, and the measurement of student progress is the quality of instruction in a school.

According to PEAC's Certification Assessment Instrument (CAI) Guidelines (2018), "with the passage of the Enhanced Basic Education Act of 2013, the Department of Education mandates that schools work towards the holistic development of the Filipino child with 21st century skills to enable him or her to be locally and globally competitive; and schools implement and teach the Kto12 standards-based curriculum."

To ensure that all private schools that will undergo certification will meet the standards set by PEAC in the area of Curriculum, Assessment and Instruction, the INSET program trains the teachers on how to teach and assess the K to 12 Standards especially during this Covid-19 pandemic where teaching and learning shifted to online, blended, or modular modalities.

Based on the CAI, certifiers look on how instruction is anchored on the standards to enable students to achieve the learning goals of the standards namely acquisition, making meaning, and transfer (Wiggins and McTighe, 2011), to show evidence of mastering the competencies, and to utilize learner-centered teaching strategies to ensure students' success and performance of 21st century skills.

Most importantly, "the implementation of the Kto12 standards-based curriculum is evident in the school when various instructional and assessment practices are aligned with the standards and competencies found in the various subject curriculum guides", (CAI Guidelines, PEAC, 2018).

Having said that, PEAC accredited schools should adhere to the standards to provide quality education in order to meet the DepEd's goal and mandate that every schoolwork toward the holistic development of the Filipino child with 21st century skills to enable him or her to be locally and globally competitive especially during this trying times because of the Covid-19 pandemic.

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The points cited above are supported by Egken (2020), who argued that in order for private schools to be recertified, they must undergo recertification on time to address the need of the school; strengthen its training program for the faculty; and schools need to revisit their instructional program to observe alignment with DepEd standards.

3. Methodology

Population and Samples

The researchers have decided to use 2 sampling techniques to cover the required number of respondents to complete the study, the said techniques are: Snowball and Purposive sampling. Since it is not easy to find as many aviation employees or workers in Metro Manila, specifically in the sectors that would be discussed in this study, this technique would be of great use for the collection of data as it is mostly known to be used in attaining hard-to-reach groups for investigation. In this case, the aviation workers in the sectors chosen by the researchers. The second chosen technique is the Judgmental (or Purposive) Sampling. This was decided upon as the study will only cover selected schools within the reach of the researchers, as not all schools in Metro Manila is a PEAC certified. With that said, the Judgmental (or Purposive) Sampling, simply bases on the characteristics, criteria, or judgement of the researcher as to whether or not the person is qualified to become a respondent or participant.

This study would encompass a total of 25 respondents teaching in a school which is being certified by PEAC, located mainly in Metro Manila. The proponents chosen for this study would help in investigation as they are the ones with appropriate and sufficient knowledge to answer the following questions to be given by the researchers. The respondents were chosen since their schools where they teach is a PEAC certified school and they have undergone a comprehensive training from PEAC which makes them more qualified in answering the survey.

Instrument

Since the study being conducted is based on the present-day implications referencing the teaching strategies and assessments using the different modalities which are online and offline. The researchers decided to adopt a standardized survey questionnaire that is being utilized in PEAC. The researchers modify some parts of the questions which are originally in PEAC evaluation, to specifically tailor fit the study. Furthermore, the channel to be used in gathering the data for this study would be Google Forms. According to Raju and Harinarayana (2016), provided by Google Inc., designing, and developing questionnaires online is what this tool is prominently used for. Hence, due to the current restrictions put into place by the government, this instrument would be the best way for the researchers to collect data as it is going to be of ease for both the respondent participating and the researcher conducting the study. In addition to 25 that, this channel will also enable the researchers to automatically measure all the responses of the participants in the tool to be utilized.

The survey questionnaire used in this study was encoded in Google forms and distributed online to respondents certified by the Private Education Assistance Committee (PEAC). The survey questionnaire is composed of three parts. The first section is the respondents' demographic profile, which includes sub-sections such as age, respondents' location, and the grade level that the respondents are handling. The second section of the questionnaire is a survey of the various strategies used in the classroom by teachers in the context of the new normal set up. The third section of the questionnaire is a survey of the various assessment practices and assessments used in the classroom by the teachers. The survey questionnaire employs a four-point Likert scale with descriptions such as "not evident," "partially evident," "satisfactorily evident," and "evident."

In addition, the said survey questionnaire is based on the Private Education Assistance Committee's Evaluation Tool for the outputs of teachers during PEAC's Inservice Training Program. Furthermore, the said evaluation tool is also based on the PEAC's Certification Assessment Instrument (CAI) that certifiers are using during school accreditation, certification and re-certification.

Data Collection Method

The survey questionnaire will be given to the respondents through Google forms, as this method is the easiest and safest way to do it, since the movement in Metro Manila is difficult because of the pandemic and the lockdowns, the researchers decided to go with this option as it will be more convenient in the part of the respondents as well. Once the target number of respondents has answered the survey the researchers will then tally and choose the appropriate data presentation to use for presenting the data.

Ethical Consideration

For this research, the researchers are fully aware that the personal information of the respondents is confidential and must be protected. The researchers are responsible for explaining the intent of the study and the respondents have the choice of whether to participate or not. Thus, the questions will not be forced, the interview should be done according to their liking and interest to avoid complaint. In addition, the information given by the respondents will be kept with strict confidentiality for their privacy is the utmost priority. The researchers should be the only ones to have access to the gathered data for it is only intended to be used for research purposes.

4. Results

A. Demographic Profile of the Respondents

1. Age

Table 1 Frequency Distribution Table of respondents by age group

Age	Frequency
43-48	2
38-42	1
33-37	2
28-32	3
22-27	17

In table 1, the researchers started by computing for the value of R wherein the researchers subtracted the lowest value to the highest value resulting in 26 as the answer. The next one is getting the value of K; the researchers got the square root of 25 which equates to the value of 5. Then for the value of C prime and C, the researchers divided the value of K and R which resulted in the value of 6 for C prime, and for the value of C, it needs to be an odd number and is equal to the value of C prime which is 5. For the table, since the value of C is 5, the Classes/Interval of the age group is also 5 wherein there is a total of 5 age groups. For the Tally/Frequency of the age group, the ages of 43-48 yrs. old have a total of 2 participants, 38-42 yrs. old have 1 participant, 33-37 yrs. old have 2 participants, 28-32 yrs. old have 3 participants, and 22-27 yrs. old have 17 participants.

2. Location of the Respondents
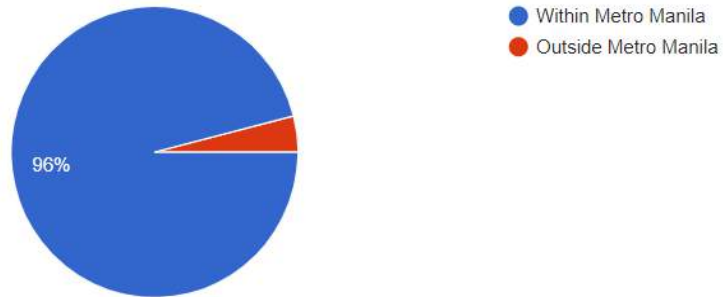
Fig 1: Distribution of the Location of the Respondents

The researchers were able to obtain 25 participants. Figure 1 shows that 25 people completed the survey questionnaires, with 24 teacher respondents from Metro Manila (96%), 1 teacher respondent residing outside Metro Manila (4%).

3. Years of Teaching
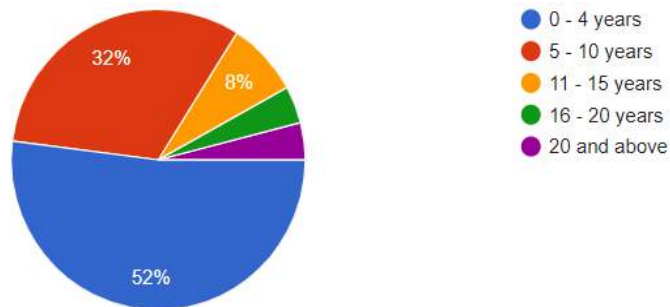
Fig 2: Years of Teaching of the Respondents

Figure 2 shows the years of teaching of the 25 teacher respondents. 0-4 years had 13(52%) in total, 5-10 years had 8 (32%) total respondents, 11-15 had 2 (8%) in total, 16-20 years had 1 (4%) and 20 years and above had only 1 (4%).

4. Grade Level Handling
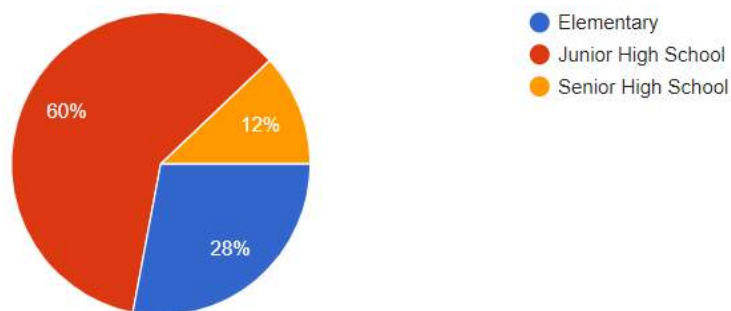
Fig 3: Distribution of Grade Level being Taught

Figure 3 shows the distribution of grades that the teacher respondents handle on the specific school year. From elementary level the researchers gathered 7 respondents in total, while on the other hand from Junior High School there were 15 total respondents and from the Senior High School Department there were 3 respondents.

B. Teaching Strategies

Table 2 Mean Score of Teaching Strategies with Verbal Interpretation

Teaching Strategies	Mean	Verbal Interpretation
1. The Transfer Task, Performance Task, Essential Question, Enduring Understanding, and Competencies are aligned with the Unit Content and Performance Standards in the Unit Standards and Competencies unpacking Diagram	3.48	Satisfactorily Evident
2. The Essential Question and Enduring Understanding statement are well-crafted.	3.60	Evident
3. The Transfer Task statement is well-crafted.	3.52	Evident
4. The Learning Competencies are unpacked and classified according to learning goals:		
4.1 (Transfer) Transfer Task	3.56	Evident
4.2 (Making Meaning) Enduring Understanding	3.52	Evident
4.3 (Acquisition) Competencies Unpacking Diagram	3.56	Evident
5. The unit's streamlined competencies are properly clustered and aligned into Power and Supporting Competencies.	3.56	Evident

Teaching Strategies	Mean	Verbal Interpretation
6. Planning of time and Unit Learning Calendar shows a flexible schedule for teaching the different competencies.	3.20	Satisfactorily Evident
7. The Learning Targets are written in a language that can be easily understood and aligned with the corresponding Learning Goal.	3.64	Evident
8. The alignment of standards, competencies, learning goals, assessments, activities, resources and values in the sample Unit Curriculum Map is very evident.	3.48	Satisfactorily Evident
9. The sample Unit Curriculum Map addresses the various items of the 2018 revised PEAC Assessment Instrument sections on Curriculum Assessment.	3.44	Satisfactorily Evident
10. A general introduction is given about the topic before the proper lesson.	3.52	Evident
11. The Unit Content and Performance Standards are stated before the proper lesson.	3.40	Satisfactorily Evident
12. The guide provides for a process and form for guided generalization. Several materials (articles, videos, cases) are given for the students to analyze and make meaning in relation to the Unit Essential Question and Enduring Understanding.	3.36	Satisfactorily Evident
Overall	3.49	Satisfactorily Evident

Table 2 shows the mean score of teaching strategies based on PEAC training that the teacher respondents had during the in-service training before opening the school year. Items 2, 3, 4.1, 4.2, 4.3, 5, 7 and 10 got the verbal interpretation of EVIDENT while on the other hand, items 1, 6, 8, 9, 11 and 12 got the verbal interpretation of SATISFACTORILY EVIDENT. Overall teaching strategies got the overall mean of 3.49 and verbally interpreted as SATISFACTORILY EVIDENT.

Table 3 Mean Score and Description

Mean Score	Description
3.50 - 4.0	Evident
2.50 - 3.49	Satisfactorily Evident
1.50 - 2.49	Partially Evident
0.00 - 1.49	Not Evident

A. Assessments

Table 4 Mean Score of Assessments with Verbal Interpretation

Assessments	Mean	Verbal Interpretation
1. The Performance Task is stated in GRASPS format and shows vertical alignment with other subjects and varied outputs that may be done in different modalities.	3.44	Satisfactorily Evident
2. A sample output of the Performance Task is done with a suggested Web 2.0 application.	3.24	Satisfactorily Evident
3. The learning guide has clearly emphasized sections for Explore, Firm Up, Deepen and Transfer.	3.48	Satisfactorily Evident
4. Students' prior knowledge is elicited through a map of conceptual change or an online survey tool	3.36	Satisfactorily Evident
5. The guide shows Acquisition activities with procedures for students to follow. The Acquisition activities use varied strategies and applications with corresponding activities and assessments.	3.60	Evident
6. Sample Acquisition type of formative assessments are shown and provided in specific applications.	3.56	Evident
7. Selected response assessment items are aligned with Acquisition competencies and follow guidelines in the assessment checklist.	3.52	Evident
8. The Learning Competencies for Making Meaning are stated with matching activities and assessments.	3.60	Evident
9. Close reading strategies for Making Meaning are used with the help of formative assessments using certain applications.	3.48	Satisfactorily Evident

Assessments	Mean	Verbal Interpretation
10. Constructed response assessment items are aligned with Making Meaning competencies and follow guidelines in assessment checklists.	3.52	Evident
11. Activities for scaffolding students' accomplishment of the Performance Task are provided. Step-by-step procedures are also discussed for students in the use of Web 2.0 applications related to the Performance Task.	3.60	Evident
12. A rubric for the Performance Task is provided and discussed. The rubric assesses the students' skills in the transfer of learning.	3.68	Evident
OVERALL	3.51	Evident

Table 4 demonstrates the mean score and the verbal interpretation of different types of assessments that the teacher respondents give through online and offline modalities, that is based from the PEAC training that the teacher respondents had before the start of the school year. Items 5, 6, 7, 8, 10, 11 and 12 had the verbal interpretation of EVIDENT, while items 1, 2, 3, 4, and 9 garnered a verbal interpretation of SATISFACTORILY EVIDENT.

Table 5 Mean Score and Description

Mean Score	Description
3.50 - 4.0	Evident
2.50 - 3.49	Satisfactorily Evident
1.50 - 2.49	Partially Evident
0.00 - 1.49	Not Evident

5. Discussion and Contribution

As seen on the Table 1 Frequency Distribution Table of respondents by age group, most of the teacher respondents' years of teaching came from the group 0 - 4 years of teaching. Which can be related to the fact why most of the verbal interpretation of teaching strategies and assessments are

EVIDENT, it can be deemed that younger teachers tend to abide and comply with the practices that they get during the in-service training before they start a school year, specifically with the PEAC training for PEAC certified schools across the country.

1. What are the strategies utilized by the teacher-respondents in teaching the K to 12 Standards across modalities?

It can be gleaned from table 1 that most strategies that the teacher-respondents utilized in teaching the K to 12 standards across modalities are unpacking first the learning goals of Acquisition (A), Meaning-Making (MM), and Transfer (T) from the DepEd Curriculum Guide which are evidently done in items 2, 3, 4.1, 4.2, 4.3, and 5. Curriculum unpacking, according to Cahapay (2020), is "the process of interpreting the planned curriculum into classroom instruction" (p. 1).

Furthermore, he argued that this procedure must be guided by a thorough comprehension of the curriculum contained in the targeted curriculum's resources. This means that unpacking the DepEd Curriculum Guide entails an alignment of the standards, competencies, assessments, activities, resources, and vision-mission, goals, objectives and core values of the school.

During PEAC INSET, one of the sessions is teaching and training the teacher-participants on how to unpack the standards in the curriculum map into three main learning goals, Acquisition (A), Meaning-Making (MM), and Transfer (T). Acquisition refers to the knowledge and skills and factual information from the Content Standard and competencies while Meaning Making seeks to help the students to construct meaning from the important factual information and knowledge they learn in order for them to have a better understanding of the performance task. Lastly, Transfer seeks the learners to apply their learning on their own in real life situations.

The two strategies in unpacking the standards are to classify the competencies into power and supporting and creating learning targets from competencies that can be easily understood and aligned with the corresponding Learning Goal are also evident based on the table. Power Competencies are curricular competencies that directly achieve the Performance Standard while Supporting Competencies are

curricular competencies which contribute to or serve as steps to the attainment of the Power Competencies. Learning Targets are goals for lessons derived from standards that are written in student-friendly language beginning with "I can + verb".

Furthermore, the unpacked and streamlined standards from the DepEd's Curriculum Guide needs to be translated into the learning plans and modules that the teachers need to design in order to facilitate the learning of the students. It can be noted in the table that a general introduction is given about the topic before the proper lesson is one of the strategies of the teacher-respondents in designing the lesson module and learning plan in different modalities which is described as evident. This means that the teacher needs to introduce to the students the unit lesson or topic to guide the students on what the unit lesson/topic is all about. On this note, students will be aware of the performance task to be done in a certain lesson since the essential questions are asked in this part of the learning plan or module.

Table 1 also shows that there are strategies utilized by the teachers in teaching the K to 12 standards by designing the learning plan or module across modalities whether it is Online, Blended, or Modular that are Satisfactorily Evident.

As discussed above, alignment is the key for an effective teaching of the K to 12 Standards across modalities. In order to achieve alignment, unpacking of the standards as explained above is a must. Thus, the teacher-respondents agreed that unpacking the transfer task and performance tasks for Transfer; Essential Question and Enduring Understanding for Meaning-Making; and Competencies for Acquisition are essential parts of the learning plan or module across modalities to endure the alignment of the standards, competencies, assessments, activities, resources, and the schools' core values.

The Center for Standards and Assessment Implementation (CSAI) (2018), defines alignment as the process of ensuring that the specified curriculum is consistent with enabling students to reach the milestones outlined in the standards. Thus, alignment must be evident in the curriculum map. A curriculum map is also like a blueprint for a teacher's work. It shows the standards and competencies that the teacher needs to cover with a set of assessments, activities and resources (PEAC, 2021).

Afareh (2018), supports this by stating that discipline-based standards or requirements must include both curricular and program scopes and sequencing, according to best practice in curriculum creation and implementation. She further argues that to enhance student achievement, formalized and systematized review and development methods are required to ensure that these are present and aligned in course/programme material, activities, and assessments.

Teaching the K to 12 Standards across modalities entails the use of varied resources or materials for the reason that it will allow the students to deepen their inquiry and analytical skills to make meaning of the different concepts in the lesson.

2. What are the strategies utilized by the teacher-respondent in assessing the K to 12 Standards across modalities?

Student assessment is perhaps the most important aspect of the teaching and learning process, and as a result, it has received a lot of attention in the discussions on teaching and learning pedagogy. Stassen (2015) defines assessment as "the systematic collecting and analysis of information to promote student learning" (p.5).

Thus, in the context of the K to 12 Curriculum in the Philippines, assessing the standards is a process that teachers should be able to master for them to gauge the performance of the students. One of the sessions in the PEAC INSET is on the different types of assessment in the three learning goals, Acquisition, Meaning-Making, and Transfer.

It can be noted in table 2 that the teacher-respondents agreed that different types of assessments in terms of Acquisition, Meaning-Making, and Transfer are evident and being practiced by them in their respective institutions. This only means that the teacher-respondents adhere to the standards set by PEAC to deliver quality education.

Furthermore, as table 2 presents, the teacher-respondents are giving assessments for the Transfer learning goal using the Performance Task in GRASPS form. A Performance Task as defined by McTighe (2015) is any learning activity or assessment that requires students to demonstrate their knowledge,

understanding, and skill is referred to as a performance task. Performance activities result in a measurable product and/or performance that can be used to demonstrate learning aligned with the performance standard.

Iter (2017) defines Performance Task in GRASPS form as a design tool for creating a performance task with an emphasis on context and role playing. Goals, roles, audience, circumstance, product-performance-purpose, and standards, which are the criteria defined for success, are all represented by the acronym. Thus, real-world goals, meaningful roles for students, an authentic or simulated real-world audience, and a contextualized situation with real-world applications are all part of the GRASPS framework (Iter, 2017).

This means that students can do the Performance Task using Web 2.0 applications to help them become more creative and digitally inclined individuals with ICT skills as part of the 21st Century Skills that a student should possess.

Furthermore, table 2 also shows that the teacher-respondents use assessments different types of assessments in the Acquisition learning goal such as: selected response type of test aligned with the competencies, acquisition type of formative assessments to gauge the students' performance in a certain lesson, and most importantly acquisition activities that utilize varied strategies and Web 2.0 applications with corresponding activities and assessments. These assessments are applicable in different modalities.

Table 2 reveals that the teacher-respondents agreed that making-meaning assessments are evident and thus are being practiced in their respective institutions. This shows that the competencies for making-meaning are unpacked from the standards and supported by the meaning-making activities such as Close Reading using the Claim-Evidence-Reasoning (CER) Strategy. This strategy allows the students to read a text, watch a video clip, and analyze cases before answering a question which is called the Essential Question (EQ). This kind of assessment allows the students to answer the EQ based on three situations, cases, texts, and etc. The students when they answer Meaning-Making assessment, need to construct their

own answer based on conditions that they were able to analyze in the three situations then they will write their own generalization using Web 2.0 applications.

Lastly, table 2 points out that PEAC'S INSET program for private school teachers in the Philippines, especially in assessing the K to 12 Standards are effective for the reason that they are all evident in the teaching and learning process of the PEAC Certified schools as revealed by the overall mean. This is not only about adherence, but it is about giving what is best for the Filipino students, for them to become locally and globally competitive like the other students in the South-East Asia Region.

6. Conclusion

In this study entitled "An overview of teaching and assessing the K to 12 standards across modalities in the PEAC certified schools in the Philippines" the researchers wanted to find out if the teaching strategies and assessment is evident across modalities specially that the country is having online schooling. After a thorough data collection that the researchers got from the teachers' respondents who are teaching from the PEAC certified schools, after summarizing and computing for the mean of each item and as for the overall mean for the teaching strategies it got the verbal interpretation of satisfactorily evident and as for the assessment it got a verbal interpretation of evident, after the data has been collected through survey.

This indicates that the training that PEAC is conducting with their partner certified schools and the private schools in the country is indeed effective and also the teacher respondents are all abiding with the standards that DepEd and PEAC set to have an effective and aligned teaching strategies and assessment with the K to 12 standards, so that the students will become more efficient, resilient, college-ready, work-ready and future-ready, and to become locally and globally competitive. Also, for the private schools to be still PEAC certified and still have all the benefits that PEAC certified schools are getting, especially the subsidy that the students are getting every school year to aid with their parents for paying the tuition fee, they should adhere to the standards as discussed in the INSET. Students who want to study in a private

school but without the means can now have the chance to have that privilege with the help of PEAC and the ESC program. Indeed, every Filipino learner deserves quality education no more no less.

7. Recommendation

After collecting the data, our findings have already provided the overview of teaching and assessing the K-12 standards across the different modalities. However, in this section, we are to provide future researchers the results of this study to aid in the gathering of data for other studies like this one. The researchers' recommendations for potential researchers interested in this subject are as follows:

1. Other private schools in the Philippines may seek PEAC certification in order to provide quality education in accordance with the organization's standards, in exchange for a financial subsidy to support teachers and students.

2. Private schools that are not certified by PEAC may consider having PEAC certifiers visit their school plans and programs to be at par with other private schools in delivering quality education using the organization's standards.

3. Based on the findings of this study, the teaching strategies and assessment practices that were found to be effective may be used continuously to strengthen the delivery of quality education in the Philippines, particularly in the private schools.

Acknowledgement

guidance through the in-depth knowledge and application of skills that were thoroughly shared, and for all-out support and motivation from the beginning until the end of this venture.

Second, the researchers would also like to thank the participants for wholeheartedly cooperating and participating in this study. Especially for trusting the researchers with their personal information and identities.

Third, the researchers would like to thank the San Beda University for this occasionally opportunity in presenting a paper in an international conference.

And most importantly, the researchers would like to thank the Lord above for the gift of knowledge and skills, which has been the primary foundation in pursuing this study.

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Challenges in the Use of Natural Resources in Traditional Medicine Among Semoq Beri Tribe in Hulu Terengganu

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Abstract

For generations, the Orang Asli have used nature as the main resource of their lives. Previous studies have shown that the use of flora and fauna is very important for treating diseases. These circumstances make them have invaluable knowledge about nature, especially in the use of the resource. Nevertheless, the present state of disturbed natural ecosystems has to some extent affected the use of forest resources, particularly animal resources in traditional medicine. This study was conducted to look at factors that affect the use of fauna resources in traditional medicine. The purpose of this study was to look at factors that affect the use of fauna resources in traditional medicine. This study was carried out by conducting fieldwork in the Orang Asli village of Semaq Beri in Sungai Berua, Hulu Terengganu. Data were collected using observation and interview techniques. The result showed that the extinction of animal resources, future use and exposure to modern treatments become factors that challenge the use of natural resources in traditional medicine within the Semoq Beri tribe.

Keywords: challenges, extinction, nature, Orang Asli, traditional medicine

1. Introduction

Human history has shown that humans use natural resources for disease treatment and health improvement (Alves et al., 2007). The available knowledge is used as well as possible, especially in treating diseases. Most indigenous peoples in Asian countries use animals for traditional medicinal purposes. Ingredients from animals are widely used to treat various diseases and overcome health problems (Siti Zubaidah et al., 2012). In addition, materials based on plants and animals have a high value as raw materials in the preparation of modern medicines and are not only used in traditional medicine (Jaroli et al., 2010).

The fact is that traditional medicine has been practiced by indigenous peoples around the world according to their distinctive beliefs. They use plants and animals in their environment as ingredients to treat diseases based on their expertise and beliefs. The practice of traditional

medicine by indigenous peoples is described as follows: "*It is accepted fact that the tribes all over the world owning their own culture based on that they developed their own system of medical practices, which are being addressed as folk and ethno-medicines, there are numerous herbs available in their surroundings and that herbs are being used by tribal community as food and medicine for curing their diseases they have been continued to live in forest environment since from many generations and developed their own knowledge on flora and fauna of the forest that are known as folk or indigenous knowledge*" (Guruprasad et al., 2013).

According to the World Health Organization (2002), most places in the world prefer to use traditional medicine in health care because it has the resources available and readily available in low-income countries. Indigenous communities themselves are preferred to practice traditional health care because of the reasonable cost for situations where modern health services are too expensive or the service does not exist in their area (Siti Zubaidah et al., 2012). Meanwhile, Jaroli et al. (2010) reported that most communities in rural areas rely on local traditional medical systems as the primary guide for health care due to constraints in terms of health facilities such as hospitals and modern treatment centers that are far or absent in rural area.

For the Semaq Beri tribe at Hulu Terengganu, they still practice and introduce traditional medicine to the younger generation to ensure that traditional medicine is not lost over time. However, the current challenges, to some extent, have impacted the use of natural resources, particularly animal sources in medicine. Therefore, the objective of this study was to discuss the challenges that affect the continuation of the use of animals in traditional medicine.

2. Background

Orang Asli community

Orang Asli is an indigenous ethnic group found in peninsular Malaysia. The indigenous community or Orang Asli in Peninsular Malaysia is believed to be the earliest population of Peninsular Malaysia (Zafarina, 2012). Generally, Aboriginal believed to have originated from Indochina and they emigrated to Malaya is now known as Peninsular Malaysia in stages (Carey, 1976). According to Ramle (2014), a collection of Orang Asli earliest migration to Malaya is the Negrito tribe was said

around 25,000 years ago. They have inhabited the northern area covers the states of Malaya, Perak (north), and Kelantan. The second stage of migration involved the Senoi tribe and their migration is said to have taken place around 15,000 years ago. Senoi tribe inhabiting the central region of Malay covers Perak Tengah (the South), Pahang, Selangor and Terengganu. The last group is Melayu-proto happened about 5000 years ago and they inhabit the area covering southern Malaya Pahang (the South), Negeri Sembilan, Melaka and Johor (Ramle, 2014).
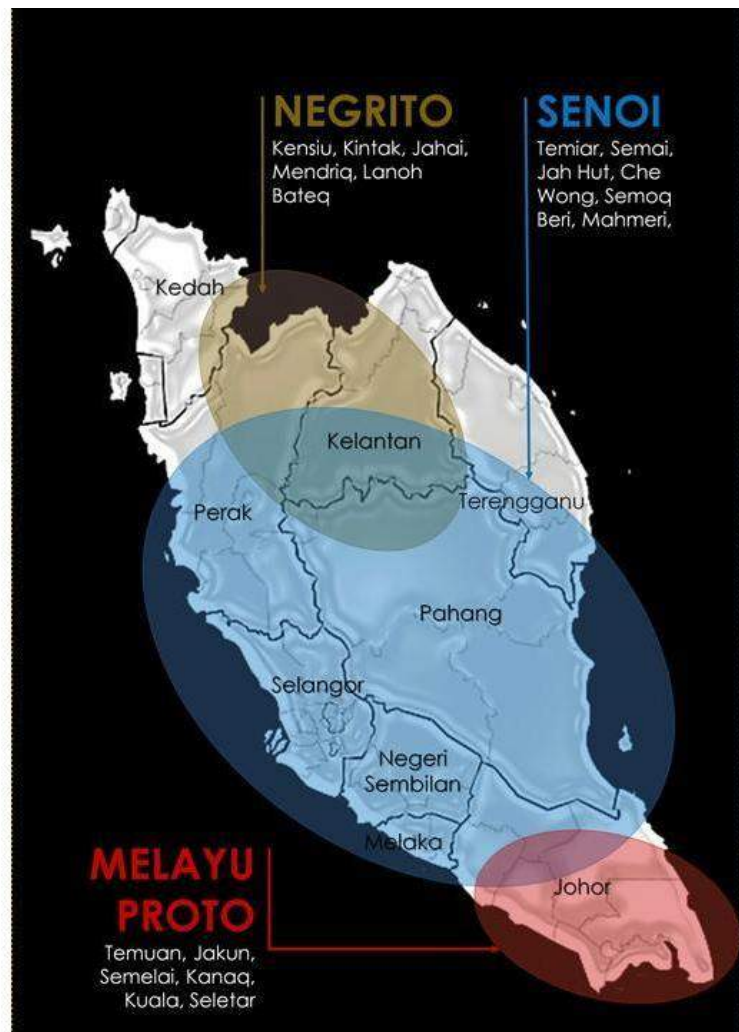
Source: JAKOA, 2021

Fig 1: Map of the Position of Orang Asli in Malaysia by Tribe

To manage the lives of the Orang Asli not to be left behind in the development of the country, the Department of Orang Asli Development (JAKOA) was established around 1954 (JAKOA, 2011). The department has been categorized the Orang Asli into three tribes or nations, namely the Senoi, Negrito, and Malay-proto for administrative purposes. This categorization is based on language, geographical location, lifestyle, physical condition, and culture. According to the same category, each main tribe is subdivided into six tribes. The categories of the Orang Asli tribes are outlined in figure 2.

Source: JAKOA, 2011

Fig 2: Orang Asli Category

Base of figure 1, Semaq Beri tribe lives in Kelantan, Terengganu and Pahang. Researchers have chosen the Semaq Beri tribe in the state of Terengganu near the Lake Kenyir as the focus of the study because they still have a direct relationship with the forest. The words "Semaq" and "Beri" are two separate words. "Semaq" means "People" while "Beri" means "Forest". The combination of two words, namely "Semaq Beri" means "Forest People" (Endicott, 1975; Ramle et al., 2014).

3. Methodology

According to the suitability of this study, fieldwork was conducted in the village of Orang Asli Semaq Beri in Hulu Terengganu and researchers have used participatory observation and informant interviews in a semi-structured manner to obtain primary data while document study for secondary data. During the implementation of the fieldwork, the researcher spent a lot of time

with the local community. staying in the study area gives many advantages to the researcher. Every day researcher can make observations and participate in the daily activities of the Semaq Beri tribe. This action is in line with ethnographic studies that emphasize the collection of data in a real setting. In addition, living in the village is very helpful for researchers to build up the relationship with the Orang Asli community because their humble and shy nature makes it difficult for researchers to approach them and make it difficult for researchers to collect data. As stated by Gibson *et al*., (2009) which is "*the detailed ethnographic studies characteristic of social anthropology is often conducted with the aim of deep socialization into a community. This does not typically involve 'becoming a member of a community' or 'doing exactly what the research participants do', but simply getting as close to those practice as possible and being accepted as 'someone who is around*'. For this study, the researchers selected three shamans, eight locals, and a health worker as informants.

Next, the data obtained were analyzed using Nvivo 8 software because it helps researchers to store, coordinate, transcribe, code (coding) and create themes systematically because most of the data collected are nominal and narrative (Asmawi, 2013). In addition, techniques of repeated observation of the same phenomenon, interviews and document analysis were used to ensure the validity and reliability of the collected data. Researchers also used the book "A field Guide to the Mammals of South-East Asia" as one of the techniques to identify animals taken by the informant to be used as medicine is a species that exists in the area. this is because there are some species of animals of various species and only exists in certain areas only.

4. Result

The results showed that there are three factors to be a major challenge to the use of animals in traditional medicine. These factors include the extinction of animal resources, future use, and exposure to modern treatment.

4.1 Extinction of animal resources

Other than using animals as a source of food, the study found that Semaq Beri tribe uses animals in their traditional medicine. Certain animals are used to treat diseases and are also used as self -protection. The animals most sought for medicinal uses are porcupine (*Hystrix brachyura*), Serow (*Capricornis sumantraensis*), Tiger (Panthera Tigris) and rhinoceros (*Dicerorhinus sumatrensis*).

However, the use of such animals is declining due to the difficulty of obtaining such animals. This resource extinction factor poses an environmental challenge to the Semaq Beri tribe. Based on the conservation status of which has been issued by the International Union for Conservation of Nature (IUCN) Red List, tigers and rhinoceros are endangered species. While porcupine is classified as least concern animal and Serow are not on the IUCN Red List.

Table 1 IUCN Status Category

No.	Local name	Semaq Beri name	Species	IUCN Red List
1.	Porcupine	Landak	Hystrix brachyura	Least concern
2.	Serow	Kambing gurun	Capricornis sumantraensis	Not on the IUCN Red list
3.	Tiger	Gayit	Panthera Tigris	Endengered
4.	Rhinoceros	Sumuq	Dicerorhinus sumatrensis	Endengered

Even so, the Semaq Beri tribe is aware that the animals in the forest are decreasing. Therefore, they have to reduce the use of animal resources in their lives to ensure that the animals in the forest do not become extinct and the new generation still have the opportunity to get to know the animals.

"I saw Serow and Rhinoceros in the forest are declining. If I see it, I just look at it. Later, when grandchildren want to see the animals in the forest, they do not know because the animals are gone. They just know the name, but they don't know the form of the animals". (KI, 01)

Apart from the IUCN Red List status, the findings show that there are two factors that lead to the extinction of animals. The factor will be stated below.

4.1.1 Development

Like most Indigenous communities, the Semaq Beri settlement in the village of Sungai Berua is surrounded by nature. This settlement environment makes it easier for them to find food

sources and forest products such as Agarwood, Sandalwood and rattan as a source of income. However, with such economic activities, they are plagued by poverty. After Sugai Berua village opened in 1978, the Malaysian government began to pay attention to improve their socio-economic status by implementing several development projects.

Among the actions taken by the Malaysian government is by implementing land development projects through commercial plantations such as oil palm. In the year 1990/91, oil palm plantations were implemented with an area of 92.77 hectares (Ramle, 2014). Although the development of this land helped to improve the socio -economic status of the villagers in Sungai Berua, it has led to the destruction and forest damage. Land clearing for oil palm planting projects will have to sacrifice the nature around their settlements. As a result, the Semaq Beri Orang Asli community in Sungai Berua has to move further away from their settlement to find forest resources for medical purposes.

4.1.2 Logging

Logging has damaged forest ecosystems. The hill area has been leveled to be used as a route to facilitate machinery to enter the forest area and pick up logs. In addition, open logging around the village of Sungai Berua has also led to damage and destruction of plant and animal habitats in the Area. Among the effects of this damaged ecosystem is that the Semaq Beri tribe has difficulties getting porcupines that have bezoar. Porcupine is animals that eat herbaceous plants and the result of their diet is bezoar. Porcupine bezoars (phytobezoars) are foreign objects from undigested plants found in the digestive tract of mammalian species (E. Mori, 2013). If the herbaceous plants outside the settlement area have become extinct, they need to look for porcupines outside their settlement because there are no porcupines in that area or if they catch the porcupine, there is a low chance to get porcupine with the bezoar.

Fig 3: Logging near Semaq Beri Tribe

4.1.3 Forest encroachment

The search for forest products such as agarwood and Sandalwood is not only done by the Semaq Beri tribe, but also by intruder from foreigners as well as locals. This situation has given great competition to the people of Sungai Berua in search of sustenance. Other than that, habitat destruction in the forest also occurs due to inefficient handling and identification of forest products compared to the Semaq Beri tribe who are knowledgeable about the forest. According to the informant, if they come across an agarwood and Chandan tree, they will first crawl on the trunk to identify whether the agarwood and Chandan tree has a core or not. If they have a core, they cut down the tree. If there is no core, they will leave the tree and will come back to see the tree in the future. However, it is different from the invaders where they will continue to cut down the agarwood and Chandan trees that are found without first identifying whether the tree has a core or not.

Moreover, the invaders also hunt wildlife in the forest. According to the informant, the animals that are still hunted by the invaders are elephants, tigers and rhinoceros. This poaching has further encouraged the extinction of animals more rapidly as the species is categorized as endangered and near extinction. The informant also recounted his experience of coming across foreign invaders while in the forest, but the invaders did not disturb them. However, fear still exists because the intruders have firearms while they only have machetes and a blowpipe.

"The forest products are declining because people are taking different kinds of logs here. They cut down trees everywhere. When we entered the forest, we saw that the forest product was gone. We

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once came across an outsider while climbing a hill in the woods. Some tents have been set up in the forest area. We met with them. If they speak Malay language, they would greet us. If they do not speak Malay, they just raised a hand and kept walking. They spent a long time in the forest. Sometimes a year, sometimes for two months. Plenty of animals in the forest they take like rhinoceros and elephants. This is because they have firearms brought from their country". (KI, 09)

The informant's narrative is consistent with secondary information available at the Terengganu Department of Wildlife. The data show the effects of poaching and encroachment that have been carried out in the Terengganu National Park Protected Areas are as follows:

Table 2 The Imprint of Invasion in Terengganu National Park

Discover	2009	2010	2011	2012	2013	2014	2015
Tents	17	19	18	22	23	20	17
Snare traps	43	57	33	29	24	22	13
Tree sign	21	27	41	37	20	24	18
Foods	19	25	22	28	28	25	19
Tree cut	35	25	33	39	29	24	20

Source: Suhainah Pajelis, 2016

In addition, the annual report released by the Department of Wildlife and National Parks (PERHILITAN) Peninsular Malaysia showed that a total of 51 people were arrested for the entire operation in Taman Negara Pahang, Kelantan and Terengganu in 201 while a total of seven Cambodians and four locals were arrested during 2015 in the State of Terengganu.

Table 3 Total Forest Encroachment Arrests 2015

State	Foreigner			Total
	Kemboja	Vietnam	Local	
Kelantan	4	-	26	30
Pahang	3	4	3	10
Terengganu	7	-	4	11
Total	14	4	33	51

Source: Wildlife Annual Report 2015

4.2 Future use

The Semaq Beri tribe is aware that life in the forest is becoming extinct and endangered. For them the life in the forest, especially the animals need to be preserved and kept for use, viewing and knowledge to their descendants in the future. The residents of Semaq Beri in Sungai Berua are a group that practice a practical learning system. Parents take their children into the forest to show them how to live in the forest as well as introduce the plants and animals in the forest.

Similarly, shamans who want to inherit knowledge related to the medicine practiced to their grandchildren so that the knowledge is not lost to time. The process of inheriting this knowledge involves practitioners, delivery and inheritance (Azizan, N.F.N. 2016). The process of learning traditional medicine is done practically. This situation causes the need to conserve natural resources to enable the process of knowledge decline to run smoothly and future generations have the opportunity to recognize and see animals physically.

"I see Serow and rhinos in the forest are few. If I find it, I just look. I won't take the animal. Later, the grandchildren want to see the animals in the forest, they don't know because they are gone. They only know the name but do not know what the animals look like ". (KI, 01)

4.3 Exposure to modern treatments

The settlement of the Semaq Beri tribe in the rural areas makes them a group that has fewer health services than the general public. The situation is very worrying when various diseases are contagious among the Orang Asli such as malaria, tuberculosis, leprosy, malnutrition, worms, and others. This situation has led to the existence of several strategic proposals for the health of the Orang Asli in the strategic plan for the development of the Orang Asli. Among them are improving the delivery of health services and communication with the Orang Asli community such as creating mobile services and setting up small medical centers at the village level (JAKOA, 2011).

In line with the Malaysian government's intention to improve the health of the Orang Asli community, the study found that an additional clinic had been built in the Semaq Beri tribal village in Sungai Berua. The construction of this additional clinic has made it easier for health workers to provide regular treatment to the Orang Asli community. Among the treatments performed are women's health

treatments such as pap smears and family planning; maternal and child care; child health care and outpatient treatment which is treatment for single mothers, the elderly and single fathers.

The exposure of various health treatments to the Orang Asli community in Sungai Berua has exposed them to modern treatments in their lives. This effort is seen to have shown results when the young people in this village have received modern medicine in their lives. The older generation is also already accepting modern medicine although there are still some who reject modern treatment. This was explained by a health worker at the additional clinic who stated that there are some people who still reject modern treatment and there are also those who have given confidence to the clinic by receiving birth control pills and pap smears. Therefore, the acceptance of modern treatment in the life of the Orang Asli community will to some extent affect the lifestyle of the Semaq Beri tribe, especially the future generation because they have been accustomed to the use of modern medicine since childhood and this situation has become a challenge from outside the Semaq Beri community which impacting the sustainability of traditional medical practices.

5. Conclusion

This study showed that the Semaq Beri tribe faces outside and environmental challenges to preserve traditional medicine in their lives. Challenges from the outside occurred due to the exposure of modern treatments in the lives of the Semaq Beri tribe. Although the elderly is still rigid in practicing traditional knowledge, but the young have shown that they have begun to use modern medical methods. In turn, the extinction of forest resources as a result of development, logging and forest encroachment by foreigners as well as locals is an aspect to environmental challenges.

Acknowledgement

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Tracks 3: Social Science, Humanities, Culture and Religion Studies

Media and Poverty Representation: A Gender-Sensitive Approach

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Abstract

Studies on poverty have not received much attention. Especially in terms of representation of poverty news. Until now, the representation of poverty news only emphasizes and even strengthens the view that poverty is only an object of assistance. Until now news about poverty only tells a short story about numbers or statistics, without digging deeper into why poverty can occur, how long poverty has existed in a family, and how to overcome it. While poverty is not a gender-neutral condition, because the number of poor women exceeds the number of men, and women and men experience poverty in different ways and for different reasons. The lack of gender-sensitive poverty news is ultimately unable to fully describe the problem of poverty because economic deprivation is not the only type of poverty that weakens women's lives. The purpose of this research is to uncover textual products represented by local media in Bengkulu Province regarding poverty and women who are ignored by the media. This study uses qualitative text analysis, by identifying news manuscripts with titles that explicitly contain the keywords "poverty" and "poor". The researcher finds the implications of marginalizing poverty news in the local media space. In addition, the poverty stories that are reported still depict food problems, meaning that they only talk about stomach problems, even though the poverty experienced by women is not rooted in economic conditions.

Keywords: media, poverty news, representation,women and poverty

Survey of Household Water Bill Before and During Movement Control Order (MCO) due to Covid-19: Case of a Community in Tanjung Malim, Perak, Malaysia

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Abstract

Early this year, the death causal microorganism identified as coronavirus or known as COVID-19 has been spreading worldwide, and Malaysia has not been an exception. Furthermore, on 25th January, the first case of COVID-19 was recorded in Malaysia. Due to that, the Government of Malaysia, via the Ministry of Health and National Safety Council, has imposed Movement Control Order (MCO) throughout the country. In that order, the Ministry of Health and National Safety Council has given the best practices during the outbreaks to ensure public health precaution among Malaysians. One of the precautionary steps that need to be taken for household and individual is to maintain good hygiene by frequently practising proper hygiene methods such as handwashing to prevent the infection of COVID-19 to the community. Furthermore, the pandemic crisis of COVID-19 has made the whole family stay at home for an extended period. The water consumption for a household is believed to have risen due to the increase in activities and household sizes. The objective of this study is to determine the water usage before and during MCO among Tg. Malim, Perak community. A survey technique with a set of questionnaires was used to collect the required data. The data was analysed using a cross-sectional descriptive study, and percentages were utilised. Consequently, the correlation between water bill and daily activities during MCO was observed. The p-value <0.05 was selected as normal statistical significance. Based on the data, it can be seen that the percentage of respondents who paid water bill between RM 35.00 to RM 55.00 during MCO has reduced by 4.4%, and this percentage was going to the higher water bill, which is more than RM 55.00 per month. The rate of less than RM 15.00 per month has also decreased from 5.5% before MCO to 2.9% during MCO. Furthermore, the percentage of those paying within RM 15.00 to RM 35.00 per month for water bill has decreased by 5.2% from 19.8% before MCO to 14.6% during MCO. In conclusion, people in Tg. Malim pays more water bill (> RM 55.00) during MCO than before by 2.6% to 5.2%. Hopefully, the findings of this study can be used by authorities as a basis to craft a new policy of water conservation during the virus pandemic outbreak.

Keywords: COVID-19, hygiene, ministry of health, Movement Control Order (MCO), Tanjung Malim, water bill

Career Development With Social Capital for Sustainable Development

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Abstract

This study aimed to 1) investigate the relationship between community capital and financial capital of people in Ban Klang Sub-district, Panare District, Pattani, who are considered poor according to the criteria of Basic Minimum Needs, and 2) formulate equations for predicting the relationship between community capital and financial capital in Ban Klang Sub-district, Panare District, Pattani. The subjects in this study were 41 residents in Ban Klang Sub-district, Panare District, Pattani, who are considered poor according to the criteria of Basic Minimum Needs in 2020. The samples were purposively selected based on the criteria of the research project. The research instrument was 5-point scale questionnaire consisting of 17 items. The statistics used in this study were percentage, means, and multiple regression analysis (Enter method). The results revealed that, firstly, both Kendall Tau Correlation and Spearman's rho were positive correlations between physical capital and human capital as well as natural capital. In addition, it was also found that there were positive correlations between natural capital and physical capital together with financial capital, natural capital (X_3X_3), physical capital (X_2X_2), social capital (X_4X_4), and human capital (X_1X_1) affected financial capital at .05 significance level. Indeed, they could predict mathematics model at 52.66% confidence and formulate equations as follows;
Raw Score Model $\hat{Y}\hat{Y} = 1.334 + .423(X_3X_3) + .366 (X_2X_2) + .255(X_4X_4) + .147(X_1X_1)$
Standardized Model $\hat{Z}_Y\hat{Z}_Y = .394(Z_{X3} Z_{X3}) + .323(Z_{X2} Z_{X2}) + .287(Z_{X4} Z_{X4}) + .125(Z_{X1}Z_{X1})$

Keywords: Ban Klang sub-district, community capital, financial capital

1. Introduction

In 2016, it was revealed that there were 11.6 million poor and near-poor people in the northeastern, southern, northern areas of Thailand (Bourdieu, P., 1985; Rojpaisarnkij, K., 2007). The provinces with the highest poverty rate were Mae Hong Son, Narathiwat, Pattani, Kalasin, Nakhon Phanom, Chainat, Tak, Buriram, Amnat Charoen, and Nan, respectively. In addition, it was found that there were 21,208 villages needing immediate development. The cause of poverty may not be analyzed and concluded with one or two frameworks. It is necessary to cover factors or causes of the dynamics of deficiency as well as its solutions. To

conclude, poverty in Thai society has existed for a long time and tends to increase tremendously due to the growing gaps of economic condition among the poor, the rich, and the middle class (Bourdieu, P., 1985). These differences bring difficulties to people who are considered poor and eventually affect the nation. Therefore, solving poverty is an important issue which requires collaboration from every member of the society in order to bring benefits to all people of the nation in the long run (Putnam, R. D., 1993; Pechprasert, N., 2003).

In terms of poverty in southern Thailand in 2016, the provinces in southernmost area, which are Narathiwat, Pattani, and Yala, have the highest poverty rate (32.8% of the population in the region) (World Bank, 1999; Romerathanapan, w., 2008). Pattani has encountered chronic poverty at extreme level (Suwannee Kongmun. 2003, Parichart Walaisathrain. et al. 2003). One of its communities, Ban Klang in Moo 5, Ban Klang Sub-district, Panare District, has suffered from the problem and requires high attention from the government and alliance for rural development (Puanghwanm, K., 2010).

Ban Klang community has suffered from poverty due to lack of income, insufficient earnings, natural disaster (flood), and COVID-19. As for its resource, Ban Klang has rice fields, coconut orchards, Palmyra palm trees, and wisdom in regard to cultivating, making snacks and food as well as using resource capital to keep livestock and making clothes. Rice farming has been the primary job of people in Ban Klang for a long time. With the state of the problem, the needs of the people in the community, and the outstanding resources which can increase the residents' incomes, it is intriguing to study the relationship between community capital and financial capital of people in Ban Klang community who are considered poor according to the criteria of Basic Minimum Needs in to order to gather basic data for bringing more benefits regarding jobs and income from community capital.

2. Objectives

To investigate the relationship between community capital and financial capital and formulate equations for predicting the relationship between community capital and financial capital in Ban Klang Sub-district, Panare District, Pattani.

3. Research methodology

3.1 Scope of the study

Independent variables are the capital which affect financial capital of people in Ban Klang Sub-district, Panare District, Pattani. There are 4 types of capital; human capital, physical capital, natural capital, and social capital., Dependent variable is the capital which affects disparity and poverty of people in Ban Klang Sub-district, Panare District, Pattani. In this study the dependent variable is financial capital. Research area in this study is Ban Klang Sub-district, Panare District, Pattani which is one of the target areas in the database of poor households according to the criteria of Basic Minimum Needs, and this article aimed to study the relationship between community capital and financial capital of people in Ban Klang Sub-district, Panare District, Pattani, who are considered poor according to the criteria of Basic Minimum Needs.

3.2 Population and samples

The population of this study was 90 people in Ban Klang Sub-district, Panare District, Pattani, who are considered poor according to the criteria of Basic Minimum Needs in 2020., and the samples of this study were 41 people in Ban Klang Sub-district, Panare District, Pattani, who are considered poor according to the criteria of Basic Minimum Needs in 2020. The samples were purposively selected based on the criteria of the research project; (1) being registered in the database of poor households, (2) earning less than 38,000 baht/year, (3) being interested in joining professional skill development training program of the research project, (4)

allowing researchers to make a follow-up evaluation, and (5) being able to improve skills and use them to earn a living after the project.

3.3 Research instruments

In order to study the relationship between community capital and financial capital of people in Ban Klang Sub-district, Panare District, Pattani, who are considered poor according to the criteria of Basic Minimum Needs, a questionnaire was created and divided into 2 parts as follows;

Part 1 consists of 4 selected-response questions concerning demographic data of informants, namely gender, age, educational background, and occupation.

Part 2 contains 17 items of 5-point scale questions regarding independent variables (human capital, physical capital, natural capital, and social capital) which affect financial capital.

3.4 Data collection

The research team collected the data by themselves with generous assistance from the community leader and chairmen of professional groups. The data were collected from 41 informants. Afterwards, the research team checked and screened the answered questionnaires and used software for data analysis.

To conduct this study morally and ethically, the research team complied with guidelines regarding human research ethics by Prince of Songkla University together with the regulations from Office of Human Research Standards, National Research Council of Thailand (NRCT) and submitted the research proposal to the committee of human research ethics, Prince of Songkla University since 5th November 2020 (Project no.: psu.pn.2-030/63) to ensure that personal information was classified, the samples were informed about the research team, the objectives of the study, the benefits of the study, and pledges to protect their information. The research team used the collected data for only academic purposes without identifying or revealing names

of the samples. However, in cases where names were required, they were replaced by false names. Additionally, samples had their freedom to decide whether they would like to participate the project. In other words, after being informed, the subjects had to declare that they were willing to cooperate and join the program by signing consent forms. In addition, during data collection process, the researchers also conducted the study with respect of dignity and rights of the samples.

3.5 Data analysis

After the data were collected with the approved questionnaire, they were analyzed with software as follows;

Part 1 (demographic data of informants) was analyzed with frequency and percentage.

Part 2 (the relationship among different types of capital which affect financial capital) was analyzed with multiple regression analysis (Enter method).

4. Results

4.1 Demographic data of informants

The researcher collected the data from 41 people who participated in the research project, it was found that most of the people were female accounted for 78.05%, with the age range mostly being 61 years or more, which accounted for 34.15%. In terms of education, it was found that most were at the lower than junior high school level, which accounted for 60.98% and in part of the profession of the people participating in the research project, it was found that most of them were engaged in occupations. Agriculturalist which accounted for 56.10%, which can be displayed as shown in the Table 1 as follows:

Table 1 The Demographic data of informants

Demographic data	Frequency	Percentage
1. Gender		
Male	9	21.95
Female	32	78.05
Total	41	100.00
2. Age		
20-30	0	0.00
31-40	5	12.19
41-50	9	21.95
51-60	13	31.71
61 and above	14	34.15
Total	41	100.00
3. Educational background		
Lower than junior high school	25	60.98
Junior high school	3	7.32
High school	6	14.63
Bachelor degree	3	7.32
N/A	4	9.75
Total	41	100.00
4. Occupation		
Agriculturalist	23	56.10
Employee	4	9.75
Trader	7	17.08
Etc.	4	9.75
Unemployed	3	7.32
Total	41	100.00

4.2 Multiple regression analysis with enter method of the relationship between community capital of people in Ban Klang Sub-district.

Table 2 Analysis of the relationship between community capital and financial capital of people in Ban Klang Sub-district, Panare District, Pattani, by multiple regression analysis (enter method).

Variables	B (Raw Score)	Standard Error of b	Beta (Standard Score)	T
Human capital (X_1X_1)	.147	.177	.125	.828*
Physical capital (X_2X_2)	.366	.183	.323	2.004*
Natural capital (X_3X_3)	.423	.174	.394	2.426*
Social capital (*X4X4*)	.255	.135	.287	1.892*
Constant (b)	1.334	.591		2.257*

R $\quad$ = .472 $\qquad$ Standard Error of the Estimate = .52660
R square = .222 $\qquad$ F = 2.576*

* Significant at .05 level

According to the Table 2, it was found that human capital ($X_1 X_1$), physical capital (X_2X_2), natural capital (X_3X_3), and social capital (*X4X4*) positively affect the financial capital of

Ban Klang residents who joined the professional skill development training program. All the 4 types of capital could predict 22.20% of financial capital of the community at .05 level of statistical significance. The best predictor variable was natural capital (X_3X_3) (β= .394), followed by physical capital (X_2X_2) (β= .323), social capital (X_4X_4) (β= .287), and human capital (X_1X_1) (β= .125), respectively.

The Correlation of the independent variables (X_1X_1, X_2X_2, X_3X_3, X_4X_4) while the standard error of the estimate ($SE_{est}SE_{est}$) was equal to .52660.

4.3 Kendall Tau Correlation and Spearman Rank Correlation analysis of community capital and financial capital

Table 3 The relationship between community capital and financial capital of people in Ban Klang Sub-district, Panare District, Pattani, analyzed with Kendall Tau Correlation and Spearman Rank Correlation

			Human capital	Physical capital	Financial capital	Natural capital	Social capital
Kendall Tau Correlation (n = 41)	Human capital	Correlation Coefficient	1.000	.067	-.146	-.094	.029
		Sig. (2 tailed)	.000	.603	.249	.450	.813
	Physical capital	Correlation Coefficient	.067	1.000	-.046	.360**	-.040
		Sig. (2 tailed)	.603	.000	.720	.004	.748
	Financial capital	Correlation Coefficient	-.146	-.046	1.000	.184	.169
		Sig. (2 tailed)	.249	.720	.000	.138	.171
	Natural capital	Correlation Coefficient	-.094	.360**	.184	1.000	-.151
		Sig. (2 tailed)	.450	.004	.138	.000	.213
	Social capital	Correlation Coefficient	.029	-.040	.169	-.151	1.000
		Sig. (2 tailed)	.813	.748	.171	.213	.000
Spearman's rho (n = 41)	Human capital	Correlation Coefficient	1.000	.072	-.187	-.121	.063
		Sig. (2 tailed)	.000	.656	.242	.452	.697
	Physical capital	Correlation Coefficient	.072	1.000	-.059	.442**	-.031
		Sig. (2 tailed)	.656	.000	.715	.004	.847
	Financial capital	Correlation Coefficient	-.187	-.059	1.000	.235	.218
		Sig. (2 tailed)	.242	.715	.000	.139	.172

		Human capital	Physical capital	Financial capital	Natural capital	Social capital
Natural capital	Correlation Coefficient	-.121	.442**	.235	1.000	-.198
	Sig. (2 tailed)	.452	.004	.139	.000	.216
Social capital	Correlation Coefficient	.063	-.031	.218	-.198	1.000
	Sig. (2 tailed)	.697	.847	.172	.216	.000

** p .01 (2 tailed)

According to Kendall Tau Correlation, it was revealed that;

There was a positive correlation between human capital and physical capital (R = .067) while there was a negative correlation between human capital and financial capital (R = -.146), there was a positive correlation between physical capital and natural capital (R = .360**) while there was a negative correlation between physical capital and financial capital (R = -.046), there was a positive correlation between financial capital and natural capital (R = .184) while there was a negative correlation between financial capital and human capital (R = -.146), there was a positive correlation between natural capital and physical capital (R = .360**) while there was a negative correlation between natural capital and social capital (R = -.151), and there was a positive correlation between social capital and financial capital (R = .169) while there was a negative correlation between social capital and natural capital (R = -.151)

To conclude, the overall analysis with Kendall Tau Correlation showed that (1.) there were positive correlations between physical capital and human capital as well as natural capital, and (2.) there were positive correlations between natural capital and physical capital together with financial capital.

According to Spearman's rho, it was found that;

There was a positive correlation between human capital and physical capital (R = .072) while there was a negative correlation between human capital and financial capital (R = -.187), there was a positive correlation between physical capital and natural capital (R = .442**) while there was a negative correlation between physical capital and financial capital (R = -.059), there was a positive correlation between financial capital and natural capital (R = .235) while there

was a negative correlation between financial capital and human capital (R = -.187), there was a positive correlation between natural capital and physical capital (R = .442**) while there was a negative correlation between natural capital and social capital (R = -.198), and there was a positive correlation between social capital and financial capital (R = .218) while there was a negative correlation between social capital and natural capital (R = -.198)

In sum, the overall analysis with Spearman's rho revealed that (1.) there were positive correlations between physical capital and human capital as well as natural capital, and (2.) there were positive correlations between natural capital and physical capital together with financial capital.

In conclusion, it was found that the results from Kendall Tau Correlation resembled those from Spearman Rank Correlation 100%.

5. Conclusion and Discussion

The analysis of the relationship between community capital and financial capital of people in Ban Klang Sub-district, Panare District, Pattani, who are considered poor according to the criteria of Basic Minimum Needs, and the equations for predicting the relationship between community capital and financial capital analyzed by multiple regression analysis (enter method) could formulate an equation as follows;

Raw Score Model $\hat{Y}\hat{Y}$ = 1.334+.423 (X_3X_3) + .366 (X_2X_2) + .255 (X_4X_4) + .147 (X_1X_1)

The equation showed that 1) with every increase of one standard deviation in natural capital (X_3X_3), the financial capital of Ban Klang residents who joined the professional skill development training program rises by .423 standard deviations when X_2X_2, X_4X_4, and X_1X_1 are held constant. 2) If physical capital (X_2X_2) increases by 1 unit, it was estimated that the financial capital of Ban Klang residents who joined the professional skill development training program escalates by .366 standard deviations when X_3X_3, X_4X_4, and X_1X_1 are held constant. 3) With every increase of one standard deviation in social capital (X_4X_4), it was believed that the financial capital of Ban Klang residents who joined the professional skill development training

program escalates by .255 standard deviations — assuming X_3X_3, $X_2X_2X_4$, and X_1X_1 are held constant. And, 4) with every addition of one standard deviation in human capital ($X_1X_1X_4$), it was predicted that the financial capital of Ban Klang residents who joined the professional skill development training program rises by .147 standard deviations when X_3X_3, $X_2X_2X_4$, and X_4X_4 are held constant. In addition, an equation for predicting the relationship between community capital and financial capital could be formulated as follows;

Standardized Model $\hat{Z}_Y\hat{Z}_Y = .394 (Z_{X3} Z_{X3}) + .323 (Z_{X2} Z_{X2}) + .287 (Z_{X4} Z_{X4}) + .125 (Z_{X1}Z_{X1})$

The equation suggested that 1) with every increase of one standard deviation in natural capital (X_3X_3), the financial capital of Ban Klang residents who joined the professional skill development training program rises by .394 standard deviations when $X_2 X_1$, $X_4 X_2$, and $X_1 X_4$ are held constant. 2) If physical capital (X_2X_2) increases by 1 unit, it was estimated that the financial capital of Ban Klang residents who joined the professional skill development training program escalates by .323 standard deviations. 3) If social capital (X_2X_4) rises by 1 unit, it was predicted that the financial capital of Ban Klang residents who joined the professional skill development training program escalates by .287 standard deviations. Finally, 4) with every addition of one standard deviation in human capital ($X_1X_1X_4$), it was believed that the financial capital of Ban Klang residents who joined the professional skill development training program rises by .125 standard deviations.

As for the relationship between community capital and financial capital of people in Ban Klang Sub-district, Panare District, Pattani, who are considered poor according to the criteria of Basic Minimum Needs analyzed with Kendall Tau Correlation and Spearman Rank Correlation, it could be concluded that the independent variable affecting financial capital the most was natural capital, preceding physical capital. On the other hand, the independent variable having the least influence on financial capital was human capital. These findings suggested that, in order to solve poverty and enhance self-adjustment for reducing income inequality, the development of natural capital and physical should be supported before the development of

human capital which related to professional skill development. As for the variables showing positive correlations with financial capital (natural capital, physical capital, and human capital, respectively) and the one showing a negative correlation with financial capital (social capital), it was shown that if natural capital, physical capital, and human capital are developed, they result in the development of the financial capital. In respect to social capital, network and relationship among people in Ban Klang community including government sectors, private sectors/ civil societies, and academic sectors have been well established already. Therefore, the social capital doesn't directly connect to poverty solutions. Rather, it is just an additional factor promoting poverty eradication, professional skill development, and self-adjustment for reducing income inequality (Patthama Pochanukoon, 2009).

Acknowledgments

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Indicators Predicts High Empowered Matured and Older Rural Women Leader in Malaysian Freshwater Fisheries Community

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Abstract

This paper reports on matured and older rural women leaders involved in civil society organizations (CSO) in freshwater fisheries communities in Peninsular Malaysia. This paper aims to identify the indicators that predict matured and older rural women leaders in the high empowerment category. There were n=101 respondents from Hulu Terengganu, Terengganu and Jelebu, Negeri Sembilan, representing the Eastern and Western Zone of Peninsular Malaysia respectively. The Ho1 – no indicators predicts high empowered respondents was tested through Binary Logistic Regression Model, and had been rejected. The model fit and significant (p<0.05) to predict the DV (high empowered=1, low empowered=0). Three indicators had significantly (p<0.05) predicts highly empowered respondents – married, high level of leadership score, and high level of general wellbeing, which predicts 4.339 times, 4.218 times and 2.838 times likelihood respectively of highly empowered respondents. In conclusion, matured and older rural women leader participated in CSO in freshwater fisheries community with high level of leadership score, married and high general wellbeing are highly empowered. Empowerment programs among matured and older rural women through CSO should be given to the ordinary members of CSO who are single mothers with low level of general wellbeing.

Keywords: CSO, empowerment, freshwater fisheries community, gender, older and
matured women

1. Introduction

Malaysia is one of the most urbanized nations in Southeast Asia, with an estimated 7.89 million people living in rural regions, about half of them are women. Feminism poverty are major concerns for rural women across the world. Many studies have found that women must be empowered in order to end poverty (Sustainable Development Goal (SDG)-1). Three strategies focusing rural women were announced by the Ministry of Rural Development (2018) namely to optimize capacity and labor force participation among women; women and disabled friendly program; and increasing women's involvement in decision making at community level. In conclusion to eradicate poverty among rural women, they have to be empowered. According to British Council (2017) participation in CSOs is significant in empowering women and children, particularly in education (Pounik, 2013), poverty reduction (FAO, 2017), and through CSO leadership (IWRAW-AP, 2017; British Council, 2017).

There are many informal rural women CSO groups, and the popular one is Women Yassin Group at the village level. Almost all rural Malay villages in Peninsular Malaysia have Women Yassin Group which as a big group conducts many social and economic activities. But this group is informal, and there is no representation in the term of decision making. A major challenge of informal rural women CSO group is gender awareness, and the stakeholder should be aware of the important role of rural women in development, especially in poverty eradication because this paper focuses on rural women in freshwater fisheries community because they are usually more vulnerable than other community in terms of economic sectors.

There are three factors this study was focusing on women in the freshwater fisheries community such as fisheries economic sector involved in masculine activities (Satapornvanit, 2018) and high work risk (Stergiou-Kita et al., 2015) which is only suitable for men. The second factor is the women are usually fulltime housewives and depend totally on their husband for a living (Wahab, Ghani, & Yusof, 2018; Islam, 2008). The third factor is rural women may suffer from one of vulnerable characteristics on top of being women, for instance, single mother, older

women, handicapped individuals and suffering from many serious diseases (Zainalaludin, Saidi & Loh, 2020; Zainalaludin, Jamaluddin, & Abd Syukor, 2017).

Thus, with involved in CSO women can be empowered through leadership participation. Many studies concluded to eradicated the poverty at rural area, women have to be empowered socially and economically (British Council, 2017; Pounik, 2013; FAO, 2017). Therefore, through formal CSO, women can properly empower because they are poor and can support women to improve their low self-esteem.

This paper aims to answer the following research question:-

1) What the background of rural women CSO leaders?

2) What the indicators that predict matured and older rural women leaders in the high empowerment category?

The research objectives of this paper were:-

1) to profile the background of rural women CSO leader

2) to identify the indicators that predict matured and older rural women leaders in the high empowerment category

2. Literature review

Malaysia has substantial fisheries resources due to its 418,000 km2 Exclusive Economic Zone (EZZ), 4,810 km2 coastline, and 450,000 km2 shelf area (FAO, 2006). According to the DOF (2017), Malaysia has about 41 fisheries districts on the west coast, 18 on the east coast, 12 in Sabah, and 15 in Sarawak. These individuals of the fisheries community are mostly active with FAES.

The FAES is one of the fastest-growing food-producing industries, now outpacing global population growth (FAO, 2014). According to Yusoff (2015), in 2012, capture fisheries generated 1,472,240 tonnes worth about RM8000 million, while aquaculture produced 302,886

tonnes worth nearly RM2600 million. According to the FAO (2018), FAES produced around 145 million tonnes of fish globally in 2010, up to 170 million tonnes in 2016. Malaysia's fish production was anticipated to rise from 1.32 million tonnes in 2010 to 1.76 million tonnes in 2020. (Yusoff, 2015).

The FAES not only contributes to national food security (Martin, Lorenzen, & Bunefeld, 2013), but also to food security (SDG-2) and poverty alleviation (SDG-1) among poor and hard-core poor households in fisheries communities (Fathi et al., 2018; Masud, Hamid, Zainalaludin, & Mohamed Din, 2013; Omar, Shaffril, Kamaruddin, Bolong, & D'Silva, 2013; Yahaya, 2001). FAES are known as masculine economic sector (Sapornvanit, 2018; Cliffe & Akirontimi, 2013) and high risk work (Stergiou-Kita et al., 2015). Thus, if women are forced to participate in FAES, they become a vulnerable category. Women in fisheries community usually involve in FAES sub-sector with low pay and their contribution are not acknowledge (McDougall, 2018; Austin, Jefferson, & Preston, 2008) and they are poor.

According to Ajadi, Adebisi, and Alabi (2010), women should work together to discover FAES sub-areas and produce revenue. As a result, the focus of this study is on civil society organisations (CSO), because many societies have decided that empowering women through participation and leadership (CSO) may eradicate poverty.

There was no formal CSO for Malaysian rural women. Many studies in many countries have shown that women's engagement in CSOs may help to reduce household poverty (British Council, 2017; FAO, 2017; Pounik, 2013) through CSO leadership (IWRAW-AP, 2017; British Council, 2017) and participation (British Council, 2017). Because of their poor self-esteem, women leaders might encourage aspiration among ordinary rural women (Zainalaludin, 2001).

A civil society organization (CSO) is a non-governmental, non-profit, voluntary organization created by individuals in the social domain and distinct from the state and the market. CSOs have a diverse set of interests and relationships. They might include both community-based and non-governmental groups (NGOs). CSOs are neither corporate nor for-

profit associations in the sense of the UN Guiding Principles Reporting Framework (UNDP, 2019). In Malaysia, most rural women are housewives (Zainalaludin, 2010), and if they work, it is generally in the informal sector, where they have less social and financial security in old age (Zainalaludin et al., 2018, Dercon, 2001). Thus, the output of this study may be conducted to identify rural women's activities, self-esteem levels, and CSO roles; then, capacity development programs can be created specifically to suit the needs of rural women in freshwater fisheries community for poverty eradication.

For example, rural women's ability to generate an income can be increased via the establishment of micro and small scale enterprise development (MSED) such as fish-based processed foods firms, homestay, and recreational fishing (Zainalaludin, 2010). As a result of MSED, many different types of processed meals may be produced, potentially contributing to increased food security as well as reduced hunger (SDG-2) and poverty eradication (SDG1) (United Nation, 2015).

In whatever economic area, women's earnings are always lower than men's (Peprah, 2012). Access to resources is one of the problems that rural women face in the economy (Mare & Girmay, 2016). CSOs can help rural women with resource mobilisation issues, and they will feel more safe working in a group rather than on a one-on-one basis (Pandey, & Roberts, 2012). Thus, poverty and social security concerns among rural women can be addressed. Unfortunately, there is presently no formal CSO structure linked to rural women in Malaysia; nevertheless, they do exist in an informal environment. As a result, rural women are now excluded from all levels of decision-making. The women group were established in Malaysia under Ministry of Agriculture and Ministry of Rural Development usually not registered under Malaysia Registrar of Society, but they were only registered as program' participants, not as CSOs.

This paper may help to assist Ministry of Rural Development to empowered rural women via involvement in the decision making. In this study, Social Role Theory (SRT) is used to describe how male and female roles differ based on his/her socialization of gender roles,

particularly in terms of division of labor (Eagly, Wood, & Diekman, 2000). Women and men were allocated to work duties based on their physical characteristics, with males supposed to fulfil masculine attributes and women required to fulfil feminine qualities of gender role (Wood, & Eagly, 2002). In FAES the SRT states that males have direct engagement in FAES owing to the masculinity of the actions, whilst women often participate in FAES sub-sectors due to less masculine activities.

3. Methodology

A survey was conducted at the freshwater fisheries community in Hulu Terengganu, Terengganu and Jelebu, Negeri Sembilan through the assistant of Hulu Terengganu and Jelebu Department of Fisheries (DOF) office. Three fisheries community villages were then sampled in each sub-district with the advice of DOF and Penghulu Office. The 80 respondents had bees sampled to represent each district. In total, 160 rural women CSO leaders were sampled for this paper (Table 1). The community leader (CL) assisted in sampling the final respondent of rural women CSO leader. The age of the respondents involved in this paper are matured (40-59 years old) (Neumark, 2009), and older (60 years old and above) (United Nation, 2019). Due to the respondents are matured and older women leaders, the CLs were assisting to first approach the respondents and brief about the study before the enumerator interviews.

Table 1 Sampling (*n*=120)

District	*n*
Hulu Terengganu	80
Jelebu	80
TOTAL	160

Data collected in August and September 2020 through a special questionnaire was developed. A special questionnaire was developed for this study which consist of background, CSO background, CSO activities, scale of leadership (adapted from Twenty Reproducible Assessment Instrument for New York Work Culture) by Philip and Harris (1995), Malaysian Personal Household Wellbeing scale by Jariah (2007), general wellbeing by Bech et al. (2003),

empowerment scale (Nikkah & Redzuan, 2010; Labonté & Laverack, 2008; Kabeer, 2005; Malhotra, Rohini, & Grown, 2003). This paper reports only 50% of data from the main study which cover the 2- zone of brackish water fisheries community. The descriptive statistic and Binary Logistic Regression (BLR) Model were used to present the data and to test the HO1 (no indicators predicts high empowered matured and older rural women leaders).

4. Results

Background of the Rural Women Leaders

This sub-topic presents the findings on RO1 (to profile the background of the respondents). There were 101 respondents in this paper, representing matured and older rural women CSO leaders in the freshwater fisheries community. Table 2 shows the distribution of respondents by six demographic backgrounds, namely location, academic background, age, marital status, working status, household income status. The respondent in this paper are rural women CSO leaders and they are mainly from Hulu Terengganu with slightly higher (53.47%) than rural women CSO leader from Jelebu (46.53) are reported (Table 2).

Table 2 Background of Rural Women CSO Leaders (*n*=101)

Socio-demographic	Variable	*n*	%
Location	Jelebu	47	46.53
	Hulu Terengganu	54	53.47
	Total	101	100
Academic Background	Low	34	33.66
	High	67	66.34
	Total	101	100
Marital Status	Single	29	28.71
	Married	72	71.29
	Total	101	100
Working Status	Not Working	60	59.41
	Working	41	40.59
	Total	101	100
Household Income Status	Poor	98	97.03
	Non-poor	3	2.97
	Total	101	100
Age	Mean	55.37	
	S.D.	7.311	

The academic background was divided into two categories: low academic background is referring not to school and primary level of education, and high academic background is referring to the secondary and tertiary level of education. Among rural women CSO leaders show a high majority (66.34%) had high level of academic background and only 33.66% of the respondents had low academic background (Table2). This paper reports 71.29 percent of respondents in married, and 28.71 percent are single marital status involved in CSO (Table 2). On average, rural women CSO leaders involved in CSO, in this paper are married. The mean age of the rural women CSO leader who are involved in this paper was 55.37 years old (SD=7.311 years old) (Table 2). The rural women CSO leaders involved in this paper are the majority, 59.41 percent not working and 40.59 percent in working status while involved in CSO activities (Table 2).

The household income status was divided into two categories namely, low academic background is referring to received income lower than B40 income which is RM4850 (DOSM, 2020) and non-poor is referring to received income above than B40 income per month. This paper reports 97.03 percent of rural women CSO leader in poor household income status and only 2.97 percent of rural women CSO in non-poor household income status. The conclusion, matured and older rural women CSO leader are majority from Hulu Terengganu, have high academic background, married, not working and poor household income status.

Indicators Predicts High Empowered Matured and Older Rural Women Leader in Malaysian Freshwater Fisheries Community

This sub-topic presents findings on RO2 (to identify the indicators that predict matured and older rural women leaders in the high empowerment category). Thus, one null hypothesis tested was HO1 (no indicators predicts high empowered matured and older rural women leaders). The BLR was used to test the HO1. The DV was high empowered=1, and low empowered=0, which was dichotomous DV. The BLR Model fir and significant (p<0.05) to predict high empowered category. Thus, HO1 was rejected. In 33.8 percent variance in the DV

can be explained by the IVs (Table 3). Only three indicators had significant (p<0.05) predictors of highly empowered respondents – marries, high level of leadership and high of general wellbeing (Table 3).

Table 3 Wald Chi Square Predict High Empowered Matured and Older Rural Women Leaders (*n*=101)

	B	S.E.	Wald	df	Sig.	Exp(B)
Marital Status (Married=1)	1.468	.537	7.476	1	.006	4.339
Academic Background (Low=1)	-.552	.507	1.184	1	.277	.576
Employment Status (Not working=1)	-.641	.509	1.586	1	.208	.527
Level of Leadership (High=1)	1.439	.650	4.911	1	.027	4.218
Level of Gender Awareness (Low=1)	-.575	.497	1.339	1	.247	.563
Level of General Wellbeing (High=1)	1.043	.517	4.065	1	.044	2.838
Constant	3.441	.816	17.795	1	.000	31.223

The married marital status predicts 4.339 times likelihood of matured and older rural women in high empowerment category (Table 3). The high level of leadership score predicts 4.218 times likelihood of matured and older rural women in high empowerment category (Table 3). Meanwhile, high level of general wellbeing predicts 2.838 times likelihood of matured and older rural women in high empowerment category (Table 3). In conclusion, matured and older rural women leader participated in CSO in freshwater fisheries community with high level of leadership score, married and high general wellbeing are highly empowered.

5. Discussions and Contributions

This study is to identify the indicators that predict matured and older rural women leaders in the high empowerment category. The findings in this study are in agreement with other studies that confirm the women in married relationships (Thandar, Moe, & Naing, 2020; Batana & Ali, 2015; Rammohan & Johar, 2009), high level leadership score (Bayeh, 2016; UNDP, 2015; Moyo, & Francis, 2010) and high level general wellbeing predicts the high empowered rural women CSO leaders.

The result on Table 3 shows that married marital status predicts high empowered matured and older rural women as CSO leader. According to Sharma and Shekar (2015), they

also discovered a link between women empowerment and marital status where they have a voice, mobility, decision-making authority in the home and the ability to choose in the household. This was supported by Thandar et al (2020) where women in the household have high academic background, treated equally in decision making, empowered in the household is likely to help them reduce the negative attitudes of women in the household as well as in the community. The findings on Table 2 shows that 66.34 percent of matured and older women CSO leader had a high level of academic background, thus, this may help married women to participate more in decision making and be empowered (Pambè, Gnoumou, & Kaboré, 2014; Boateng et al., 2014) to reduce negative attitude toward women's involvement in FAES in order to reduce the household poverty.

The result showed that matured and older rural women CSO leaders are truly had a high empowered when they have a high level of leadership score (Table 3). With high level of leadership, they actively engage in setting the agenda (Moyo, & Francis, 2010) and freely evaluate, develop, and articulate their wants and interests, without these being pre-defined or imposed from the other party (Oxaal, & Baden, 1997). It is because women's needs or demand are going to differ based on social or the communities in which they live. For instance, rural women in the fisheries community, their needs are going to differ due to the masculinity of the economic sector (Sataporvanit, 2018). Thus, they need to be empowered to help them to reduce household poverty (British Council, 2017; FAO, 2017; Pounik, 2013) in fisheries community.

Moyo and Francis (2010) also state that high empowered women can be achieved by men's cooperation and support to participate in a community where men and women may jointly debate on topics important to women and local communities. By recognition this reality on women needs and voice in community will aid the implementation of empowerment programmes that are more sensitive to the gender and the community as well as in fisheries community to combating poverty among women especially for the matured and older women.

This due to the matured and older women in this paper reported high majority (97.03%) in poor household income status.

According to the Moonzwe Davis et al. (2014) the degree of women empowerment may fluctuate may due to their wellbeing, as a result of ageing, household income status, responsibility in the household, social and other difficulties. This paper shows that matured and older rural women face the similarity of the difficulties, for instance, their age, poor household income status, responsibility to the household due to their marital status and also living in the fisheries community. But, the findings in Table 3 shows that a high level of general wellbeing predicts high empowered matured and older women. These findings supported by many previous studies said that better wellbeing is always associated with the high levels of empowerment (Moonzwe et al, 2014; Rocca, Rathod, & Falle, 2009; Parpart, Rai, & Staudt, 2003). Thus, this can conclude that the difficulties suffered by matured and older women CSO leaders did not effect on their wellbeing and their empowerment in the community. Besides that, if women are highly empowered, they were able to join the organization and women's group to share their opinion or their thought in addressing some of the women's issues without seeking the permission from the husband (Moonzwe et al, 2014; Rocca et al., 2009).

Nevertheless, if the women have a conflict in the family, may due to the patriarchal culture in the family and community, they are likely to fail to be empowered and may have negative or unexpected consequences in the community (Dalal, 2011; Rajendran, & Raya, 2011). Thus, if the empowerment program only focuses only on the development of women, it is likely to fail because of normative attitudes and views of the spouse, household and the community (Dalal, 2011).

6. Conclusion

This paper concluded that married marital status, high level of leadership score and high level of general wellbeing predicts high empowered of rural women CSO leaders. Empowerment programs among matured and older rural women through CSO should be given

to the ordinary members of CSO who are single mothers with low level of general wellbeing. This paper proposed a related program in the fisheries community and support the knowledge regarding women empowerment, which is a major tool in combating poverty. With high empowerment of matured and older rural women leaders, their voice can be heard to improve the freshwater fisheries community in poverty eradication and gender barrier through CSO.

Acknowledgments

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Transient Poor Women's Breakthrough: Involvement in Local Electoral Politics

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Abstract

Studies of women's involvement in the Local Election Ad hoc Body are inadequate. Simultaneous, most studies of Provincial head elections only focus on female candidates, or women's participation in the Election Commission Agency. Women involved in ad hoc electoral bodies come from transient poor groups. The purpose of this study is to identify the motives of transient poor women entering the realm of political practice. Their goal is definitely not to get income, but there are efforts to strengthen their social position. This study applies a descriptive method, the basic analysis material are secondary data from the Election Commission database; and narratives of FGDs in two districts of Bengkulu Province. The study shows that the position of transient women's involvement in public sphere and their solidarity are strengthened. Having women in key positions is important to promote other women. Through activism in Ad hoc bodies, transient poor women expand their networking and expansion of public/political space. Most female members of the ad hoc bodies experience changes in the domestic division of labour. The study notes that, for women, one of the "upgrading" strategies is in electoral politics. The future for sustainable democracy is supported by this transient women's group.

Keywords: changes in division of labour, local electoral politics, transient poor women

1. Introduction

There is a current phenomenon in the Governor Election 2020 in Bengkulu, Indonesia; it is an issue on the involvement of transient poor women's groups in the Ad hoc Election Agency. Different from the General Election Commissioner position (*KPU*), the members of the Ad hoc Board are in the positions of semi-managers, or low leaders at the operational level. Although not many studies have been taken on this issue, the previous experience of the 2015

Governor Election shows that there was a visible representation of women members at the Ad hoc Boards (Hendrastiti, 2016).

In 2015, the member recruitment of the Ad hoc Boards was less transparent, information was hidden, registration time was short, local candidates were difficult to meet the requirements, and there were cases of nepotism. On the Election, the study noted that information on women's participation in Ad hoc Bodies was very poorly documented. Including in the 2015 governor Election report, it does not have a gender disaggregated data on the Ad Hoc Agency; the data available is only single data (Hendrastiti, 2016, 64).

Law No. 7 / 2017 has stated the position of the election committee which includes ad hoc bodies at the sub-district level (PPK), village level (PPS), election sites (KPPS), as well as overseas team (PPLN and KPPSLN). Different from commissioner's membership, members of the Ad hoc Board are not protected by the affirmation scheme and gender equality. This research is important, because the results fill the information gap about the struggles of women to enter the membership of the Ad hoc bodies. Unexpectedly, the content of the involvement of the women has been far exceeded than the researchers' expectations. The women involved in the ad hoc agency include the transient poor; their involvement in ad hoc bodies brought about a change and improvement in their socio-economic position.

The purpose of this paper is to analyze the narrative of the involvement of the transient poor women's in the Governor election 2020. In addition, this study provides an indication of the strengthening of transient women's groups in politics; it is happened as a consequence of their involvement in the realm of electoral politics.

2. Literature review

In general, we know that Simone de Beauvoir's study of women's existence (1949) and Ester Boserup's study of women in development (1970) have opened important discourses in the study of social, cultural and political studies at the global level. In Indonesia, the classic record

of the women's movements rises about improvement of women's living conditions starting with individual activism: as by Kartini, Dewi Sartika, Tjut Nyak Dien, Rasuna Said, Marta Christina Tiahahu. This individual activism took place in the early 20th century; that activism contributed to the milestones of the more organized women's movement nationally. The record of the women's activism became a reference for the rise of the women's movement in the 1920s, it was written by Sukanti Soeryocondro (WRI, n.d.). Then, a contemporary study of the women's movement mapping was written by Wulan (2011).

A book chapter written by Irianto and Hendrastiti (2020) underline the disappearance of the small narrative of women behind the big narrative of the nation's history. Women's daily contributions are not exposed, or are considered less "valuable", and are only considered as ordinary events. The interests and violations of women's rights are not an important issue in the dominant political perspective. It is a reflection of injustice thought in history, politics, policies, and even the state budget. This is also the root of the loss of visible involvement of women in Indonesian history (p.7).

In pre-independence period, women were involved in the nationalism movement which was very advanced; including voicing critical issues such as education of indigenous children, child marriage, labor issues, trafficking in women and children (Irianto and Hendrastiti, 2020, 11-12). Post-independence, accordingly, women's organizations were affiliated to political parties, and reaped the benefits of expanding women's public spaces. In the first general election in 1955, women were already involved in the process and succeeded in placing 17 women (7%) in the DPR, totaling 255 people.

Similar to other civil society organizations, the activism of women's organizations considered declining during the authoritarian New Order administration. The harsh pressure of the New Order military regime actually pressed to the rise of progressive independent women's movements, such as *Kalyanamitri, Suara Ibu Peduli.* Post-reform, the women's movement has been flourishing, successfully gaining urgent issues such as attaining quotas for women's

representation in the Political Law, Law No.12/2003, revised with Law No.23/2004 for the 2004 Election, Law No.10/2008 for the 2009 Election; it is also attaining a zipper system for following two elections in 2014 and 2019 (Irianto, & Hendrastiti, 2020, 10 – 24).

Localising democracy is taking a path towards good practice democracy, where women from the low levels begin to take public spaces and dare to present actively in political contestations. The realm of women's movement in politics no longer belongs to elite women's groups. The movements have spread to the grass-root groups. For examples the involvement of transient poor women's groups in the operational election bodies.

Women's studies on Politics

Discussions on democracy, in general, always fail when the discussion goes into the context of the involvement of women. In feminist's studies, which contain an epistemological formulation, reflect study on efforts to advocate for women's suffrage and political rights; where the results of the reflection show the importance of changing the context, both politically and culturally (Naples, 2013).

According to Naples (2013), the concept of sustainable democracy is a more open approach, which promotes welfare for all citizens and advances social justice. This concept really accommodates the interests of women and other marginal groups. The practice of sustainable democracy emphasizes the strategy of everyday citizens' practices and their participations. Thus, this discourse maintains and develops self-awareness for the development of a future vision that is more economically just, peaceful, inclusive, and socially just. There are five dimensions to acknowledge the existence of a sustainable democracy, Naples (2013) believes that it is necessary to fulfill five dimensions: (a) strategies for inclusion, (b) methods of empowerment; (c) countering power imbalances; (d) organizing across differences; and (e) process of reflexivity.

Several studies in developing countries show that women's involvement in politics reveals the same trend of progress and constraints (Rameez, 2018; Richie, Rogers, & Saurs, 2014; Deepa, 2014; Orisadare, 2019). The Rameez study (2018) in Sri Lanka states that the level of women's participation in the national and local parliaments is still low, but strong involvement in the fields of social welfare, livelihood, and social security gives good hope for the future of politics and policy (p.2). One thing needs to be encouraged is representation in strategic bodies, for example among minority Tamil-speaking women groups in the Eastern Province of Sri Lanka:

"Although women are absorbed as members into Women Rural Development Societies and Social Audit Committees formed by various non-governmental organizations (NGOs) and civil society organizations, their active participation in those committees is unsatisfactory …" (Rameez, 2018, p.2)

Our second review is the study of Richie, Rogers, and Saurs (2014) in Maldives. Ritchie's et al study state that women are very active in grass-root organizations. However, the representation of women in political bodies and top management positions remains very low, at 5.88 percent. The obstacle to women's advancement is the strong pressure from the external system, which frames women's internal constraints, such as lack of self-confidence, especially in public speaking. As a result, it covers the opportunity for women's advancement, networking and political participation. Moreover, the study found out that the political costs there are very expensive, and women are not able to compete in elections.

Study indicates that media has also violated human rights against female politicians. For some media objectifying female candidates is more attractive than focusing on their qualifications:

Although interviewees shared diverse views about female candidates' access to the media, most agreed that the media often objectified female candidates rather than focusing on their qualifications for office, what men they associated with, rather than on their qualifications

for office. This was especially true of social media, which was used for character assassination during campaigns and had an adverse effect on female candidates. (Richie, Rogers, & Saurs, 2014, 25)

Deepa's study (2014) on women's involvement in politics in Darjeeling, India – shows interesting results. Although the research context is the involvement of local women in water management; at least it is important to show that the role of local women in conflict-prone communities is very strategic (p.243). In conflict settings, women form solidarity to end class and ethnic-based conflicts. Women seek their own space so that they participate in overcoming the causes of women's decline in politics.

To analyze the position of women in politics, Deepa raises a fundamental question: "Are women unable to change politics because of deep-rooted patriarchy, or does the prevailing culture of power and politics also co-opt and corrupt women?" (p.246). That question is not easy to answer. However, the nature and context of women's involvement, and the changes brought about by this process of engagement, remains a matter of debate. It is especially important to answer the debate about in what context and under what circumstances this involvement occurs.

Orisadare's research (2019) in Nigeria shows that women's groups are an important pillar of politics at the grass-roots level. The results of her study should be noted: *firstly*, women's activism does not have a political agenda that is in line with other political interests; *secondly*, women's groups enjoy government protection and intervention by dominant economic forces; *thirdly*, knowledge of national and international gender equality regulations is very low, especially affirmative actions; *fourth*, women's organizations are not strong enough to encourage women's participation in politics.

From surfing references on Indonesian context, there is a book that can be used as a basis for analyzing women's involvement in politics, there is a work of Siti Musdah Mulia (2008). Mulia starts with the argument about women's being left behind in politics in a paradigmatic way; where there is a kind of covert "depoliticization" that is intentionally and

systematically gradual in women's participation. She believes that the process of "depoliticization" is thick and visible. Impact of the systemic political brainwash for women has been attacked their thought about political rights.

Ani W. Soetjipto (2005) discusses various aspects of the movement, struggle and progress of women in politics. On her book, Soetjipto (2005) gives some interesting themes of women's vulnerability. For example: the foundation of gender inequality in political context in Indonesia influence significantly to women's behavior, they stay silent in parliamentary meetings, less active in party management, etc. the book contains some other crucial topics, such as the formulation of women's positions in the reform era, women in elections.

The results Indonesia studies on women and politics are published in Jurnal Perempuan No. 79/2013 and No. 82/2014. Among the relevant titles for this study are Susilastuti's writing (2013) about the paradigm shift from the politics of ideas to the politics of presence; Zein Br Siregar (2013) wrote about the meaning of women's representation in Parliament. There are also other writings, such as the progress of women's assertiveness in political power by Hendrarti (2013), manuscripts on the political role of women in elections by Dhewy (2014), and Subono's (2013) writings about quantitative and qualitative measuring women's participation in elections. studies that have important points in the study of women and politics.

3. Methodology

Spirit of 'personal is the political' approach is very important in this research, as a central phase for feminist politics (Hughes, 2002, 9; Reinharz 2005). The experience of the involvement of women members of the Ad Hoc Board in the Regional election is a basic form of the emergence of feminist consciousness to enrich the context of electoral political knowledge. Feminist awareness does not appear as soon as women recognize their political rights. Women's political rights as human rights are the basic foundation of that awareness. Awareness about the crucial point of women involvement in political contestation is the next stage of affirmation and sustaining democracy.

The research location is in Bengkulu Province, with a concentration on the Ad hoc Agency of Bengkulu City and Lebong Regency. The rationale for choosing locations in the two areas of the Ad hoc Agency is their political turn out. Where Bengkulu City has the smallest political turn out, while Lebong Regency has the largest political turn out.

The core aspects of this study are: (a) knowledge and experience of women's participation in ad hoc bodies, competition, bargaining position and lobbying, distortion of membership winning. (b) knowledge of electoral structures and environments that shape access to resources.

The analysis of FGD narratives includes: (1) internal and external motives, experience, knowledge, connections, negotiations, and opportunity factors from the selection of Ad hoc bodies. (2) Identification of the women's experiences involving in the Governor Election 2020. (3) The contribution of transient poor women members of the Ad Hoc Boards to change their positions at home as well as at the community. Furthermore, the FGD narratives are included in the comparison matrix between theorizing and empirical narratives of transient poor women's groups.

4. Results

The comparison between previous studies and the findings of this study can be seen in the matrix / table 4.1 below:

Table 1 Comparison between previous studies and the findings of the study of the Ad hoc Boards of Bengkulu City and Lebong Regency

Previous Studies	Finding of the Study
Falch (2010), Jaffrey (2013), Naples (2014), Richie, Rogers, Saurs (2014), Chettiach & Denney (2017), Rameez (2018), Orisadare (2019), Deepa (2021)	
Soetjipto (2005), Mulia (2008), Susilastuti (2013), Hendrarti (2013), Zein Br Siregar (2013), Dhewy (2014), Subono (2014)	Progresses and obstacles to the involvement of women in ad hoc bodies refer to the involvement of transient groups who have high life adaptation characteristics.

Previous Studies	Finding of the Study
Progress of women's participation	
• Grass-root women having a significant organizing strengthen	• Sufficient information about Ad hoc Agency recruitment • Having an experience of being a previous member of an Ad hoc Agency is very important • Knowledge & learning is the key to winning the Ad hoc Board membership contest
• Women's solidarity encourages networking and expands public & political space for local women	• Having some women in strategic positions is very important to promote and provide opportunities for other women
• Involvement of grass-roots women in the political process is the future for sustaining democracy	• To get recognition, women MUST prove their identity: integrity, loyal, honest, hard-working, and adaptable • Women's leadership becomes a future of democracy • Politics needs women; women must be included in the political process at any level • Women change old fashion systems that are less democratic; when a woman gets an authority, she immediately changes the local system to be more "fresh", fair and democratic
Obstacles Culture: • There are strong stereotypes: emotional, difficult to travel, religious reasons • Associated with physical conditions	• Women have social capital towards/from other women at various levels of the Ad hoc Boards; • Women are more active in proving their capabilities; • They accept the challenge of the "masculine system" – proving that women can work better; • There is a change in the division of labor at home; husband wants to help nurse (small) children, take school, cook food, etc; • They notice that community give them more respects.
Economy: • There is no fee to win the contest • Access to funders is small	• Among the female members of ad hoc bodies mutually promote other qualified women to sit on the other ad hoc bodies;
Politics: • Difficult to fulfil political roles • Representation of women in lower-level political institutions is insignificant • Female votes used to be forced to choose certain candidates on the election by their family • Access to policies for other women is low • As a vote gather	• Pre-condition of being involved in politics: start with family bargaining; • Upholding the substance of democracy; democracy facilitates women's involvement; • The strategy of "upgrading" participation on the electoral political path

Previous Studies	Finding of the Study
Media: • Representation of women in media is poor • Political assination for women • Low networking	• The media will report any problems with data, vote counting etc. For women who are members of the Ad hoc Board, they are often exposed to stereotyped biases, and low capacity • Women members of ad hoc bodies respond media treatment by working harder and with high integrity

Source: Primary Data from FGDs' notes - Bengkulu City dan Lebong Residence (2021)

5. Discussions and Contributions

The narrative of the findings in table 1 shows the details of women's involvement in electoral politics at the local level. The study reveals that there have been important philosophical advances in: electoral knowledge and practice; knowledge of leadership, especially in using data (meaning knowledge of reading statistics) and strategies to bring voters to polling stations to fulfill their political rights. They understand how to strengthen effective communication to avoid conflict; at the same time, they know that conflicts need to be resolved fairly and peacefully.

The female members of the ad hoc bodies can be identified as a transient poor group. Their adaptive character, such as easy to respond opportunities to advance and dare to take risks are the hallmarks of transient groups. From the virtual FGD meetings, it was clear that they recognized the potential for socio-economic and political positions within the Ad hoc Boards. Different from the character of the chronically poor groups, the transient groups have stronger networking, social capital, and a willingness to gain higher social ranks. This characteristic is keenly seen in the informants' narratives who participated in this study.

The FGD narratives reveal some knowledge that lead to women's significant attitudes in carrying out their duties. *Firstly*, knowledge about the meaning of elections in a democracy, and the importance of respecting the political rights of citizens, guides their attitude towards fulfillment of citizens' right to vote, regardless of the person, including persons with disabilities. From those significant behaviours, women who are members of the Ad hoc Boards reap the

benefits by establishing social relations increasing their social capital. Almost all of the FGD participants, both in Bengkulu City and Lebong Regency, believed that they had received appreciation from the community, including those who initially underestimated their presence in the Ad hoc Agencies. *Secondly*, their courage, as a result of their knowledge of electoral regulation as a work guide, is very important. In addition, leadership practices, such as firmness, consistency and integrity, are capital to overcome problems.

6. Conclusion

Based on the findings, women had experiences of being "underestimated" or underestimated since the beginning of their duties as members of the Ad choc Boards. This trivial treatment actually spurred the women members of the Ad hoc Board who passed the selection and occupied the seats of the members of the Ad hoc Boards; they work optimally and strive to perform with high achievements.

Various experiences as members of the Ad hoc Boards have taught them that they must adapt and must be more courageous, without hesitation in deciding a way out if there is a problem. The women admitted that it was quite difficult to unite the thoughts of other women. Unifying the thoughts of the other members was also not easy. The experience gave them a lesson on how to be a leader with all its risks.

After women get seats at the Ad hoc Boards, there are positive changes in the family and community, especially for the division of domestic labor. The change is part of their ability to negotiate inside the house. Family conflicts can be resolved, and their partners give them better support; partners involved in domestic activities.

Changes in society are clear, the membership position of the Ad hoc Boards seems to be quite important and respected in the community. Women do need to prove their capacity, and their commitment to public work. The success of running public work has an influence from home. Physical and non-physical supports are important for women to prove their abilities.

From this framework, it becomes the basis for recognizing the identity and existence of women. People have become more friendly and respectful to them. The task of the Ad hoc Agencies is considered a very useful task, and a trusted job. That is, their work has more value. It makes women internally also change, more confident and believe in their own capacity.

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Tracks 4: Media and Communication Studies

Impacts of Covid-19 Pandemic on Village Own Enterprises in Central Bengkulu Regency, Indonesia

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Abstract

The purpose of this study is to examine the benefit of village owned enterprises (BUMDes) to the village community and whether the pandemic covid-19 have an impact on the performance of the BUMDes and members social and economic activities. Total 10 BUMDes and 220 respondents in the Central Bengkulu were surveyed. Respondents surveyed includes managers of BUMDes, village head, communities and members, and community support officers at district and sub district level. Result indicated only 38,6% community participate in the BUMDes formation, 39,1% on the management election and 30,9% on supervision. Impact of the pandemic covid-19 social and economic benefit perceived by village communities such as changes in the method of communication, marketing, quality of environment, health and criminality.

Keywords: impact of pandemic Covid-19, social and economic benefit, Village Owned Enterprises

Analysis of Economic and Performance Impact of Covid-19 Pandemic on Bumdes in Pondok Kelapa District Central Bengkulu Regency, Indonesia

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Abstract

The purpose of this study is to investigate the economic impact of the Covid-19 Pandemic on Village Own Enterprises (BUMDes) and the performance of the business unit before and after the Covid-19. Survey conducted on all 14 active BUMDes in the Pondok Kelapa district, Central Bengkulu Regency. The results showed that of the 10 indicators tested, the economic impact and business performance showed the difference impacts. There are 7 indicators showing significant differences and 3 indicators showing no significant differences. The 7 indicators that show significant differences between before and after the Covid-19 pandemic are capital, operating hours, production equipment, product prices, number of products, income and number of product users. While the other 3 indicators, namely the management's income, transportation costs and profits, did not show any significant differences.

Keywords: impact of Covid-19, performance, Village Own Enterprises

Study on the Performance of Village-Owned Enterprises (Bumdes) During the Covid19 Pandemic in Central Bengkulu Regency, Indonesia

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Abstract

The purpose of this study is to examine the performance and efforts to optimize the performance of Village Owned Enterprises (BUMDes) during the COVID19 pandemic in Central Bengkulu Regency. Data analysis with a Likert scale is related to a statement of a person's attitude towards something as measured by a five-point scale. The results showed that the impact of the COVID19 pandemic on the economic performance of BUMDes the highest impact on: changes in business units, decreased income and increased prices of goods and services. In the social field, the biggest impact is on changes in the pattern of habitual arrangements and prevailing values and norms. Most respondents mentioned that high negative stigma towards Covid patients, which causing high anxiety and fear in a pandemic situation. In terms of environmental conditions, land use is less than optimal and potential sectors are less empowered. In the field of BUMDes institutions, the distribution of funds to BUMDes has been hampered, income from business units has decreased, the development of a more diverse BUMDes business unit has been hampered, the contribution to village generated revenue has decreased and the service performance of BUMDes has declined. On the efforts most respondents indicate needed support on capital assistance to BUMDes, the formation of new business units and in accordance with the needs of the community during the pandemic, training on human resources capabilities in managing BUMDes, equipping existing BUMDes business units and establishing collaboration with other institutions and partnerships.

Keywords: business performance, Village Owned Enterprises

Tracks 5: Science, Technology, Health and Wellness

Low Cost Options in Tissue Culture Technology for Rural Agriculture Development

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Abstract

Principal application of tissue culture technique is to produce high quality and disease-free planting material to meet the demand in a short period of time on a year-round basis anywhere, irrespective of season and weather. But high cost of plantlet production through tissue culture is a major concern limiting its wide application, despite its apparent advantages. Hence, this presentation describes the options for reducing costs in the establishment and operation of plant tissue culture facilities using local resources. It will elaborate the low cost options in designing laboratories, use of budget media, culture containers, reduced energy and labour saving and outreach of planting material to farmers in rural areas. Low-cost tissue culture is the adoption of practices and use of equipment to reduce the unit cost of plantlet production. The options should reduce the cost of production without compromising the quality of plantlets. Low-cost techniques of mass propagation should be established in developing countries for the improvement of agricultural productivity to empower sustainable food production where set-up and services for tissue culture are not readily available and where there is a shortage of economic sustenance.

Keywords: agriculture, budget media, local resources, low cost, rural development, tissue culture

Minerals and Nutritional Composition of Ikan Lunak Fish Product Produced by Fishermen's Wives Community (KUNITA) in Tok Bali During Knowledge Transfer Programme

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Abstract

The fishery sector in Malaysia has been playing an important role in providing employment and generating incomes to the nation for many decades. Fish is well-known for its importance animal protein source essential for humans' growth and health. Fish-products also receives high demand from all over the world due to the nutritional values and sensorial preference by consumers. In this program, ten fishermen's housewives from Kumpulan Wanita Nelayan (Tok Bali), Pasir Puteh Kelantan had participated in a knowledge transfer program to empower knowledge, skills and entrepreneurship. The community produces *ikan lunak* or soft boned fish product during the program. Fish with too many bones give inconvenience to be consumed thus often been underutilized or discarded. Thus, the objectives of this study were to determine minerals composition of ikan lunak prepared using two types of fish that were catfish and Atlantic mackerel fish. The minerals (Mg, K, Ca, Na and Zn) content was determined using Atomic Absorption Spectrometer (AAS) equipped with computerized auto-sampler. Nutritional compositions were determined according to AOAC methods. The results showed that ikan lunak fish products contained 2.54-3.46 mg/100g of calcium, 0.176-0.344 mg/100g of potassium, 0.1580-0.198 mg/100g of magnesium, 0.272-0.197 mg/100g of sodium and 0.122-0.132 mg/100g of zinc. The fish products also contained high amount of protein, fat and ash. In conclusion, *ikan lunak* fish product prepared using catfish and Atlantic mackerel fish were good source of minerals and nutritional compositions. This convenient fish products can be expanded for future markets to generate more incomes to the community.

Keywords: fishermen's wives community, ikan lunak, knowledge transfer,
        minerals composition

1. Introduction

Minerals are inorganic elements which could not be synthesized in the body and they have to be obtained from our daily diet. Plant and animal foods such as meats, fruits and vegetables and seafoods are great sources of minerals. Minerals are needed for growth and function of many important regulation and systems in human's body. Macro minerals such as Ca, Mg, K and Na are essential and nutritionally important for human's growth, thus, they are required in greater amount (100 mg/day) than micro minerals (<100 mg/day) (Prasanth, 2015).

The role of fisherman's wife in improving their household financially is undeniable. They contributed to the family socioeconomic status by participating in several economic activities (Purwanto et al., 2020; Fesenray et al., 2020). Therefore, there is a need for them to be supported with necessary knowledge on raw materials used, business financial management and diversification of processing activities using fishery raw materials in order to empower their economic status (Widihastuti et al, 2019). In this knowledge transfer program, the valuable knowledge of ikan lunak or soft boned fish processing and entrepreneurship were transferred to ten women's community residing in Penempatan Semula Nelayan (PSN) in Tok Bali, Pasir Puteh, Kelantan. They were endeavor of learning new skills and knowledge which could help them to enter business industry and improve economic status in the future. This community produced soft boned fish products from selected fish and paste food which are ready to enter the markets. Fish with too many bones are inconvenient for consumers' consumption. In addition, removing the tiny bones from fish flesh is uneconomical activity in manufacturing process (Min et al., 2019). Therefore this study is conducted to determine minerals and some nutritional compositions of ikan lunak or soft-boned fish product prepared using two types of fish.

2. Literature review

Calcium is a macro mineral and associated with dairy products, fruits and vegetables, cereals, meats, and seafoods. Inadequate intake or poor calcium absorption may contribute skeletal disease known as osteoporosis. Calcium is known to be involved in nerve transmission,

intracellular signaling, and hormonal secretion (Beto, 2015). Potassium is the major intracellular cation required for normal cellular functions in the body. It changes the membrane potential and allows the nerve impulse to progress. Some of potassium-rich foods include meat, fruits, grains, vegetables, fresh and dried fruits. Magnesium is widely distributed in green leafy vegetables, legumes, seeds, and grains. Magnesium deficiency may cause headaches, including neurotransmitter release and vasoconstriction (Sun- & Mauskop 2015). Zn plays a significant role in large number of enzymes or as a stabilizer of molecular structure of subcellular constituents and membranes (Mehri, 2020).

High pressure processing with thermal treatment is acknowledged in many industries to achieve desired microstructure and mechanical properties of the fish bone (Zhang et al., 2016) and prolong the products shelf life (Landl et al., 2010). High pressure processing supplemented with thermal processing can reduce microbial load or chemical preservatives (Mújica-Paz et al., 2011). Nutritional composition in food products are different among others depending on ingredients used, product type and processing method (Aripin & Huda, 2018; Rana et al 2021). For instance, hot smoking treatment in fish products increased the crude protein, crude lipid, crude fiber, ash, and other minerals contents (Rana et al., 2021). In other study, higher protein content was recorded in fried fillets and grilling than the rest of the cooking methods used (Marimuthu et al., 2012).

3. Methodology

3.1 Knowledge transfer program

Eleven fishermen's wives participated in this knowledge transfer program where *Ikan Lunak* fish processing technique was transferred to the community. The participants also learned several other topics related to food processing that were raw materials, cleaning processes, cooking process, packaging and design, sterilization, food spoilage, halal requirement and hygiene. Besides food processing knowledge, the participants were also exposed to Neurolinguistic and Marketing modules.
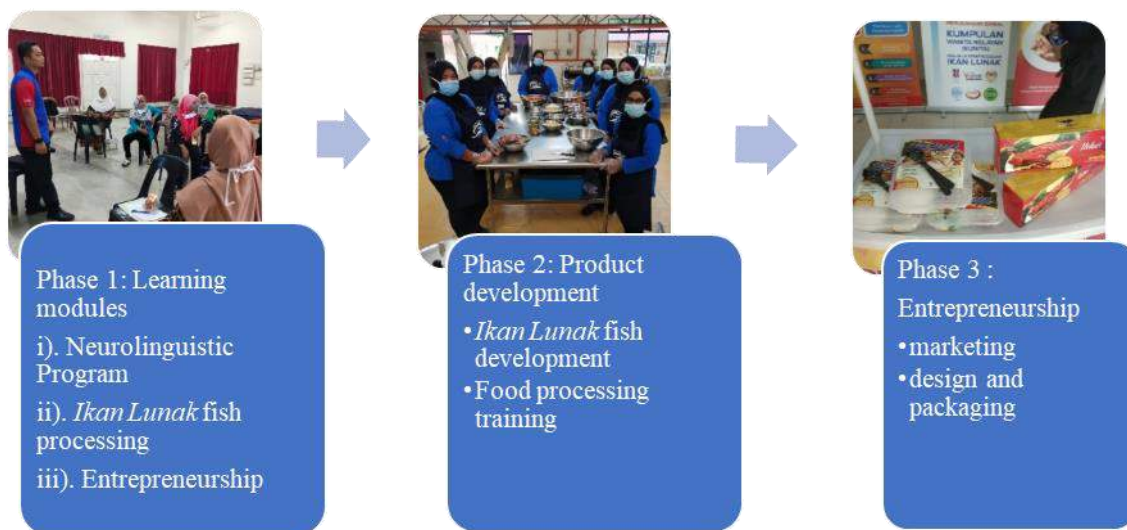
Fig 1: Knowledge transfer program involving women's community at Penempatan Semula Nelayan (PSN) in Tok Bali, Pasir Puteh, Kelantan.

3.2 Preparation of Ikan Lunak fish products

In this study, Ikan Lunak fish product without any paste food was used. The catfish (*Ictalurus Punctatus*) and Atlantic mackerel (*Scomber scombrus*) fish were purchased from a wet market in Tok Bali, Pasir Puteh. The fish were washed and the guts were removed before taken for processing. The fish was subjected for high pressure processing technique.

3.3 Atomic Absorption Spectrometry (AAS)

For the AAS analysis, 5 g of each cooked fish sample was weighed and subjected for wet digestion technique followed the procedure by (Chanda et al., 2014). Sample was filled in a crucible and digested in concentrated nitric acid (HNO_3) (5 ml) and sulphuric acid (H_2SO_4) (5 ml) and heated on a hot plate for 15 minutes. The digestion process continued with addition of concentrated HNO_3 (10 ml). The sample was then filled into a 50 ml volumetric flask and made up with deionized distilled water. Then sample was filtered using a syringe filter before brought for AAS analysis for determination of Ca, K, Mg, Na and Zn concentration. The concentration of minerals in each fish sample was calculated according to formula:

$$C = (a - b) \times V / m \times 1000$$

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Where, C= concentration in the test sample (mg/L), a= Concentration in the test solution (mg/L), b= average concentration in the blank solutions (mg/L), V= Volume of the test solution (mL), m= weight of the test portion (g). Results were collected in triplicate.

3.4 Nutritional composition

Protein, fat and ash content were determined according to AOAC methods.

4. Results

The minerals composition of *Ikan Lunak* fish products were shown in Table 1. Both types of fish used to produce *Ikan Lunak* fish products had the highest content of Ca followed by K, Mg, Na and Zn. Mackerel fish showed slightly higher content for all minerals evaluated than that of catfish. The cooked mackerel fish had higher protein and ash content while fat content was found higher in catfish (Table 2).

Table 1 The minerals composition of cooked catfish (*Ictalurus punctatus*) and Atlantic mackerel (*Scomber scombrus*)

Fish	Minerals content (mg/100g)				
	Ca	K	Mg	Na	Zn
Catfish (*Ictalurus punctatus*)	2.540 $\pm$ 0.030	0.176 $\pm$ 0.002	0.158 $\pm$ 0.001	0.246 $\pm$ 0.002	0.131 $\pm$ 0.003
Atlantic mackerel (*Scomber scombrus*)	3.460 $\pm$ 0.030	0.344 $\pm$ 0.004	0.192 $\pm$ 0.001	0.272 $\pm$ 0.030	0.122 $\pm$ 0.003

Table 2 Nutritional composition of cooked catfish (*Ictalurus punctatus*) and Atlantic mackerel (*Scomber scombrus*)

Test item	Catfish (*Ictalurus punctatus*)	Atlantic mackerel (*Scomber scombrus*)
Protein (g/100g)	42.8	77.8
Fat (g/100g)	30.0	1.5
Ash (g/100g)	13.6	16.2

5. Discussions and Contributions

Both types of fish used to produce ikan lunak contained major and micro elements essential for growth. Calcium has been the major element found in these two fish products. It was reported that calcium is the major elements exist in fish bone structure followed by the other macro and micro elements (Toppe, 2007). Fish bone is the solid by-product which is composed of minerals (21-57%) and calcium from fish bone has been known to show high bioavailability (Toppe et al., 2007; Malde et al., 2010). It was reported that heating process could destruct microstructure of fish bone thus improved the breakage rate and calcium released (Zhang et al., 2016). Both types of fish products were good source of protein and fat. The difference of protein content between these two products could be due to the myofibrils content and water soluble proteins.

6. Conclusion

Ikan lunak or soft boned fish products using two selected fish could serve as good sources of calcium, protein, fat and other minerals. The fish products also possessed another added value features which is a convenient food for consumers. Therefore, soft boned fish products can be considered in developing nutritious and convenient fish products for future markets.

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Effectiveness of Vermicompost on Soybean Pest Attacks

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Abstract

Soybean is a food plant that functions as a source of vegetable protein, feed ingredients, and industrial processed raw materials. The problem of pests is one of the causes of less than optimal soybean production in Indonesia. Pest control techniques based on IPM (integrated pest management) are increasingly being developed in line with the awareness of the importance of environmentally friendly sustainable agriculture. One of the components of IPM is balanced fertilization. Balanced fertilization is effort to change the tolerance of plants to pest attacks. Excessive use of inorganic fertilizers can reduce soil fertility, damage soil structure and cause environmental pollution. Vermicompost is an organic fertilizer whose composting process is assisted by earthworms. This fertilizer is superior to other fertilizers because it is more environmentally friendly, can improve soil structure, provide water and nutrients, contains growth hormones (auxins, gibberellins, and cytokinins) and humic acid. The purpose of this study was to examine the effectiveness of vermicompost against soybean pests. This study used a factorial randomized block design. The first factor were soybean varieties (Gepak Kuning, Anjasmoro and Grobokan) and the second factor were the dose of vermicompost (0 (without vermicompost), 5 tons / ha, 10 tons / ha). Observation variables include types of pests, percentage of pest attacks and pest population. The results showed that the soybean varieties Grobokan with vermicompost 10 tonnes / ha were more resistant to pest attacks than soybean varieties Gepak kuning, and the highest pest attack was on Anjasmoro variety without vermicompost.

Keywords: fertilizers, pests, soybeans, varieties, vermicompost

Perception of Farmer Toward Urban Organic Vegetable Crop Production in the City of Bengkulu

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Abstract

The Covid-19 pandemic has a remarkable impact on the social and economy of the world community, including the people of Bengkulu. The poverty rate has increased during the pandemic. Organic vegetable cultivation at the home garden has the potential to contribute to household income. The Farmer Group is a strategic unit to increase crop productivity and adjust to unfavorable conditions such as the pandemic. This study aimed to determine urban farmers' perception of the level of knowledge, benefits, and sustainability of organically managed vegetable crop production in Bengkulu. The study was carried during the early Covid-19 pandemic of 2020. Farmer Group Melati was purposely selected since its members had sufficient area around their houses for organic vegetable crop production. The study utilized a descriptive analysis method based on the respondents' questionnaire data. The result revealed that all of the members of the Melati Farmer Group had cultivated rice for at least ten years. Also, they had a good perception of the knowledge, benefit, and sustainability of organic vegetable crop production.

Keywords: Bengkulu, covid-19, organic vegetable, perception

Appendix

Author Index

Title Index

Research Full Papers Selected for Publishing in Journal of Social Science and Humanities Research in Asia (JSHRA)

No.	Research Title	Authors
1	Social capital and empowerment of the coastal fisher community in Terengganu, Malaysia	Tuan Muhammad Zukri Tuan Sembok
2	COVID-19 Framework on Human Capital Development of Single Mothers in Kelantan, Malaysia	Tengku Fauzan Tengku Anuar
3	Participation in Social Development Programs among Orang Asli: A case Study in Sungai Berua Village, Hulu Terengganu	Norhayati Ab manaf
4	Threats and challenges in the use of natural resources among Semaq Beri, Hulu Terengganu	Hairul Nizam Mohd Khori
5	Village Owned Enterprises (Bumdes) Status and the Role for the Community Welfare in Pondok Kelapa Subdistrict, Central Bengkulu Regency, Indonesia	Rinaldo Sikumbang
6	Study on the Performance of Village-Owned Enterprises (Bumdes) During the Covid19 Pandemic in Central Bengkulu Regency, Indonesia	Erlin Marlis
7	An Analysis of Economic and Performance Impact of Covid-19 Pandemic on Bumdes in Pondok Kelapa District Central Bengkulu Regency, Indonesia.	Aristho Refo Putra
8	Social Capital and Implementation Effects: Participatory Action Research for Poverty Alleviation Through the Earthworm Fertilizer Pilot Project, Mayo District, Pattani Province	Ainee Aedasong