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**Permaculture as an Alternative Way of Living:  
The Example of *Bumi Langit* in Indonesia**

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## List of Acronyms

AFES	Agrarian, Food, and Environment Studies
BL	<i>Bumi Langit</i>
FAO	Food and Agricultural Organization
PDC	Permaculture Design Course
IEP	Islamic Ecological Paradigm

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## **Abstract**

Modern agriculture systems in Indonesia have created adverse impacts both socially and ecologically and require a fundamental shift. In this research paper, I introduced an alternative of small-scale and local agricultural practice in Indonesia, namely permaculture. Although permaculture departed from a landscape design, it has been developing as a philosophical way of living which further implies a cultural and lifestyle transformation. Looking at a permaculture project located in Yogyakarta, this study has shown that permaculture which intersects with spiritual beliefs can contribute to the transformation through the implementation of three fundamental ethics of permaculture. The way in which permaculture incorporates values of care; centred around the environment, the community and equality, are ethics which support an alternative lifestyle that could generate an alternative agricultural system and furthermore a sustainable lifestyle.

## **Relevance to Development Studies**

This research paper was derived from a personal interest to get an understanding of an alternative practice, given the current unsustainable agricultural system under a global capitalist system. As an economist who dealt more with a macro problem, I wanted to draw more attention to a micro level in this research.

Permaculture, has the potential to foster a more sustainable agriculture – both socially and ecologically (Veteto and Lockyer 2008, Ferguson and Lovel 2014, and Hathaway 2015). Moreover, Fadaee (2015) places attention on the fact that there is hardly any literature which regards permaculture through a social lens, especially in the Global South. The hope of this research paper is that it will shed a light on permaculture literature which is much neglected in development studies. Despite its potential to be an alternative for the current mainstream agriculture practice, especially in Indonesia. Although the scope of this paper is limited, contributing to the theoretical gaps in a micro-level focus on individuals involvement in permaculture is what the aim of this paper is. Therefore, the paper tries to present an overview and assessment of a locally enacted alternative to current mainstream sustainable development.

## **Keywords**

Permaculture, *Bumi Langit*, alternative life style, agriculture, degrowth, political ecology, Islamic ecology



# Chapter 1 : Introduction

## 1.1 Consequences of development on agriculture, the environment, and the human diet

Modernization, a long-debated concept we often hear in this era of globalization is related to development. Placing “economic growth” as the central aim of development, modernization has helped the shifting change in various aspects of our life, such as technological advances, human interactions, human-nature relationship, and consumption patterns (Rostow 1960). Despite improvements that have been offered in the name of development, not all benefited from modernization as adverse socio-environment impacts have occurred globally, both in developed and developing countries (Chamala 1990 and Steffen et al. 2015). Rather than trickling down to the poorest members of society, it has created aggravating global inequalities (Guzman and Woodgate 2013). On the other hand, modernization is also perceived as a notion that contradicts “local value” (Galland and Lemel 2008). Having said this, the assurances brought by modernization has turned into the problems it brought up.

One of the strongest impacts of modernization can be seen in agriculture. Since the Green Revolution<sup>1</sup>, modernization has led to agricultural industrialization which has been described as an internal colonialism. It has robbed local people of their identity and negated local knowledge and institutions while at the same time degrading soil and biodiversity – especially in Third World countries (Guzman and Woodgate 2013 and Weis 2013). Works by Goering et al (1993), Altieri (2004) and Ferguson and Lovell (2014) have emphasized how modernization in agriculture has led to unsustainable farming practices in the name of production, efficiency and incomes for meeting corporate needs. It has disrupted traditional patterns and creating local crop shortfall thus worsening ecological degradation, poverty, and hunger.

Another problem within the era of industrial agriculture driven by the Green Revolution, are food related issues. As the aim was to achieve food security, agricultural policy was targeted to fulfil the demand of food at a cheap price with the increasing market-based or commoditized food-security. Yet, it advantaged urban consumers over rural producers which further worsens rural poverty. On the other hand, impacts were also perceived by consumers whom no longer recognise the ecological footprint of their consumption (Weis 2007 and 2013). This kind of diet has led to adverse consequences on their health. The Global Network for the Right to Food and Nutrition (2008) moreover released a report highlighting the contradictions of modern technology within the discussion of food. According to the report, food-related-problems were created in the era of digitalization, appraising or rather commodifying food production in global corporations. The combined impacts of a modern agricultural and global food system inherently results in marginalizing peasants and controlling human diets. Critiques have argued that for our agricultural and food system to be sustainable, it is important to redress these major concerns and redesign

<sup>1</sup> Green revolution or sometimes called Third Agricultural Revolution refers to a fundamental change in agricultural technologies (started in 1950s) and mostly happened in developing countries – especially Asia. The main aim was to solve the widening food crisis in the region as population kept increasing while on the other side land size was reduced (Hazell 2008)

the agricultural system to solve these problems (Goering et al 1993, Altieri 2004, King 2008, Ferguson and Lovell 2014, Hathaway 2015). What is needed is a more localized food production and distribution system, which preserves our biodiversity and knowledge.

## 1.2 Understanding Indonesia's context

Amongst developing countries experiencing the impacts of the Green Revolution, the history of Indonesian agriculture cannot be detached from the exorbitant use of chemical fertilizers and pesticides to attain self-sufficiency (especially in rice production). Starting in 1968 during the New Order era<sup>2</sup>, Indonesia's government had opened the gate for Western advisors and to the Green Revolution-based agro-development programs. Since, in the name of productivity; liberalisation in trade and poverty reduction, the Indonesian government has supported agribusiness eventuating in subsidy cuts for small farmers (Reuter 2017). Despite reaching rice sufficiency through agricultural intensification and extension, the Green Revolution in Indonesia did not occur without its obstacles. Modern farming solely kept production levels to reach self-sufficiency but this only created major environmental and food distribution problems. The biggest social and environmental impact occurred in Java as Soeharto's government favoured the development in this region due to its supporting nature, seen from the agricultural plants and policies<sup>3</sup> (Soen 1968). These impacts have been elucidated by some scholars.

The social impacts can be seen in Milich (1975); Manning (1988:2-10), and Partasmita et al. (2019). In sum, they explained that the advantages of the Green Revolution in Java were mainly experienced by large scale farmers whereas the small and poorest ones were simply left behind. This is due to the lack of access to land and rural credit for small scale farmers. As such, although the Green Revolution had introduced irrigation techniques, high-tech tools and superior seeds; these techniques only favoured those who could afford it. In addition to that, the Green Revolution was proofing the loss of local knowledge as there have been many traditional practices that were neglected after farmers started employing modern farming techniques. Various, due to the intense practice of chemical fertilizers; pesticides; mono-culture and intense use of water, Conway and Barbier (2013) recognized the recurrence of resource depletion and land degradation issues. Furthermore, the aforementioned results in the decline in the quality of agricultural products Las et al. (2006).

The long history of agricultural policy driven by the Green revolution in Java has resulted in the agricultural contribution of the province, to Indonesia's GDP. Although its contribution is not as significant as the wholesale and manufacturing sector, agriculture remains a crucial sector in Java Central Bureau Statistics of Indonesia 2019). Challenges in contemporary Javanese agriculture however have continued to persist and escalate. Driven by industrialization, the conversion of land to build highways and housing settlements have resulted in the reduced size of farmland threatening food security (Lestari 2017; Wahyuni 2018; Novalius 2018). Yet, as the most populous island in Indonesia, its population is projected to be increasing overtime (Central Bureau Statistics of Indonesia 2013). Another challenge is the

<sup>2</sup> New Order era refers to the controversial era of Indonesian second president governance – Soeharto – which last for more than 30 years. In this era, Soeharto made a shift political stands when Indonesia became an ally of the US in the Cold War (Reuters 2017) - in contrast with the first president (Soekarno).

<sup>3</sup> Through extensification and intensification of agriculture contextualized in *BIMAS* (*Bimbingan Masyarakat* / Mass Guidance) program. The program was intended to boost food production aiming for rice self-sufficiency.

declining interest in farming among younger generations, resulting in a decreasing number of farmers in Java (Indonesian Institute of Science 2015; Pribadi 2019; Pablo 2019). Given the paradox of modern agricultural farming, it is crucial to look for alternatives that favour social and ecological sustainability.

### 1.3 Background to the Proposed Study

In consideration of the problems that have arisen over the years, the phrase “think globally, act locally” seems to be well-fitted in this discourse. By this, I mean that socio-ecological problems have global impacts and require local actions to be taken. *Bumi Langit* project (BL) is one of the local initiatives that tries to offer a solution to such socio-ecological problems through an application of farming practices in daily life. BL was established in late 2006 by Iskandar Waworuntu and is located in Imogiri, Bantul District, approximately 15 km from the city of Yogyakarta. Imogiri consists of eight villages. Agriculture is a dominant sector in the region as approximately 24% of the residents work in the agriculture sector (Bantul Regency Government, n.d. and Stichting Tileng n.d.)

Figure 1. Maps of Yogyakarta



Source: FAO and Stichting Tileng

BL provides a place where people can understand/experience the significance of our relationship with nature, where men responsible for maintaining the balance between. As found on their website, their vision is to “become the center of community learning to understand and able to live natural *Sunatullah* living through permaculture farming and forest” (*Bumi Langit*, n.d.). In order to do this, they believe to “strive hard and fully attempt to implement all aspects of Islam in all activities that we do to effeciently contribute to the development of just, sustainable, loving, blessed and usury-free societies through food, energy, and financial sovereignty”. Even on

4 In english is Earth Sky.

5 He was born from a Dutch-Catholic father and an Indonesian-English-Jewish mother and converted to Islam in 2000.

6 Sriharjo, Selopamiro, Wukirsari, Girirejo, Karangtengah, Karangtalun, Imogiri, and Kebonagung. BL itself is located between Wukirsari and Girirejo village and occupying 3,5 hectare land.

their website, they cite Islamic values as the guiding principles of BL<sup>7</sup> (*Bumi Langit*, n.d.) As they are growing, their popularity has also amplified. Due to this reason, I was intrigued to learn about them for months. I first learnt about BL through my own exploration on the internet. I was fascinated by articles and interviews that revolved around BL as it favoured an alternative lifestyle amid modernization that intertwined religion and nature. As such, the interest to understand how a small and local initiative can impact its environment and society was developed.

## 1.4 Research Questions and Objectives

Departed from my own personal interest explained above, this research is intended to explore the initiatives introduced by BL and how they can be seen as an alternative of sustainable living. I based my research on the core questions: 'To what extent does BL contain guidelines that can be useful for other initiatives seeking to be socio-ecologically sustainable?' To answer this research question, I unpacked the core questions into four following sub-questions:

1. How do the BL members envisage the harmony between society and nature?
2. How do the BL members look after themselves and others?
3. How do the BL members promote equity and sufficiency among themselves?
4. How does the BL initiative relate to the concept of degrowth?

Therefore, the main purpose of this research is to explore and investigate how the BL actors relate and interpret their relationship to various aspects of society and ecology (sustainability, human needs, community, spirituality) amidst modernization. In order to unpack this main purpose, I intend to explore how the initiative by BL can be used as an alternative that contributes to a socio-ecologically sustainable agriculture in Indonesia. In addition to that, investigating to what extent the BL project could be seen as contributing to literature in degrowth in Indonesia is what I aimed for this paper.

## 1.5. Structure of the Research Paper

This research paper consists of five chapters. Chapter one is the introductory chapter which explains the nature of the problem – offering a brief definition of modernization and how it impacted Indonesia's agricultural food system along with the research questions and objectives. It is then followed by the second chapter, consisting of the literature review and conceptual framework of the paper. The third chapter will introduce and justify the selection of a qualitative, ethnographic case study methodology and the tools that I used throughout my research process. In that chapter I also discuss the potential limitations of this study, the methodology that I used and furthermore the ethical implications along with my positionality. The following fourth chapter will present my findings from the fieldwork and further discuss it, attempting to answer the research aim and objectives set out in this paper. I will then conclude my research paper, offering a brief overview of the summary of answering the research objective in chapter five. Moreover, chapter five will also be completed with suggestions for future research.

<sup>7</sup> Islam *tauhid*, *khalifah*, understanding nature and the environment, pure halal *thoyib*, open and embrace diversity, *asah-asih-asub* and teamwork to realize independence.

## **Chapter 2 : Conceptual Framework**

### **2.1. Permaculture: From landscape design to alternative to development**

#### **2.1.1. Brief background of permaculture**

The concept of Permaculture was first coined by two Australian scholars Bill Mollison and David Holmgren in the mid 70s. Both scholars initially envisioned permaculture as a response to the growing concern over adverse social and environmental impacts of the global capitalist socio-economic system specifically in accordance to modern agriculture (Mollison and Holmgren 1990; Holmgren 2002). The word is a portmanteau from “permanent” and “agriculture” which later developed into “permanent” and “culture” to emphasize the broader challenges of sustainable living. It has been perceived as a philosophy of lifestyle ethics – not just for landscaping design. Permaculture’s scope was widened from the design of smallholder agriculture to comprise of human settlement on a broader sphere (Mollison 1997; Holmgren 2002; Birnbaum and Fox 2014).

Although the term of ‘permaculture’ comes from Australia, the origins of permanent agriculture garnered its inspiration from farming practices in Asia, specifically Japanese natural farmer and philosopher – Masanobu Fukuoka (Fadaee 2019). Based on Holmgren (2002: xvii), permaculture as one of the environmental alternatives has been gaining interest since the first wave of modern environmental awareness influenced by a report from *Club of Rome* “Limits to Growth” in 1972 compounded by the oil crisis in 1973 and 1975. In the 1980s, public interest in permaculture was even accelerated as a result of increasing public awareness of greenhouse gas emissions in the second wave of environmentalism. Authors of permaculture believe that the concept can be a countercultural lifestyle. In order to stop the chaotic climax of the current global economic system and transforming as the socio and economic mainstream in a post-industrial system. The idea of permaculture as a transition initiative towards a post-development era is also discussed by Leahy (2019) in the post-development dictionary. Permaculture has been gaining popularity and developed from solely dealing with an agricultural landscape design, to a movement aiming to achieve sustainable development.

#### **2.1.2. Definitions and growing interest in permaculture**

The birth of permaculture, despite having its pro and contra (Veteto and Lockyer 2008 and Holmgren 2002) has been chronicled by various scholars (Holmgren 2002; Mollison 2002; Hill 2004; Permaculture Activist as cited in Veteto and Lockyer 2008; Alexander 2016; Fadaee 2019). The definition of the concept has certainly evolved from formerly being an agricultural strategy to presently be more relatable to all aspects of life: personal, economic, social, and political decision making (Leahy 2019). Many scholars and permaculturists working in the area have developed their own interpretation, resulting in limitless meaning of permaculture (Macnamara 2012: 1-2). All definitions have similarities which aim for a more sustainable agricultural practice both socio and ecologically. The first definition by Mollison and Holmgren in 1978 was referring to a system which is integrating self-perpetuating plants and animals that are useful to humans. This was then developed and published in their first book “Permaculture One” which was described as “consciously designed landscapes which mimic the patterns and relationships found in nature, while yielding an abundance of food, fibre, and energy for provision of local needs” (Holmgren 2002: xix). The later

definition places an emphasis on people, their building, and how to organize as the core of permaculture which then expanded the attention of permaculture to permanent culture. In 2002, Holmgren enhanced the definition of permaculture as a worldwide network and movement from both rich and poor countries whose goal is to create small local changes and target wider influence. It is believed that permaculture can be done and carried out by individuals, households, and communities. The diffusion of permaculture then was supported by the emergence of the Permaculture Design Course (Holmgren 2002).

As permaculture attracts those who seek independence from conventional farming encouraged by industrial agriculture, its deployment happened rapidly. One can see it from the massive number of projects revolving around permaculture, both in developed and developing countries. The interest of permaculture originates from various academic backgrounds including those emphasizing the sociological aspects, which contributes to the development of the concept. A definition from Permaculture Activist (as cited in Veteto and Lockyer 2008: 48) accentuates the drift of permaculture as merely dealing with agricultural practice as it says that

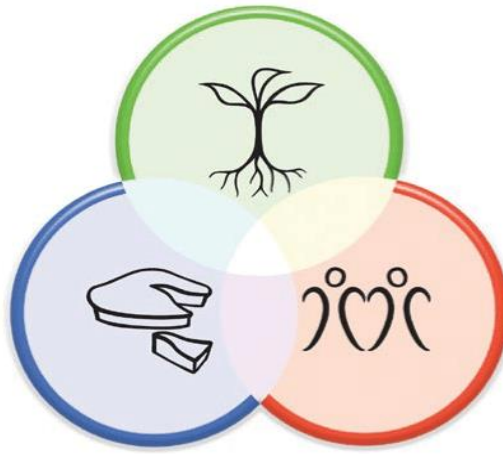
Embodying a philosophy of positive action and grassroots education, permaculture aims to restructure society by returning control of resources for living: food, water, shelter, and the means of livelihoods, to ordinary people in their communities, as the only antidote to centralized power

The definition provided above sees permaculture as a factor that not purely deals with agriculture but has also raised awareness of the potential of it as an alternate development strategy and a way to pursue a “good life”. As such, it has garnered interest in unpacking the social perspectives in permaculture (Veteto and Lockyer 2008; Hill 2015; Aiken 2017, Leahy 2019, and Fadaee 2019). Even to Fadaee (2019) who did her research in India, perceived permaculture as a social movement across classes. In order for permaculture to be practiced both in landscape design and on a social level, there are twelve design principles and three ethical principles that need to be adopted. While the twelve principles focus attention on the technical side (which is beyond the scope of this paper), the three ethical principles establish the building blocks of permaculture in a social lens. This will be elaborated in the subsection below.

### **2.1.3. Permaculture ethics as Philosophy for living on earth**

Although it was not mentioned explicitly in the first publication of permaculture by Mollison and Holmgren, permaculture ethics have existed within indigenous and traditional cultures around the world throughout history. The ethics were further explained by Holmgren (2002) as ethics became vital to ensure both the cultural and biological survival in the long-run by controlling the personal and social construct of self-interest which determines human behaviour. The three ethics of permaculture can be seen from the icon below:

Figure 1. Permaculture Ethics



Source: [permacultureprinciple.com](http://permacultureprinciple.com)

The first ethic (represented by a young plant) is “earth care”. This might be the modest ethic to comprehend. It is departed from the awareness that earth itself is a living organism and that we need to respect all life forms on it. Therefore, care for earth ethics encourages us to solve the consequences of human actions through modern farming practices. It is contextualized by maintaining the soil, forests, and water, working with nature, halting the damage done to ecosystems and furthermore trying to reverse the negative effects. With this ethic, permaculture taught us to rethink about our relationship with nature and that we should mimic it to create a sustainability. In order to do that, we need people to work together and this relates to the second ethic: people care. This ethic deals with how we take care of ourselves, our kin and community by fulfilling basic needs varies in different aspects; physical, emotional, social, and spiritual in a sustainable manner. The last ethic is called fair share, which promotes equality, justice, and abundance for current and future generations. This ethic has two aspects: limiting with limits and giving away surplus. It implies an invitation for us to live in a mindset to live with less and give a little more. (Holmgren 2002; Macmara 2012; and Hathaway 2015).

In sum, with these three underlying ethics, permaculture may be understood as a movement and a philosophy of back-to-earth lifestyle that envision a development beyond the capitalist system. It is not just about agriculture and or food, but it also relates with addressing social issues. It aims to encourage diverse actors, regardless of their social class and social capital. To achieve self-provision based on the ethics of care and equity, it is perceived as an approach that can address justice and sustainability in a holistic way.

## 2.2. Degrowth and Political Ecology: finding alternatives

The term degrowth was used first used in 1972 by Gorz (1972). This movement, is seen as an attempt to focus on the relationship between human beings and other organisms but also with the natural world. Yet it is not only about offering one single alternative to restructure the current mainstream development. Degrowth aims to pursue venues for a range of alternatives with the goal to downscale economies and the flow of resources in it to a just and equitable manner. In order to achieve

degrowth, we need a fundamental transformation in our lives and a cultural shift. It also deals with a reduction of production and consumption in terms of the orientation towards sufficiency rather than reliance on technological improvements. This will also allow the coinage of a more open, connected, and localized economies. “Sharing”, “simplicity”, “conviviality”, “care”, and the “common” are the main purpose of what society might achieve in order to create a better life (D’Alisa 2015). The notion of degrowth cannot be separated from political ecology as it goes hand in hand together.

On the other hand, political ecology deals with the existing power relations regarding access and control over resources, it points out how this relation tends to weaken marginalized individuals, communities, and the environment in which they live in. It furthermore tries to criticize and pursue alternatives of the interaction between environmental, political, and social-economic factors (Robbins 2004). Aware that both share the same vision, Theodoropoulos’s (2014) work complementing the explanation of the relation between the two. “Degrowth is the backbone of political ecology and political ecology is at the core of degrowth” (Theodoropoulos 2014:1). He revealed that political ecology emphasizes the anti-capitalist idea and furthermore seek to limit our needs. It also exposes the same value as degrowth characteristic where it rejects massive consumption, monocultures, and usage of chemical pesticides. Instead, it supports the idea of localized economy, decentralization, convivial technologies, crop rotation, and natural fertilizers, and self-sufficiency. These characteristics can be obtained through the deployment of permaculture. Capitalizing on this, I will move to the next subsection exploring the possibilities of permaculture to be a tactic for both degrowth and political ecology.

### **2.3. The Intersecting Roles of Degrowth, Political Ecology and Permaculture**

The definition of permaculture by *Permaculture Activists* (as seen cited in Veteto and Lockyer, 2008: 48), aims to enable people to become self-reliant by enhancing local resources which will detach them from the industrial system. Moreover, it will alleviate the social inequity and ecological degradation as a result of the global political economy (Mollison and Holmgren 1990 and Veteto and Lockyer 2008). In this sense, permaculture can be understood as a strategy of degrowth. I perceive it as such, owing to the fact that it offers an alternative for agricultural systems that attempt to capitalize on the knowledge and wealth across generations. It also shares the same view with the degrowth movement as it demands for a reduction of consumption and aims to create sufficiency on a local scale. Permaculture can be used as a strategy to make a radical lifestyle change because it is perceived as a “revolution disguised as gardening” which further implies a degrowth transition (Alexander 2016). This change will acquire the implementation of the three ethics of permaculture which have similarities with what degrowth values for. In addition to that, Fadaee (2018) also noted that the twelve design principles to some extent favour the same value with degrowth, such as the importance of using small and slow solutions.

To fill the theoretical gaps and achieve in finding viable solutions for the current model of development, it is also important for environmental anthropologists to engage with permaculture. This was explained by Veteto and Lockyer (2008) by carrying out field research in the permaculture community “Earthaven” (western part of North Carolina). In practice, environmental anthropologists should place more attention on their personal consumption and how they disseminate it to others. On



the other hand, the theoretical path seems more complicated by engaging five research programs within the field of permaculture – one of this being political ecology. This is where one can see the intersection between permaculture and political ecology. Both concepts are engaged with a “critique of current globalization trends emerging from a capitalism whose political power is centred in the Global North” (Veteto and Lockyer 2008: 55). Permaculture can equip political ecology in two ways. First, it investigates how individuals can offer an alternative lifestyle. Alternatively, it grants one the opportunity to study changes in the community in order to deal with challenges in achieving sustainability within the current global economic system (Veteto and Lockyer 2008). Brawer (2015) also argued that permaculture provides fertile ground for political ecologists to engage in socio-ecological projects as it perceives human relationships inside socio-ecological processes rather than outside – in contrast to top down development.

## 2.4. Islamic Ecology and Permaculture

Spiritual dimension is one of the important factors in reflecting on our relationship with nature. Vaughan-Lee (2013) argued in a collection of essays, that we need to explore our spiritual dimension in the midst of the worsening ecological crises. Furthermore, it shows that spiritual and environmental leaders across nations by setting the example for humanity to transform its relationship with planet earth by starting to heal and bring the world into balance. In doing so, one must take considerations of thoughts and beliefs from religions and other spiritual beliefs.

Islam is one of the religions that favours the importance of seeing one relation with the sacred nature as it is written in the *Qur-an* or Holy Book that humans are responsible to protect the Earth. Since the seventh century, principles of environmentalism within Islam has emerged (Islam 2012). He called it Islamic Ecological Paradigm (IEP) and argued that it resembles modern environmentalism. Modern ecological catastrophes generated largely by industrialization and modernity have led some Muslims to revive their traditions and implement in the modern context. It believes that “human beings are part of, and not above, nature, and have different responsibility to preserve nature”. As such, preservation and protection of nature is worship and that wasting is a sin. The view that humans need to take care of sacred nature is seen as a way back as a *khalifah* (responsible trusteeship). The discourse of Islamic theology on ecological issues has been studied sufficiently (Islam 2012; Kahlil 2014; Ammar 2019). Yet, Härmälä (2014) tries to put more attention on how it can be put into practice. Muslim doing permaculture, is one good examples of taking what she called a transformative islamic ecology. She conducted interviews to seven Muslim practicing permaculture across the world to understand why Muslims work in permaculture relates to their Islamic beliefs and practices. Most of my fieldwork respondents shared the same belief that as Muslims, they need to fulfil the role of stewardship which should start from knowing oneself and furthermore “all aspects of the world and the interconnected spheres of Islam, ecology, economy, and agriculture”. In addition to that, they see permaculture as “a way to get closer to God spiritually and a way to ensure that the food consumed is truly both *halal*, permissible, and *tayyib*” (Härmälä 2014:58). Furthermore, the strong linkage between being and Muslim and practicing permaculture has been argued by some of the practitioners (Hussain 2009; Grover 2012; Khan 2013; McCausland 2014)

## Chapter 3 : Research Methodology

### 3.1. Introduction

Months before coming back to Indonesia for my fieldwork, I started my initial contact with *BL* through emails, explaining my interest to do a research in their site and learn more about what kind of alternative of living that they offer in their site. Although their first response was not overwhelmingly positive, I visited their site soon after I reached Yogyakarta. As such, I was able to explain my intention in person to the ‘gatekeeper’ or spoke person. I was lucky enough to have the opportunity to be a volunteer in their site which allowed me to collect the data on which I will elaborate more to in chapter.

I will precise description of how the study was done. This research was designed to explore and understand how *BL* members implement and exercising permaculture and its ethics as their way of living and investigate to what extent they thereby problematize the modernization that is currently taking place in the country. In order to achieve the objectives of the paper, this paper is constructed using qualitative approach within an ethnographic case study. Selection of the site is explained and followed by a justification of the used research tools. The research tools that are used in this research are in-field observation with ethnographic interviews, secondary data from the site’s website and media coverage. They are completed by a permaculture literature analysis. In addition, I will also write about my positionality in order to acknowledge my personal bias and subjectivity. It will then follow by a brief explanation regarding the ethical issues that I faced throughout the research process.

### 3.2. Qualitative Research

According to Hammersley and Atkinson (2003) and Creswell (2009: 175), there are several characteristics of qualitative research which are well-fitted to my research approach.

- (i) Natural setting  
Qualitative research emphasizing the importance of face-to-face interaction with their participants over time. Therefore, it allowed me as a researcher to collect the data in the field by talking with the participants and observe their behavior and actions. This ‘real life’ and ‘day-to-day’ setting will gave me a lot of time with the participants.
- (ii) Researcher as key instrument  
This characteristic implies that as a qualitative researcher, I was the one who gathered the information from the sites that I visited. The collection of data was obtained by myself through exploring documents, observing behavior, and to interview the participants.
- (iii) Multiple sources of data  
In doing qualitative research, I did not rely on one single source of data and instead collected data from multiple forms such as interview, participation observation, and document analysis.
- (iv) Participants’ meanings  
I focused on my participants’ understanding of the issues, rather than bringing my own understanding in the research.
- (v) Interpretive inquiry

My central methodological objective was to end up with a convincing and coherent that about what I saw, heard, and understood from the participants.

In order to be able to make interpretations from the participants' point of view, Merriam (2009:5) argued that a qualitative researcher will need to uncover the meaning of the phenomenon under investigation and to understand how people interpret their experiences and what it means to them. Based on this, my research intends to unpack the insight from the lenses of the research participants. In this research, the participants that I met range from the founder, founding family, workers – including the farmers, and other active volunteers. Departing from the broad positioning of choosing qualitative research method in this section, I will then narrow my focus to explain my arguments for employing an ethnographic case study. The subsection will then followed by the brief description about the tools that I used.

### **3.3. Ethnographic case study**

As mentioned above, this research uses qualitative approach with ethnographic research technique and case study. Parker-Jenkins (2016) and Fusch et al. (2017) argue that with ethnographic case study can help researcher to employ long-term and intensive ethnographic techniques given the limitation of scope and limited field work time. The case study approach, according to Yin (2015) gives researcher an opportunity to explore the “how” and “why” within some particular social phenomenon. It can help to explore an “in-depth” description and investigate a contemporary complex social phenomenon within its real-life context – such as a small group behavior. In this sense, my research questions deals with uncovering how permaculture in BL can contribute to a more socially and ecologically sustainable flourishing. It allows me to investigate how permaculture as a social phenomenon worldwide is practiced by BL in their real life situation.

As a unique research technique, doing ethnography let me explore a community in a particular place which involves my participation in the daily life of a specific group. This is done to get the data related to my research questions by i.e. listening, observing, asking questions formally or informally interview, not to mention gather documents. As such, it helped me to learn how the members of BL interpret their relation with nature, how they take care of themselves and others, and how they promote equity among themselves.

The ethnographic orientation was contextualized by living in their site for three weeks (mid-July to beginning of August 2019) in order to understand and observe their daily interactions. I lived in their site as a volunteer who daily work in the farm. I was immersed in their farming activities which I mostly did with other volunteers under our mentors. Using ethnography research technique and by living in a permaculture and a community garden were also done by Lockyer (2007), Flasch (2013), Brawner (2015) and Thackeray (2017). This was done in order to get the sense of the permaculture experiences from the permaculture practitioners – of how it impacts their environmental worldview, relationship to the natural world, and their sense of community. In the completion of doing ethnography, I also employed some methodological tools which I will describe next.

<sup>s</sup> The mentor I meant here is the son of the owner. Although he gave us some freedom to choose what we want to do each day, we mostly follow his activities.

## 3.4. Methodological Tools

### 3.4.1. Ethnographic Interview

I used ethnographic interview in a style of unstructured format in informal settings as my questions were based and developed spontaneously based on my interaction with my research participants. This choice is supported by Zhang and Wildemuth (n.d.), Lofland (as cited in Fontana and Frey 1994), and Munz (2018) where both ethnographic and unstructured informal interview are seen as interchangeable and go hand in hand while being conducted in a natural settings. This type of interview is often a result of participant observation, which allows researcher to have relation with respondents. As I started to interview people after I engaged in their activities and established the relationship with them, I started to conduct the interviews as an interactive process (Munz 2018). Malinowski (as cited in Fontana and Frey 1994: 366) also stressed the importance of unstructured interviewing in conducting fieldwork as it aims to fathom a complex behaviors without enforcing any prior categorization that may restrict the field of inquiry. In the context of ethnographic field research, Sanchez (2014) enriched the usage of unstructured interview through his “go with the flow” setting to establish an ongoing rapport that allows follow-up interviews. To summarize, this subsection tried to explore why I employed unstructured interview tools. The informal unstructured interview in ethnographic interview was the most suitable in order to interact and building rapport and empathy with the members of BL. Doing such interview techniques made my respondents feel comfortable by conducting interview in their own settings. My data was mainly gathered in a “natural setting”: on the farm, in the kitchen, in the local traditional market, and in the house. Therefore, this gave me a chance to interview the founder while eating our dinner together and while working in the farm with other volunteers and farmers.

### 3.4.2. Participant Observation

According to Munz (2018), researchers who employ an ethnographic interview methods are both participant and observers. By doing participant observation, I gained insight on various aspect from the people who are involved in BL rather than solely the owner’s perspective. I followed Bernard’s (2011) work which states that participant observation can help researchers to immerse themselves into the social interactions that happens in the studied place daily. In order to immerse myself, I had to “resocialize” by adapting and adjusting within the community I was studying. The opportunity for doing participant observation was obtained through the offer to join as a daily volunteer<sup>9</sup> by my “gatekeeper” (BN)<sup>10</sup> on my first day of visit. As a participant observer, I was involved in their farming activities through permaculture. Being a volunteer was a part of my ethnography methods. Coughlan (2012), Flachs (2013) and Brawner (2015) show the advantages of being a volunteer in developing a qualitative understanding of the community gardens they were studying. They pointed out that an ethnographer, through volunteering as a gardener, can get the opportunity to gain access to different angles from the people involved in the garden. This was also applied to my research. Mohajan (2018) also suggested that being a volunteer can develop the

<sup>9</sup> The daily volunteer refers to a volunteer who work actively in the farm and live in the site. Beside daily volunteer, there was also weekend volunteer where one just come every weekend or occasionally. I chose to be a daily volunteer as it gave me a possibility to engage more with the people I interact with. In addition to that, it simplify my access to the site, rather to going back and forth.

<sup>10</sup> who was also a responsible person for BL contact person.

researcher's perspective from an insider's viewpoint. This enabled me to understand how they see their relation with nature and others which are the essence of my research questions.

### 3.4.3. Jotting Fieldnotes

As a crucial method to support participant observation, ethnographers need to generate field notes in order to gather and collect the data that are being observed. In doing the field notes and deciding where to put the foci of the field notes, one will need to choose based on personal choice, positioning, sensitiveness, discipline, and theoretical concern (Emerson et al 2011). Hammersley and Atkinson (2007) pointed out that it is crucial for researchers to record the data and organizing them neatly so that it is easy to go through the notes again. However, in contextualizing it, I mostly recorded my conversations with my informants and sometimes made notes within my smartphone instead of directly putting them in my fieldnotes. I then tried to complete all the fieldnotes at the end of each day. The reason behind this was due to my volunteering activities which lasted for the whole day. To make notes each day helped me to ensure that I recorded what I observed and heard in each day, which then helped me to identify themes and patterns in the data.

### 3.5. Reflexivity and Positionality

In doing a research with qualitative method, it is important to stop for a moment and reflect on the research process I was going through. This will give me the opportunity to reflect critically about my research process (O'leary 2004:176). In this research, I faced some dilemma and challenges. One's own positionality influences the research design and the implementation of the fieldwork (Crosa 2012). As an AFES student, I acknowledged that I had my own bias and that my research can be a kind of "scholar-activism" that "aims to change the world" as Borrás (2016) mentioned. Before starting the fieldwork, I had read the literature on permaculture as a social movement and as a philosophy of life; I was therefore expecting to see in BL a radical project, in agreement with my readings, and it took me some time to readjust to the reality that was under my eyes. My positionality during the fieldwork was both as a researcher and volunteer. As a volunteer I worked under a mentor which resulted in me spent most of the time with him and other volunteers. As such, I had a limited time to interact with other members – like the agricultural workers and the farmers. In addition to that, my identity as a non-indigenous woman of Indonesia, from a minority religion (Catholic), a Jakarta citizen who does not speak the local language, and a student studying abroad profoundly shaped how I interacted with the informants. This limited my understanding of the Islam principles. I also have a language barrier of not speaking Javanese. Though we interacted using Bahasa Indonesia, speaking Javanese language would have helped me to build a deeper rapport with the farmers as all the farmers are Javanese.

### 3.6. Ethical Consideration

Although ethnographers might operate in an overt manner, they will rarely "tell all the people they are studying *everything* about the research" Hammersley and Atkinson (2003:210). Ethical considerations remain an important aspect in contemporary research (Angrosino 2011). The important consideration at the beginning of my research process was to get access and consent from the owner of BL. As I have mentioned in the opening statement of my methodology chapter, I started my initial contact expressing my interest to do my fieldwork in their site through

emails. I also provided a formal letter from my institution to BL which asked permission for doing a research in their site. Although the first response was not giving me a clear-cut response, the spoke person of BL proposed me to see her face to face. As such, soon after I reached their site and talked with the spoke person, I explained that my research intention was only for academic purpose. After engaging in the volunteer program, I started to introduced myself to the people in BL as a researcher who was interested in their initiative. The first people that I asked the consent from regarding the possibility of writing about BL as my case study was the founding family (Mr. Iskandar – the initiator, Mrs. Darmilla – the wife, and Tantra – Iskandar’s son and my mentor). All gave me a green light and were willing to share their perspectives. Following up, I also identified myself as “doing research” to other volunteers, farmers, and workers in BL. They all formally accepted that I mention their names in my research.

### 3.7. Research Participants

Upon my arrival in the site, I was introduced by my ‘gate keeper’ that there are three main activities that currently take place in BL<sup>11</sup>. As my interaction with them developed daily, I started to map my research participants based on their working sites. My research participants were either the founding family, the other volunteers, the farmers, and the workers in the restaurant who also help in the farms. Although I had their consent to write about them, I decided to put initial in protecting their identity. Only for the founder and his wife whose names I used. The table below specify my participants’ initial name and their role within BL.

Table 1. Research Participants According to Role in BL

Categories	Initial	Role
Founding Family	Iskandar (Iskandar Waworuntu)	Founder
	Darmilla Hayati	Wife
	TW	Son
Foundation	BN	Spoke person
Farmers	PS	Chicken and duck cage
	PN	Farm site
	PG	Goat and cows
Volunteers	MM	Daily volunteer
	FF	Daily volunteer
	DH	Weekend volunteer
	TI	Weekend volunteer
	PH	Daily volunteer
Waiters and other workers	NS	Waiter and works in farm
	MT	Worker and farmer
	SA	Waitress
	AN	Waiter

<sup>11</sup> Waqaf Foundation, BL Farm, and *Warung Bumi* (the restaurant).

Source: Author's fieldwork

## Chapter 4 : Findings and Analysis

*“All the world's problems can be solved in the garden” (Lawton 2008)<sup>12</sup>*

### 4.1. Introduction

It was a sunny bright day on my first day of visit to *Bumi Langit*. I encounter a 3.5 ha land, organized neatly in front of me. The first I reached was the restaurant with a picturesque view of Yogyakarta city below. Several young men and women were looking at me, giving me a warm smile while doing their morning activities to clean. It was not only the restaurant that I encountered but also a huge farm consisting of various kinds of plants and other sites like cattle and poultry breeding. I also recognized that there were several houses spread within the farm. When BN finally came to welcome me and show me around the field, she introduced me to the permaculture word. She said “All this landscape was designed by Iskandar Waworuntu - or here we usually call him *Pak Is*<sup>13</sup>- it is called permaculture. You can learn more if you start volunteering here or even if you join the PDC” (BN 18 July 2019, personal interview).

To me it was amazing to see how they organized such a diverse farm and it was interesting to learn more about the philosophy that lies behind their farming activities. My research question sought to reveal how the alternative that is offered by BL can be a guideline for other local initiatives that seek to be more ecologically and socially sustainable. In reference to the research questions which were stated in the first chapter, I will elaborate the key findings categorized per the sub sections below. As I mentioned in the 3rd chapter, most of these observations and conversations took place in various locations; the house, the farm, the local market.

### 4.2. Unpacking BL and Permaculture in the people's eyes

As permaculture is a new term for me, I was trying to unravel how the members understand and perceive permaculture as their way of living. Although I did not get the opportunity to receive insights from everyone involved in BL, I obtained a number of diverse opinions from the people I interact with. Most of the knowledge and information about permaculture was obtained through the perspective of Pak Is (as the founder) and his son (MT) who is at present more active in the farm.

One night, I had the opportunity to have a conversation with Pak Is during a meal. I started the conversation with Pak Is about his life history. Pak Is was willing to share with me his personal life history of how he first immersed himself in farming activities especially permaculture. According to my interview with him, learning permaculture is a result of his spiritual journey in deepening his understanding about Islam. All of his life has been really challenging, arduous, and full of ups and downs. Even though Iskandar's parents had been associated with tourism in Bali, he made an ambitious decision to abandon his life of privilege and at age fourteen, left school to learn the *Bhagavad Gita*<sup>14</sup>, joined a hippy group in Byron Bay (Australia), which then led

<sup>12</sup> One of most well-known permaculture practitioners in the world (Buzzel 2008)

<sup>13</sup> “Pak” refers to the abbreviation of “Bapak” means “Mr.” in Indonesian language.

<sup>14</sup> According to Violati (2013), *Bhagavad Gita* is an ancient Indian text which is crucial for Hinduism tradition. This text is revolving around the subjects of finding “serenity, calmness, and permanence” in a changeable world and spiritual value is to be integrated with ordinary life.

to his environmental awakening. Since the 1970s, rather than returning to his family's luxurious hotel business, he chose to join a theatre troupe in Yogyakarta which criticized the Indonesian "New Order" government era<sup>15</sup>. His ten year journey with the dissident-theater troupe helped him to nurture his social and environmental awareness. In the 1980s, he left the theatre and migrated to Bengkulu with some of his theatre colleagues in order to learn about farming. There, he met Bu<sup>16</sup> Dar and decided to marry her. Both having the same vision in pursuing a life of living self-sufficiently, they decided to move to Bali in order to acquire knowledge about organic farming. More specifically, know-how about permaculture through a permaculture design course. As the culture in Bali clashed with Iskandar's Islamic beliefs, he decided to settle in Yogyakarta and established BL. BL was founded on a 3,5 hectare plot with the aim of self-sufficiency. Through BL, he invites friends and family to visit their farm and serves food from ingredients locally grown on their own land. With the encouragement of their relations, *Warung Bumi* restaurant was opened in 2014. This was also around the same time when people started to ask and demand for Pak Is to hold a certified PDC. In order to actualize this into reality, a foundation was established. For him, BL is a means to place emphasis between humans and nature. This is done through shared values of Islam and permaculture, as a way of living which also can be a solution for a post-modern society. BL is a famous permaculture pioneer in Indonesia to the extent that even former United States President Barack Obama visited in 2017, adding to BL's rising notoriety. (Prieta 2014; Palupi 2017; Renaldi 2017; Yuwono 2017, Iskandar, 2019, personal interview).

He then defined in more detail what permaculture is to him, saying the word *perma* means something sustainable and culture means life. Permaculture departs from a moral and ethical way of seeing life rather views it holistically. Although it is about landscape design, it uses wisdom as its basis.

By wisdom, I mean it is related with the three basic ethics of permaculture: care to earth, care to humanity, and fair share. I aimed BL as a place for reflection, the climax is usually at PDC. It is a life changing experience for people who had joined it. Permaculture had also become a world movement, a counterculture of modernization. It can be a lifestyle that maintains good relations with nature in the era where we tend to put human interest first (Pak Is, 2019, personal interview).

The interest of becoming a farmer and specializing in permaculture has also passed down to his children and is especially the case for TW<sup>17</sup> who actively contributes in the BL farms. Through being a volunteer, I had the opportunity to learn from him. His interest in permaculture has been developed since he was in high school. He is of the opinion that Indonesian land is very fertile that people can plant anything. This is why he started to learn permaculture. To him

permaculture is important, because it is not only about the landscaping design but also builds personal system in life. It is something that needs

<sup>15</sup> Refers to the controversial era of Indonesian second president governance – Soeharto – which last for more than 30 years.

<sup>16</sup> "Bu" refers to the abbreviation of "Ibu" means "Mrs." in Indonesian language.

<sup>17</sup> Pak Is and Bu Dar have 5 children: IW (33), TW (32), KW(26), WW (17), SW (9).



to be worked, more than to be talked or else it will only be academia talk. There are already many reports of how to make this life better by making this world fairer, cleaner, etc but the proof is not yet there. The best way to change is to start with ourselves. In permaculture, even though it was developed from an intellectual method, humanity was what we're trying to revive – the awareness. In permaculture, we are also invited to become a guard for productive forest, not only deals with agriculture. And here in BL, I perceived it as my place to study, to explore my relation with nature (TW 26 July 2019, personal interview).

MT, a worker responsible for taking care of the solar panels on the farm and helping with general tasks, views BL as a platform for studying. I was conscientious in obtaining from him what BL means to him; whether BL is just a place of work and how working in BL has shaped his environmental awareness. He answered adamantly that BL is more than just a working place. He sees it as a place for learning and as an organization. (MT 26 July 2019, personal interview).

I also got the perspective of what permaculture is from BN as she was the first to introduce me to BL and allowed me access and initiated first contact. It is also important to hear her perspective because as a BL spokesperson she interacts with most of the visitors while giving them a farm-tour. From my talk with her, she asserts that,

permaculture itself is a science of design. It is a combined word from permanent and agriculture. Here, we are not only practicing permaculture, but we also offer permaculture design course which aim to enable participants to design their own farm. It is a holistic system, a science for a self-sufficient life. Thus, though starts from planting, it is not all about planting. Currently permaculture is booming and BL tries to give platform by holding PDC. But for me, BL is always my place to go home (BN 18 July 2019, personal interview).

In addition to that, listening to other volunteers' perspective is also important as it illustrates how BL has impacted their awareness in upkeeping a sustainable life. In MM's point of view, BL offers the perfect opportunity to study through its course on permaculture to learn better self-sustaining farming techniques. She said she did not really know how to describe BL as for her it's a place for living and studying, but it is to some extent also a family business. Through the *Warung* and PDC. As far as she observed, BL's system itself is still developing – shown through the system in their foundation and volunteer program. There are a minute number of programs hosted by the foundation and practically none for volunteers. TI, another volunteer also shared what he believes permaculture to be. He has been going back and forth to BL over the past year, to help primarily in the farm. He admits that

the notion of permaculture is a patent culture that has long been practiced by our ancestors especially in Eastern culture, yet it is now gaining more popularity in a modern context. It is not something new, yet the principle can be related to our daily lives (TI 3 August 2019 personal interview).

To conclude this subsection, although permaculture and BL was a result of Pak Is' spiritual journey, the value that he wanted to bring was spread throughout the community as seen through the members' different understandings. All my research participants have a same idea that permaculture is not just about the landscaping technique nor agricultural system, but it could be perceive as a principles that very much relates to lives. The findings of different perspectives in interpreting what permaculture is and the motives behind it is similar to Brawer (2015) and Thackeray (2017)'s studies, where their participants (permaculture practitioners), shared different ideas in their activities.

### **4.3. About the sustainability aspect: how do BL members see their relationship with nature?**

In this subsection, I place attention to how BL members perceive their relationship with nature thus supporting the first philosophical ethic in permaculture: care for the earth. It is stated in their guiding principles "Justice to Nature and the Environment", the ethics of earth care is departed from the awareness that the earth itself is a living organism. As such it cannot be separated from ourselves, and this is linked with the first ethic of permaculture from Holmgren (2002). It implies that we need to preserve biodiversity, valuing life on earth, look to halt environmental damage (Macmara 2012). To Holmgren (2002), this ethic is associated with some kind of planetary stewardship which gives us the power to manage the earth in creative ways.

Through my observation and interaction with the people in BL, regardless of their role in the project, I realized that caring for this planet is the most prominent aspect in their daily activities. This is established from how they manage their land, to how they build houses; even how they maintain a zero waste principle thus ensuring the sustainability of the land. From Pak Is and TW, I learned that this first ethic was contextualized in practicing the twelve design principles which I will summarized below based on my observation in their land:

1. they collect dried organic garbage in the farm such as dried leaves, teak, and bamboo for making compost and restoring critical land,
2. teak are made for charcoal in order to balance the bacterial and pH for compost,
3. all food waste from household and restaurant will be minced as a paste and to feed maggots which will be used for feeding poultry,
4. sewage from all household and restaurant activities will be streamed to the fish pond which will be filtered by water hyacinth plants and the fish itself,
5. avoiding high chemical soap and detergent,
6. poultry and cattle manure are collected and will be stored for biogas which later be used for cooking,
7. using solar panel as their main source of electricity,
8. limiting the usage of machinery and instead modest tools, and
9. prohibiting the use of plastic in their area.
10. use variety of plants in order to maintain pest control and enhance the soil regeneration.

The implementation of twelve principles was similar with the practice found by Veteto and Lockyer (2008) in an intentional community in North Carolina named "Earthaven Ecovillage" where the residents live communally through permaculture principle.

On my second day of volunteering, the other volunteers and I were tasked to open a pathway in the farm that had suffered from erosion last wet season. We collected teak and bamboo to make the base and fill it with softer plants. I asked TW why and how these will be strong enough to hold the pathway. His answer is that we have to use what nature has provided us.

Nature has provided us with many facilities, our task is just to process it. This teak and bamboo will be a strong base. You see, here we have plant Banyan Trees. The root of these trees will hold all the teak and bamboo so it will be much stronger as a pathway. Therefore, we will not need concrete (TW 26 July 2019, personal interview).

TW also emphasizes the importance to go back to a natural system; “humans will have to understand their relation with the five basic elements (water, land, air, fire and space). Right now, industrial activities with their project has a severe negative impact to the environment” (TW 30 July 2019, personal interview). In addition to that, TW explained to me that the aim of permaculture is to create a food forest that favour a regenerative system, rather than just sustainability. He gave me an illustration of the comparison between both.

Imagine that you have an apple tree, if you just want to be sustain, you have one tree and you take care of it, then live from it. On the other hand, by regenerative I mean I have one tree which seeds I plant again and therefore produce another trees (TW 25 July 2019, personal interview)

He shared the same view with Brawer (2015) and Fadaee (2019) whom argued that permaculture aims for a regenerative gardening as sustainable solution might turn to be unsustain over time. In another example of how BL adheres to the ‘care for earth’ philosophy, I refer to the instance where I learnt from MT that instead of using normal wood, Pak Is chooses coconut wood. Coconut wood is preferred not only because it is a stronger substance for building houses, but also as it results in a decrease in deforestation (MT 26 July 2019, field note observation).

MT had told me, in relating it to a personal example, that learning about permaculture in BL, had changed his outlook of the environment. He asserts that

Another thing is that I feel is different to where I lived before, is the farming method. In Sumatera, most farmers, when not using some form of chemical fertilizer will think that they gain loss. But in Java, even if the farmers only have one plot of field, they will take care of it wholeheartedly. Here in BL, you can see that all of the fertilizers are made from cow dung; we don’t add any chemicals (MT 26 July 2019, personal interview).

In a follow up question, I asked if he was also a farmer in his hometown of Sumatera. He replies jovially, “Yes, I did. But I call it farming carelessly, in contrast with the work I do here. Everything needs to be thought carefully. Farming in my hometown overlooks sustainability.” He maintains that is not the case for BL. “If you want to cut a tree, you have to tell Pak Is or TW before doing it. And if you want to do it, you can only do it with a saw in order to prevent damaging other plants. We need to think about the long-term impacts” (MT 26 July 2019, personal interview). This exemplifies

how they think about how to manage the land in a sustainable way. However, one farmer, despite making and using compost as fertilizer in BL, acknowledged that he still uses chemical fertilizers in his own home as it will grow his plants faster.

On the occasion I had gone to the market with Bu Dar and MT, I observed that one of the vegetable sellers had handed us the cucumber in a plastic bag but Bu Dar refused it, saying “no no, I bring my own besek, get it out from the plastic” (Bu Dar 27 July 2019, field note observation). I first visited the traditional market on the 27th of July, and after two weeks of living in BL, I feel much healthier, given this local, organic, healthy diet that I am on. On the morning of August 8th I left with TI to venture to the traditional market to buy herbs for traditional drinks. Again, we had brought our own food basket (besek), so when we told the seller that we came from BL, she sharply responded with “Ah from BL, no wonder you don’t want plastics and bring your own instead. I know Bu Dar, the one that always go shopping here using *beseke*, right?” (Market vendor 27 July 2019, field note observation). The market vendor that we had purchased herbs from knew or had associated BL with a reputation of being eco-friendly and to an extent anti-plastic.

The views of human relations with nature was also obtained through other volunteers’ eyes. I started to notice that MM was really consistent in caring for the earth since the first day that I joined the volunteer team. In the afternoon, I saw her watering a pinto peanut plants while talking to the plants and started to labelling the plants hers “Ah my pinto, grow up faster” (MM 27 July 2019, field note observation). At another occasion, TI was digging a hole for making a pond in on site and he said to me that in order to effectively dig “we need to understand what the soil wants and follow it. It will be easier if we use a crowbar as at least I feel a connection to the land.” (TI 4 August 2019, personal interview). It was so hard for me to understand what does it mean by having a connection with the land. On one afternoon, I had a chance to visit a farmer (PG) whose job is to take care of the cattle. In his perspective, although the sheep or cows that he takes care in BL are not his, he always takes care of them as if he takes care of his own children.

Despite the activities carried out in BL, to Pak Is, BL is still far from a flawless landscape design and presents its own challenges. Alternatively, even though BL has its challenges, Pak Is still considers it an important project to enlighten people about the symbiotic relationship between humans and nature. “Even though you do not have to understand the technical way of farming, at least you are enriched by feeling the soil, water, and air – that is the important thing” (Pak Is 31 July 2019, personal interview). All the people that I interacted with has shared a similar idea that they have a more profound awareness and appreciation for the natural world since involved in permaculture.

#### **4.4. The Care Dimension between members and their society**

The ethics of care for people according to Holmgren (2002:6) are a “human-centred environmental philosophy that put human needs and aspiration as a central concern”. This ethic starts with paying attention to our own selves which is then expanded to our neighbours; local, and even wider communities.” It places focus on non-material values and benefits. This is complemented by Macnamara (2012), where she specifies that there are different levels of needs to be met ranging from physical, emotional, social, spiritual, and intellectual in a sustainable way. Leadership, openness,

kindness, acceptance, curiosity, patience, tolerance, vision, motivation, and sharing are skills that need to be practiced to contextualize this ethic. Care for people also implies that there is value placed in supporting diversity; accepting individuals' needs and allowing everyone a choice. This implies that people *do* have control over their own lives and thus less of an emphasis should be placed on the global system. Holmgren (2002) argues, "as we reduce our dependence on the global economy and replace it with household and local economies, we reduce the demand that drives the current inequities" (Holmgren 2002: 7).

In applying this to the context of BL, there is a particular quote which stands out to me as expressed by Pak Is. "It always starts with what we eat! We need to know where the food comes from. This is called ethical food. Where one can minimize the ecological footprint of our consumption" (Pak Is 28 July 2019, personal interview). I discovered that Bu Dar paid special attention to the food that was prepared and consumed. She did this by prohibiting the use of MSG (Monosodium Glutamate) in the restaurant and even amongst volunteers. Rather, she reiterated the importance of the ingredients coming from either the farm or the local market. In this sense, permaculture is a means of helping farmers and practitioners to meet their own basic needs of food, water, and shelter in a sustainable way. Although the use of MSG is uncommon in BL, some of the workers in *Warung* still using MSG when they cook in their own homes.

On my very first day, I noticed that the kitchen was situated as a place for the members to interact and socialize, regardless of what their role in BL is. I felt warmth in the kitchen for we all ate the same food – grown locally in their land and in the same area. I felt no boundaries between as well as amongst them. Upon interviewing MT, he believes everyone taking part in BL is like family. We always have our coffee break in the kitchen which is a part of Pak Is and Bu Dar's house. "Everyone here knows each other. Even Bu Dar's kitchen is open for public use. If you are hungry, you can eat and if that time no food is provided, you can cook on your own" (MT 26 July 2019, personal interview). In regards to the working system of the farm, it is quite flexible. If a worker comes in at 7am, he/she can go home at 3pm. If one works past 4pm, it is considered overtime. Remuneration is done either weekly or monthly (depending on the preference). Workers can choose to eat at the main house kitchen, or to be given compensation for their lunch money. Workers in the restaurant have Mondays off, while on the farm, there are no days off. They also have the attendance system. One is considered absent at 10am, when workers normally have their coffee break. It does not matter if workers cannot work for several days, the important thing is that they announce this in advance so that their shift can be covered. One waiter (SA) in the restaurant said that she feels really satisfied working in BL as to her all people there are friendly and everyone treats each other like a family. Yet, one farmer said implicitly says that he did not feel satisfied with his current wage as he does not get any day off during the week.

As volunteers, we receive a mentor whose project we have to help with and fortunately for me I had TW. From my observation, the way TW spoke and socialized with MM and FF in a friendly and approachable manner made me realize that he perceived both of them as his brother and sister. Not just solely as volunteers who needed to be told what to do. He even provided us an opportunity to explore what should we do that day, rather than just following him. To him, it is also one way to think creatively, which is one value that is being practiced in permaculture as Holmgren (2002) said. My initial impression of TW had been wrong, owing to how he interacted

with the other volunteers. It might also be because both MM and FF had been living in BL for more than a month. It then made me wonder, how many days will it take to make me fully integrate with them.

TW exhibited values of leadership and kindness as he always reminded us to have a break and so every coffee break or lunch time I would find opportunities to talk to the members. All the workers are allowed to enter the main house, eat and cook in their kitchen. During one of my lunch breaks, TW and I talked about how to take care of land. To TW, permaculture is a step by step process that takes a lifetime to learn by doing. When speaking of his vision for BL, he claims that “within the last 17 years, this land has been experiencing a massive degradation. The big problem is that people didn’t even get time to realize about it because we are seeing fast-paced reality” (TW 27 July 2019, personal interview). Speaking about the role that ordinary people can take and provides an example of his own case where him and a number of his friends received “approximately 700 trees to plant from the government” (TW 2019 27 July 2019, personal interview). Although he views that as an opportunity to give back, he was not provided with the land to do so. He continues with

we cannot just plant it as we need to make the foundation. Because if the foundation is not strong enough in the beginning, one day we will need to fix it but we have to kill the plants first. That’s not my work. For me, it is better to clear the problem from the root first. So even when I die after planting the trees, they will all live. Well maybe I am too idealistic. But if not that way, it’ll be a waste of time. Think about long-term plan investment. The economic benefit will be there - but the ecosystem advantage will be limitless even within short-term (TW 27 July 2019, personal interview).

On my third day of volunteering, as promised, I joined Bu Dar and MT to go to the traditional market. The traditional market (Imogiri Market) was not far – only fifteen minutes away. That morning, the market looked busy. Despite being traditional, it was neatly organized, as the sections were all easily recognized, completed with signs. To start off, Bu Dar went to the tempeh stall. She explained to me that the tempeh that she bought there is made from local and organic koro peanut. According to her, the koro peanut is healthier and reasons that she does not buy soybean tempeh as she could not guarantee the soybeans were locally grown and thus could not support imported soybeans. Moving on to the tofu stall, she says

usually I order tofu directly from the seller who uses local soybeans, but currently she’s out of stock. I’d rather pay higher to buy the local one. Since it’s out of stock, it forced me to buy tofu from the market. Yet, it’s hard to find a tofu seller that uses locally grown soybeans. As it’s hard to be grown here, the price is high and soybean farmers cannot compete with imported soybean. But *Warung* needs it, so we have to buy (Bu Dar 2019, personal interview).

We then moved on to buy vegetables: chilli, cucumber, spinach, carrots, etc. It was quite a lot of vegetables to buy. I was under the impression that owing to extensive farm land, they wouldn’t need to buy vegetables. As the demand for produce along with its popularity had increased in Warung, there was a need to buy more vegetables. Despite buying fresh produce from the market, Bu Dar said to me that she always

makes sure that the vegetables that she buys are locally and organically grown. “I also try not to buy plants that need fertilizers like cabbage and broccoli as there will be a chance that those vegetables were grown using non organic fertilizers” (Bu Dar 27 July 2019, personal interview). Moving on to the rice and herbs stall, Bu Dar purchased brown rice which is organically grown and much healthier in comparison to white rice, even though the latter is much cheaper. Completing the shopping, we headed back to BL at around 9:30 am and I proceeded to continue my activity in the field with TW, MM and FF.

That night, on the menu for dinner was fish, sourced from the farm pond and the market and it was delightfully delectable. I was surprised to hear that there is no specific person to take care of the pond so the fact that the pond sources fish was a revelation. TW says that

it's just there. We just put the former fish and they grow by themselves. Whoever wants to feed them can feed them. Our fish is not actually for production, the important part is the pond as the water is used for watering the plants. The fish are just a bonus, they enrich the water (TW 27 July 2019, personal interview).

FF and his friends were eating on the outside table. They bought their own food because as far as I know they have to pay an extra fee for dinner. The point I am trying to convey is how friendly and welcoming Iskandar's family is to anyone who is willing to join BL.

Although Holmgren (2002) acknowledged being an atheist, he accepts that to some extent, the permaculture project has led to his spiritual awareness. Yet, Macnamara (2012) places spiritual needs as an aspect that needs to be given attention in the people care ethics dimension. As such, I look at how people in BL regard the relationship between Islam and permaculture as what Härmälä (2014) try to see through interviewing Muslim permaculture practitioners. Since BL was established on the basis of Pak Is's spiritual journey, I got most of this view from him. Permaculture provided a way for him to be a *khalifah*. I asked, how are the values of Islam related to permaculture and his explanation is as follows:

Permaculture for me is a cure for what I call a sick-process caused by modernity. There will always be a problem that we try to fix - the society, the environment - which for me will reach a conclusion that is very much related with a basic principle in Islam. That we need to start by ourselves. And talking about ourselves it is much deeper, I mean before you demand justice to other people and to nature, you must be fair with your body first. Why? because the closest nature given to us is our body. Permaculture gives us a “know how”- about how to plant in an ethical way, how we appreciate our body through food (Pak Is 2019, personal interview).

Currently, we are in the system which exploits nature and humans. This system is identical to that of modernization driven by financial interest. It is not sustainable and does not bring *barokah* (blessings) in this life. In Islam, it is problematic and linked with a presence of demon. We as Muslims are given the mandate to take care of our earth and it is a process that cannot be done if we are fragmented. Permaculture is one way which helps me to contextualize my faith as it relates to ethics and morality. It

teaches us to see life holistically and in Islam it is called *kafah* - we are taught to see every aspect in life as something related. [...] It has become a world movement, a counterculture to modernization (Pak Is 29 July 2019, personal interview)

I also asked the same question of the volunteers who worked with me. When I asked TI, what the correlation is between Islam and permaculture he affirms that the “Quran told us to take care of humanity and our environment. We’re living with nature. Remember the human-nature relation, human-God relation, and human-human relation” (TI 4 August 2019, personal interview). MM also endorses TI’s opinion, as for her, working in nature is really what she needs to feel alive. She admitted that although she’s not a practicing Muslim any longer, she knows that Islam endorses this principle. There is a prophet in the Qur’an that talks about the responsibility of taking care of nature. These reflections by TI and MM, further support the correlation between the spiritual dimension and the second dimension of permaculture.

The philosophy about the linkage between Islam and permaculture that I heard from BL members, especially Pak Is as the founder had so many similarities with what other Muslim permaculture practitioners said in (Hussain 2009; Grover 2012; Khan 2013; McCausland 2014; Härmälä 2014). In sum, they all share the same views that human has a very clear role to take care our earth very carefully as stipulated in the Holy Book – *Qur-an*. Permaculture has helped them to actualized it as it teaches them to go back living to nature whereas Islam is also about living naturally. In order to do that, one must start to take care of themselves first, by giving their own body food that are not harmful to our body and to our environment (Härmälä 2014). That Pak Is told me about going back to be a *khalifah* was also related to the responsibility to spread kindness, love, and peace around him was also stated by one of Härmälä (2014) research participant.

In addition to broadening the relationship within the community, Holmgren (2002) and Macnamara (2012) argue that communication and the ability to listen to others is important to show compassion and empathy as well as enable decision-making, negotiation, and conflict resolution. In BL, provided below are some examples which I have observed. At one evening when I was in the farm, I led a conversation with TW about how decisions are made in BL. According to him “All bottom-up and top-down process needs to be worked and meet in the middle.” (TW 30 July 2019, personal interview). I then continued to ask, if there is a decision that needs to be taken, whether Pak Is or Bu Dar are the only ones to decide. TW replied that the decision making takes place according to a system of kinship, which has both its advantages and disadvantages. Furthermore, I had learned from MT that most decisions taken when problems exist, are made by Pak Is with consideration and counsel of the workers. I was curious if they have ever held an event for all people involved in BL, to be involved in the decision making and MT simply said “there is, but it’s not a routine” (MT 2019, personal interview). The advantage is that they do not use a legal framework to penalize a worker if something goes wrong, similar to that of a corporation. However, sometimes relying on the kinship system does make things more complicated. I then asked whether there is a division of labor and TW replied saying “basically the principle is simply *‘kalan kosong ya isi aja’*” (TW 30 July 2019, personal interview). Meaning, whoever is free can do any task that is available at the time. He said that it is implied in their guiding principle “cooperative work” (*Bumi Langit*, n.d.) However, when it comes to an intense project, it needs to be handled by certain people as it will need more consistency and continuity.



One thing that I also noticed is that there is horizontality in everyday relationships showing how social interaction happens. Pak Is emphasized that “once you come to BL, you will always be part of the big community of BL” (Pak Is 29 July 2019, personal interview). In the spirit of the people care dimension of taking care of others, Pak Is considers all volunteers his children. “If you need to learn from me, just text me, we can have a call. You have my WhatsApp, right?” (Pak Is 29 July 2019, personal interview). This level of connectivity not just between people, but shared between human beings and nature is illustrated through DH and TI case. They affirmed my assumptions of the care aspect between farmers, as they feel like they are connected when they farm. “Do you realize that our interaction on the farm is easily established - unlike in the city? I mean, look at *us*, it feels like we have known each other for a long time already” (TI 4 August 2019, field note observation). On my third night, I found it hard to sleep and could hear that MM was singing so asked her if she was available to chat. She let me in to her room which was smaller than mine but seemed much cosier. I can see some soap made from coconut oil. I asked her how she made the soap and why. She then replied

it is really easy, Aurel. I only made it from coconut oil, you just have to boil it and add it with chocolate to make it smell good. Then pour it in a box to shape it. Leave it overnight and it will be ready. Easy right? I don't need to buy soap from the supermarket. This is much healthier as it is organic. And anyway, you do not need to buy, everything is provided in nature (MM 26 July 2019, personal interview).

I was intrigued by her answer as I felt her response reflected her maturity even though she was the same age as me. She revealed to me that she had been a volunteer at BL for 4 months and before that was working in an architectural firm in Bali. She saw being a member of BL as a means for her to learn about farming, which was what she is most passionate about.

Another example of how BL cares for people is through the volunteer (PH), from Labuan Bajo<sup>18</sup> and how he was invited by Pak Is to complete his alcohol rehabilitation as a farmer. After being involved in the farm, interacting with the people, and adhering to a healthier lifestyle, he feels much better and emotionally more stable. This also being a part of Pak Is', TW's and other volunteers' observation; who have been interacting with him. One can see from the examples of interactions that took place in BL, that the care dimension between people exists. This gave me an impression that in BL, despite being a family owned site, they have tried to strengthen their relationship within their society contributing to a healthier space as what Holmgren (2002) aims for.

#### **4.5. About equity and sufficiency among members and to society**

This section relates to the last ethic of permaculture: fair shares. It demands us to promote equality, justice, and abundance. In order for this to be achieved, that there are two aspects that need to be fulfilled: living within limits (or more specifically living in balance) so that we do not exceed natural boundaries or exploiting people with the choice that we make. The second is giving away surplus (distribute surplus). The point of this being, we need to live with an attitude of abundance rather than a scarcity mentality. We learn the value of living minimally and being more generous to those

around us. As this does not give me a clear-cut definition, I then tried to ask Pak Is. According to his interpretation, he believes

fair share was actually linked back to our manner to take care of the earth and people. It deals with how to take based on our rights and gives back what belongs to nature, to other people (Pak Is 30 July 2019, personal interview).

To an extent I can recognize a few examples which are translated in the daily interactions. One day on the farm, I was working with TW and he said to me that for him the implementation of this ethic is to create sustainable farming for future generations.

If I plant something, I need to think about the basis. Cause if the basis is not strong enough, it is not going to be useful for my son, my grandson, well, future generations. I also need to pay attention on what kind of plant that we put in our land (TW 2019, personal interview).

This view is shared by Holmgren (2002:10) who alleges practice in agricultural societies where planting durable trees and forests has been a traditional way to redistribute surplus and benefits for future generations and the land itself. I can see that there are a lot of bamboos and banyan trees which are considered strong and durable. I can also see an example from MM who perceives gardening as a way of giving back to nature, who has provided her. This was also one of the reasons why she is interested in farming. She had a dream to learn how to farm sustainably to be given a chance to take care of neglected land plots in her hometown.

In terms of giving back to people, Macnamara (2012) argues that spending locally and sharing are a means to relate this ethic more practically. Applying into context, I started noticing small things within Pak Is' family. Although *Warung* generates profit and it belongs to the family, Bu Dar will always ensure that the profit will be spared for *zakat* or alms; one of the sources of funding for their foundation. That money will be used for providing accommodation for volunteers, as those who have been volunteering longer than a month, are fee exempt. In my case, as I stayed for only 3 weeks, I still needed to pay. Yet, to my surprise, BN said that I only need to pay half of it since the foundation would be covering half the costs. Another example of this subsidy scheme are in the form of the funding for PDC. They provide a free permaculture design course to some farmers from the village nearby and cross-subsidy for supporting participants of PDC.<sup>19</sup> I learned about this from both Pak Is and BN. According to my conversation with BN,

a few months ago, we gave a free PDC spot to 3 farmers from the village nearby. Our consideration is because we thought those farmers are important people in the village and we hope they can help to spread the value in permaculture. We also give cross-subsidy for participants who are fascinated in learning about permaculture yet do not have sufficient financial condition (BN, 2019, personal interview).

Pak Is also helped in further explaining the cross-subsidy scheme. "If we have minimum fifteen people, we can cover all the cost, so the 16<sup>th</sup> to 25<sup>th</sup> people can be

<sup>19</sup> in BL, to join PDC, participants need to pay 594 euros.

subsidized – either half or full especially for those who really need it but doesn't have the financial freedom” (Pak Is 29 July 2019, personal interview). The conceptualization of giving cross-subsidies scheme by BL foundation was a clear example of how *zakat* in Islam are practiced through the fair share ethic in permaculture.

Another lesson I learned from my interview with Pak Is, is how they are affiliated with local rice producers in Sindoro Mountain and local vegetable farmers near Merapi Mountain<sup>20</sup> to support the needs of *Warung*. As such, it helps them to reduce their dependency from big corporations and furthermore supporting local business and aim to strengthen localized economies.

#### **4.6. Expansion of Permaculture from BL**

In this chapter I have explained how permaculture in BL contains guidelines that can be useful for other initiatives. Although I have found a few inconsistencies in the workers' habits outside BL, my interaction and observation has helped me to discern the expansion of permaculture from BL to wider communities. It started from the knowledge Pak Is gained in his own journey of learning about Permaculture, to establishing the foundation that would now be known worldwide. I remember how DH shared his experience in first joining the PDC. He said that PDC has brainwashed his body making him rethink his relationship with nature (DH 3 August 2019, personal interview). Volunteering opportunities are also open for people who want to learn more about permaculture. Volunteers range in age from 16 - 34 which to TW is important as younger generations should be introduced to the field. Volunteering is free if involved in for at least 1 month or weekends. As I was there for only 3 weeks, BN notified me that she will charged me for the accommodation. Yet, after I finished my volunteering program, she said that I just need to pay half of is as it is subsidized by the foundation. They also tries to spread permaculture within the region. As an example of this, BN says that BL tries to invite their neighbours to use organic farming methods. TW further says that currently, one of the projects they are working on is the land belonging to the local government, which will be intended to act as a platform for supporting local industries. Although to him, the process will take time and is considered more of a long term plan. In addition to this, I can also see that in BL, permaculture is not just about farming but also how to create networks, which would allow for the value to be spread through communities. During my stay there, a lot of new permaculture practitioners came to visit and ask for TW's suggestions as they intended to initiate farms of their own in the image of BL. A such, BL initiative can be said as an effort to be more self-reliant on household and local economies.

<sup>20</sup> Both mountains are located in Central Java region.

## Chapter 5 : Conclusion

The need of an alternative food production and agricultural system which favours socio and ecological terms has been garnering attention by local agricultural practitioners. BL is an example of a local project which offers permaculture as both a more sustainable agricultural system and a way of re envisioning a good life through its intersection with Islam. Although BL started as a spiritual individual project of Pak Is, the values of both Islam and permaculture have spread among the people behind it. This study is therefore focusing on how the members of BL interpret and implementing the ethics that are introduced by permaculture in their daily lives in order to be seen as an alternative by other initiatives.

Conducting a qualitative research with an ethnographic approach, I employed a combination of participant observation, ethnographic interviews, and fieldnotes as methods to collect the data. I focus this research in BL by living in their site as a volunteer due to the fact that they are one of permaculture pioneers in Indonesia that intersect Islam with permaculture.

The findings showed that in order for permaculture to be seen as an alternative both for agriculture and living philosophy, the three core ethics must be applied at once. The practices of implementing the three ethics of permaculture in BL has showed how permaculture, a concept which started from a household, can be used as a strategy to achieve degrowth. The ethics of care for the earth led me to explore how BL members beliefs can lead to the minimum use of destructive equipment in their farming method. One of the examples is when TW decided not to use a demolisher hammer and instead a crowbar to dig a hole. Another example is the fact that BL tries to create their own fertilizers and solar panel. In this sense, people who shared their view during my stay, implied that they try to seek a small and slow solution which resembles what degrowth represents. In addition to that, by producing their own food and solar energy, they value the idea of moving towards more self-reliant households and not simply rely on technological advancement. The care for people ethics have been showed by how they put attention to the non-materials well-being, such as one spiritual beliefs. Sharing is also one value that was adhere in BL. Another point that I learned is about how sharing relates to the fair share ethics in which implemented by the cross-subsidies for PDC participants. To a broader context, the affiliation that BL has with another local farmers is also seen as an effort to support localization and detached oneself from global economic power. This, can also be perceived as an effort to bring back the power to people over their resources as what political ecology adhere.

However, based on my observation, I can conclude that permaculture as seen through the initiative BL, cannot be a direct panacea that can answer all the problems at once. In order for it to support a radical change, it needs to be embedded within one's personal system which also incorporates the spiritual belief. In my case study, Islam has a strong basis for the practice of permaculture. The deployment of permaculture are not without challenges. Based on the literature that I have read, the argument is that permaculture can be exercised by everyone regardless of their social class, however my case study showed that permaculture initiated by BL derived from an upper-middle class family. Also, the application of permaculture will require a long-term investment. I refer to the quote that I heard from TW when he said "If you want to make

something like BL, you will need time and high investment, like my father” (TW 29 July 2019, field notes observation).

My small case study has shed a light on how a small-scale initiative can contribute to create a sustainable agricultural alternative on a domestic scale within Indonesia. Yet, in order to understand more how an initiative like BL can help in shifting cultural and lifestyle changes and start a degrowth movement in Indonesia, I would suggest for further research to do a comparison with other permaculture communities.

# Appendices

## Appendix 1. Research participants' background

**Iskandar Waworuntu** (65) is the founder of BL. He decided to stop going to school at the age 14 and seek for the meaning of life. His life history was challenging. During 1970 – 1987 he was moving from Australia, Sulawesi, and Sumatera. His life journey bring him to a social and environmental awareness and to the point when he realize that being a farmer is the most noble work. He started to learn about permaculture and joined his first PDC in 1995 and furthermore opening up an organic farming in Bali. However, as he was starting to learn about Islam, he felt the environment in Bali was not supporting enough. So he decided to move to Yogyakarta and settled with his family by opening *Bumi Langit* farm in Mangunan Village, Imogiri, Yogyakarta.

**Darmilla Hayati** (50) is Iskandar's wife. She was originally born and raised in a village in Bengkulu, Sumatera. When Iskandar joined a transmigration program in Sumatera, both met and decided to be married. In 2006 they decided to move to Yogyakarta and settle there. Darmilla is the chief in *Warung* and also sometimes help in the farm especially when harvesting time come.

**TW** (33) is one of the couple's second children. He decided to learn farming through permaculture, following his father after finishing high school. Before settling in Yogyakarta, he lived in Bali to run the land own by his father. He is now the main actor in BL farm and also become a mentor for volunteering program and PDC trainer.

**BN** is the responsible person for both social media of BL and *Waqaf* Foundation which was owned by BL. She has been working in BL in the last ten years. She was originally from Bandung but now has settled in Yogyakarta after her marriage. She likes to be involved in organization activities. As such she was believed to organize PDC, workshops, and tour visit in BL. The first time she met Iskandar was in an Islamic boarding school.

**PS** is one of the local farmers that works in BL. Besides working in BL, he also has a small farm in his house. He was assigned to take care of maggot breeding site, chicken and duck, and seed planting (such as potato, tomato, and chilli). He also sometimes responsible for volunteers.

**PN** is one of the local farmers whose responsibilities are in a farm-site. His job is to reconstruct the site where he is assigned. He joined a PDC in 2009 before start to work in the farm. His wife are one of the employee in *Warung*.

**PG** is one of the longest worker in BL. His job is mainly deals with cows and sheep. Despite never joined PDC. He does not have his own land at home.

**MM** (24) comes from Lampung and had become a daily-volunteer for 4 since June 2019. Her academic background was in architecture and after she obtained her bachelor's degree, she worked in Bali. Yet, as she wants to follow her passion in farming, she decided to move from Yogyakarta and look for a volunteer opportunity in BL. As she has been involved in BL for quite a long period, she was trusted to help BN for the foundation.

**FF** is 32 and came from Padang, West Sumatera. He moved to Jakarta to pursue his bachelor's degree in architecture. Despite having a job after graduation, he took a shift changed to learn more about permaculture as he always wonder about how to create a

more sustainable lifestyle. He also join several permaculture communities. He is also a daily volunteer who has been active for approximately one month.

**DH** is a weekend volunteer. He got his bachelor's degree in Malang focusing in theatre and performing arts. In 2009, he decided to move to Yogyakarta and in 2011 joined an NGO called "Food Forest Cultural Centre" an organization that deals in organic farming through permaculture approach and culture. He also a part of Lifepatch community (deals with art, technology, and science) and sometimes joined a conferences. His interest in local and traditional drinks led him to join PDC in BL in March 2015.

**TI** (18) comes from Magelang, East Java. He met TW in a community garden back in 2018 before he finally invited by TW to help in BL. Since then, TI started to be a weekend volunteer. His interest in conservation program through farming has been nurtured since he was still in high school. Despite pursuing a bachelor's degree in one of the best university in Indonesia, he decided to stop and focus on joining conservation program such as "Forest Art Game". He defined himself as "child of the street" as he always moves from one place to another to help a community or other environmental program.

**PH** worked in a tourism sector before coming to BL. He originally comes from Labuan Bajo (East Nusa Tenggara). Was invited by Iskandar to join volunteer program as his rehabilitation program due to his addiction in alcohol, he has been staying in BL for three months.

**NS** (26) is a waiter in the *Warung* but lives in BL as he is Darmilla's nephew. He was originally from Bengkulu but moved to Yogyakarta to joined an Islamic Boarding School. After graduating he worked in a café before finally moved and settled in BL. He joined PDC in March 2019 to help in the farm.

**MT** was Darmilla's brother who came from Bengkulu and helped the founding family to established BL since it was first build. His main responsibilities is to deal with the solar panel and cattle feed.

**SA** (22) works in *Warung* as a cashier. Before joining BL, she works in the city as a waiter in a department store. She is originally from Yogyakarta.

## Appendix 2. Figures from Fieldwork

### 2.A. House sites

Figure 2. Having dinner with other volunteer



Source: Author's fieldwork

Figure 3. Main house kitchen



Source: Author's fieldwork

Figure 4. Main house kitchen



Source: Author's fieldwork

Figure 5. One of volunteers' room



Source: Author's fieldwork



## 2.B. Farm sites

Figure 6. Fish pond



Source: Author's fieldwork

Figure 7. Biogas



Source: Author's fieldwork

Figure 8. Duck breeding



Source: Author's fieldwork

Figure 9. Re-landscape a new site



Source: Author's fieldwork

Figure 10. Cattle cage



Source: Author's fieldwork

Figure 11. Seed planting



Source: Author's fieldwork

Figure 12. Chicken cage



Source: Author's fieldwork

Figure 13. Solar panel controller room



Source: Author's fieldwork

Figure 14. Maggot breeding



Source: Author's fieldwork

Figure 15. Using meat mincer for maggot feed



Source: Author's fieldwork

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