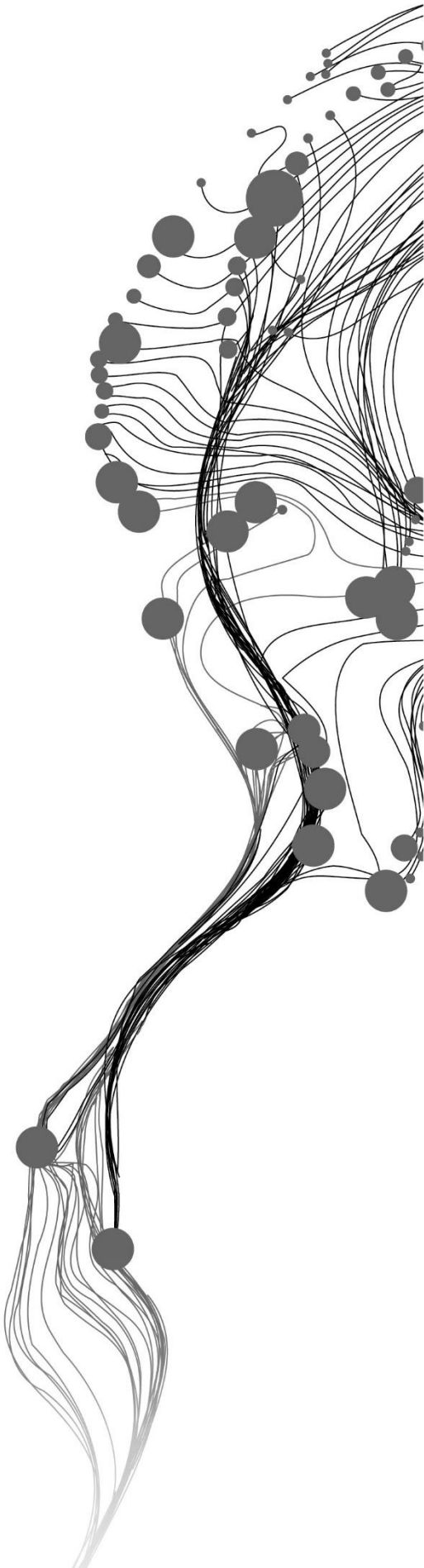


**The role of informal economy on  
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A case study in an urban  
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**OKE, KAZEEM SODIQ**  
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## ABSTRACT

Understanding the role of informal employment on the Quality of Life (QoL) of workers in the garment industry has been challenging over the years. Although attempts have been made to explore walkability linked to the QoL of garment workers in the past, others have focused on the exposure of garment workers. However, studies have not established the relationship and characteristics of informal employment and its influence on workers' QoL in the garment industry, specifically on Batik workers in Indonesia. Therefore, this study seeks to *understand how informal employment in the Batik business influences the QoL of its informal workers in Bandung, Indonesia.*

In researching the aim, a sequential method was adopted. A systematic literature review using inclusion and exclusion criteria to select 14 publications from four scientific databases, then analysed as the first phase of the method to understand the relationship between informal employment and QoL in the garment industry. In the second phase, the findings from the review were operationalised through a primary data collection by administering questionnaires to 36 Batik workers and taking personal notes in an urban Kampung to investigate the impact of informal employment in the Batik industry on the QoL of its workers.

The findings from the studied case revealed that informal employment does not necessarily translate into negative characterisation and dissatisfaction with some QoL domains, as highlighted in some literature. In fact, most Batik workers with informal employment are more satisfied with domains like health, social, psychological, and physical environment than individuals with formal Batik employment. The income domain has been challenging on both employment status, but informal employment workers tend to be more dissatisfied with this domain. Formal and informal Batik employment status has positive and negative factors such as working tools, flexibility of employment, low income, health exposure, work benefits and passion for the job. These factors influence the QoL satisfaction of the workers. There are variations on how QoL domains of formal, informal and various types of informal employment workers in the garment industry are influenced.

The study has established the relationship that exists between informal employment and QoL in the garment industry. Also, it contributed towards using scientific results to change the negative narrative that is often attributed to informality. Finally, this study has opened up more research questions, discussions, and issues that often influence workers' QoL, especially the vulnerable individuals in the garment industry.

Keywords: Informal employment, formal employment, Quality of Life, garment industry, Batik, workers, domain, satisfaction.

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# 1. INTRODUCTION

*The introduction of this chapter allows understanding the thread of argumentation on the role of the informal economy using informal employment and establishing a potential link between employment (formal and informal) and Quality of Life (QoL) domains. This is done sequentially with a background and justification section, definition of QoL, and domains linked with employment. It was followed with the problem statement, the aim of this research (to understand how informal employment in the Batik business influences the QoL of its informal workers in Bandung, Indonesia), its sub-objective one (to explore in existing literature, the relationship between informal employment in the garment industry and QoL) and sub-objective two (to investigate the impact of informal employment in the Batik industry on its informal workers QoL) with seven research questions and finally, the significance of the research.*

## 1.1. Background and justification

The informal economy is explained as processes, activities or norms that may not be criminal by nature but do not have a formal recognition (such as legal standing, taxes, compliance with social or safety regulations) before the law or with the State (ILO, 2013). It is often associated with illegal businesses, low wages, medium to low skilled labour, underground economy, unregulated enterprises, and is gender-biased (Charmes, 2012), for example, women are more prominently working as nannies, domestic workers, in caregiving professions, or in cleaning jobs while men tend to informally work as day labourers or in street trading (ILO, 2018).

The informal economy is often seen as a last resort for people who are struggling to get a job in the formal economy and people with poor socio-economic conditions, unrecognized service activities, sole proprietary ownership and tax defaulters (ILO, 2013; Prasad, 2011). The informal economy can include different forms of employment, such as informal employment, which operates within formal businesses, unregistered enterprises, undocumented entrepreneurs and labour jobs (Chen, 2007).

The definition of the two major forms of employment, i.e. formal and informal employment, is essential for this thesis. Formal employment relates to jobs performed in formal establishments (large or small-scale businesses) and provides legal and social benefits, regular income, regulated working conditions, job security, and income rights to the workers (Chen, 2007). Informal employment is defined as jobs that are done in formal and informal businesses, industries, small and medium scale enterprises or at the household level, and that do not guarantee workers formal recognition, legal rights, social benefits, reasonable pay, stable income, contracts or d job security (ICLS, 2003).

Informal workers are people that engage in income-generating employment that does not grant formal rights, standardized income, protection, social benefits, and job security (Carr & Chen, 2001). Additionally, Carr & Chen, (2001) classified informal workers as workers working in formal businesses informally (i.e. no formal recognition), workers with casual or seasonal employment, workers of informal businesses (i.e.

no rights, and social benefits), undocumented workers, workers working informally at household or street level, and informal factory workers.

It should be stressed that formal and informal employment is not totally contrary to each other; rather they both are important for the living and survival of people, for generating economic growth (contributing to the local and national economies) and to enhance cities' development (Charmes, 2012). For example, informal employment is linked with low production costs (due to less costs with labour), income (for example, individuals that could not secure formal employment), affordable goods for the community in both formal and informal sectors (WIEGO, n.d., 2013). Also, many formal businesses sometimes resort to informal employment either to meet non-regular demands or to reduce cost by offering unstable or casual employment (Chen, 2007).

Similarly, the dichotomy between formal and informal employment activities has also been contested in recent academic debates, and it is not agreed to by researchers, urban planners, state powers (government), economists, scientists and other stakeholders (Sayfutdinova, 2015). For example, informal employment is often negatively characterized as illegal, smuggling, unregistered businesses, illegal hard drugs businesses, trafficking in persons, illegal prostitution, and many more (Vilks, 2016). However, Simone, (2001) stressed the need to focus on the merits of formal and informal employment to individual and national development rather than their differences or limitations. Some of the merits identified by the author include reducing unemployment, expanding local social networks for collaborations to achieve community development, and source of economic productivity for individuals. Also, the European Union (EU) has recognized the relevance of informal employment activities for its contribution to the economy of its member states and for state monitoring purposes (such as for policy formulation), thereby integrating the sector into its Gross Domestic Products (Vilks, 2016).

On a global scale, the informal employment workforce amounts to approximately two billion people compared to a little above one billion people in the formal economy (OECD, 2015). Furthermore, informal employment has been practised at a large scale, and the result of the practice has contributed to the economic growth of some countries in Africa and Asia (WIEGO, 2013). Additionally, informal employment has become relevant and a major economic development tool (economic growth strategy) globally as it has grown above 50% (excluding agricultural jobs) of the entire working demographics, mostly in the Global South and developing countries (ILO, 2018). Informal employment also plays a significant global and societal role anchored on the United Nations Sustainable Development Goals three (good health and well-being) and eight (decent work and economic growth) for an improved environment (UN, n.d.).

It is important to stress that many communities, individuals, or workers in informal employment experience some level of lack of government support for better living conditions, social services, economic opportunities, and development. This is because informal employment is commonly linked with poverty (Chen et al., 2006). In most cases, governments prioritise and support mostly formal activities and less attention to informal activities, even if these are not necessarily illegal by nature. Informal employment

affects its workers due to lack of formal regulatory control, and it leads to unsafe workplaces, excessive working hours, abuse of administrative powers by an employer and poor welfare (Eichhorst et al., 2019). Authors have highlighted the relevance of employment to the life satisfaction of the workers. Pierewan & Veenhoven, (2018) stressed that to understand the degree of life satisfaction of an individual (worker) with their Quality of Life (QoL), the nature of employment such as formal or informal, and the derived benefits are relevant for their overall well-being.

### **1.1.1. Quality of Life**

Several studies have defined QoL within different contexts. For instance, QoL could be defined as the multidimensional evaluation of peoples satisfaction based on some domains of life such as employment, environment, infrastructure, social, transportation, housing, and security (Berhe et al., 2014; Pacione, 1982; Ruzevicius, 2016; Türksever, Nilay E. Atalik, 2001). QoL in the field of employment is defined as an individual satisfaction level with various QoL domains compared to expectations regarding standards (Ruzevicius, 2016). Also, QoL is defined as "the physical, emotional and social well-being of people and their ability to function and to perform typical activities of daily living" (Vélez Álvarez et al., 2016, page 416).

For this thesis, I will adopt the definition of Chreneková et al. (2016) on QoL. The authors refer to QoL as the measurement of individuals' living conditions or satisfaction based on physical, non-physical attributes or employment nature (such as informal or formal employment) they engage in to provide for themselves or their household regularly. The definition is useful because it establishes a link between informal employment and QoL, and that the nature of employment influences the overall satisfaction and living condition of an individual.

### **1.1.2. QoL domains and employment**

Several factors could influence the QoL of an individual or a community. These can be employment, psychological state, social interaction, and physical and ecological components (D'Agostini & Fantini, 2008). Additionally, spatial planning in economic development, mobility, physical infrastructure, environment, and social aspects contribute to individual and communities' QoL (Butterworth, 2000).

Other problems occur as a result of informal employment features (Prasad, 2011). For instance, employers can subject informal workers to exploitation, such as underpayment for services rendered, poor working environment and lack of access to social services due to their informal employment (Carr & Chen, 2001). The worker is in a more vulnerable situation because they lack adequate formal education, lack a formal contract, and the urgent desire by the worker to earn a living for survival. The exploitation will influence the living, health, and income conditions of the informal workers compared to the status of workers in formal employment (Maclaren & Thu, 2003; Rojas, 2013).

Even though informal employment accounts for the majority of jobs in developing countries and part jobs in developed countries, informal workers still do not have access to worker's social rights, worker's

protection and other related benefits (OECD & ILO, 2019) that could help improve the QoL of the informal workers compared to workers in formal employment with formal rights and amenities to improve their social or physical environment. Therefore, there is a link between informal employment and several QoL domains of life.

## 1.2. Problem statement and justification

The QoL domains such as health, income, social, psychological, and physical environment are worth researching. These domains have been under-researched within the informal employment sector. Also, from a broad literature search and review, these domains have not been explored in the case study area in Indonesia (a Global South country), where informal employment are commonly found.

According to official statistics, in Indonesia, informal employment employs 60% of the total working-age population compared to formal employment with less than 40% in 2008 (ILO & Jamsostek, 2010). Due to the large percentage of informal workers over formal workers in many cities in Indonesia, there is a need to research and understand these informal workers' QoL. Bandung city in Indonesia is one of the cities that can offer such research opportunity.

Bandung city, the capital of West Java in Indonesia, offers a lot of garment employment opportunities, and they come in the form of formal and informal employment. In the city of Bandung, the economic growth rate is higher than the national average (Tarigan et al., 2016). A significant number of economic growth are in the Batik industry, also known as local garment employment (Fahmi & Mccann, 2017; Margried, 2015). Batik workers with both formal and informal employment are commonly found in the Cigadung community in Bandung (Adam et al., 2012; Kembaren et al., 2014; Margried, 2015; Nazura et al., 2020; Rothenberg et al., 2016; Sutandyo-Buchholz, 2013).

Previous studies have attempted to indicate challenges of informal employment in the Batik industry, and how it affects these workers in Indonesia. For example, informal employment is often associated with exploitation, unwritten contracts, poorly paid, low academic qualification, lack of social rights and benefits; and it causes poor housing, income challenges, mental stress, difficult access to amenities, safety concerns, health and social problems (such as inequality) for the workers (Adi, 2015; Alhada et al., 2017; Hengky, 2015; ILO & Jamsostek, 2010; Soebaryo, 2000).

At the moment, the relationship, intensity or the impact of informal Batik employment on the QoL of informal Batik workers cannot be fully established (by claiming causality). Consequently, it will be interesting to see how informal employment in this industry is influencing the QoL of informal workers in the study area. I will investigate the relationship between informal employment and QoL by exploring the impact of informal employment on informal workers' QoL in Cigadung, Bandung, Indonesia. Therefore, the overall aim of this study is to *understand how informal employment in the Batik business influences the QoL of its informal workers in Bandung, Indonesia*.

To address this aim, two objectives and associated research questions have been formulated:

1. To explore in existing literature, the relationship between informal employment in the garment industry and QoL.

- a. What are the types of informal employment in the garment industry?
  - b. What are the characteristics of informal employment in the garment industry?
  - c. How can the characteristics of informal employment in the garment industry influence QoL?
  - d. What QoL domains are relevant in the context of informal employment in the garment industry?
2. To investigate the impact of informal employment in the Batik industry on its informal workers QoL.
- e. How do Batik industry workers perceive their QoL?
  - f. How has formal and informal employment status in the Batik industry influenced the QoL perception of formal and informal workers?
  - g. To what extent does the informal employment status influence the QoL of workers in various types of informal employment in the Batik industry?

### 1.3. Scientific significance

Hengky (2015) has made suggestions to improve on factors that could positively influence employment and workers in the Batik industry. Pierewan & Veenhoven, (2018) also recommended the need for concerted efforts towards improving the QoL of potentially vulnerable people in Indonesia. The suggestions were also echoed by the chairman of Indonesia creative economy agency to have adequate and skilful human resources (workers) in Batik production, its heritage and to avoid the risk of losing the UNESCO Intangible Heritage recognition for Batik in Indonesia (Rulistia, 2015). Correspondingly, there has not been enough studies on understanding the relationship and impact of informal employment on the QoL of the informal workers (Rojas, 2013) in the study area. To achieve any meaningful improvement on the QoL domains of workers in informal Batik employment, there is a need to fully understand relationships and impacts.

Understanding the QoL of informal workers in cities in Global South cities (in this case, an urban Kampung in Indonesia) has been a challenge. There are scientific studies that have explored the QoL of workers due to employment activities globally (Chreneková et al., 2016; Nzeadibe et al., 2012; Vélez Álvarez et al., 2016). However, few studies have focused majorly on informal Batik employment and the QoL of these informal workers within the garment industry and specifically the Batik industry in an urban Kampung (Cigadung) Bandung, Indonesia. Other scientific contributions of the thesis include:

- Contribution to the existing literature on informal employment and QoL of workers using systematic literature review and the case study.
- Understanding of the relationship between informal employment and QoL in the garment industry. Specifically, characterization of informal workers and establishing how the employment status, i.e. formal and informal employment, influences QoL domains of the workers

## 2. RELATIONSHIP BETWEEN INFORMAL EMPLOYMENT IN THE GARMENT INDUSTRY AND QUALITY OF LIFE

*This chapter identifies key concepts and a systematic literature review to answer the first sub-objective titled "To explore in existing literature, the relationship between informal employment in the garment industry and QoL. The first section focuses on the concept of informal employment and QoL. To achieve this, the main concepts titled informal employment and QoL were linked to five sub-concepts relevant for this study. The sub-concepts include income, social, health, psychological and physical environment QoL domain. At the next phase, in order to understand the relationship between informal employment in the garment industry and QoL, I conducted a systematic review of literature organized around four main research questions (What are the types of informal employment in the garment industry, What are the characteristics of informal employment in the garment industry, How can the characteristics of informal employment in the garment industry influence QoL and What QoL domains are relevant in the context of informal employment in the garment industry). The systematic literature review led to types of informal employment, characteristics, how the characteristics of informal employment influence QoL and the QoL domains that are relevant for informal employment in the garment industry. The result from the literature review is essential for subsequent chapters, i.e. the data collection, analysis, and results discussion chapter.*

### 2.1. Introduction to conceptualization and literature review

In this thesis, we depart from the premise that informal workers' QoL will be influenced in QoL domains such as income, social, health, psychological and physical environment in the Batik industry. These concepts are essential for this research.

### 2.2. Quality of Life domains and employment

Employment is one of the many domains of QoL (such as education, health, security, housing, and mobility) that influences the overall life satisfaction of individuals (Tesfazghi et al., 2010). The nature of employment, i.e. being informal employment or not, is relevant for this thesis to understand the overall life satisfaction of informal workers (see ).

Informal employment is relevant to informal workers in terms of **income QoL domain**, as it contributes towards influencing their satisfaction with the employment domain. Informal employment provides the opportunity for informal workers to have some degree of independence and flexibility to diversify and increase their income through other employment opportunities (Chreneková et al., 2016) because they mostly do not have a written or permanent contract with one employer, and there are no standard working hours in some cases. Also, informal employment provides a means for earning a daily living for people facing financial challenges to support themselves and their households (Chreneková et al., 2016; Williams, 2014). The informal workers' income challenges include poor wages, unstable income, and unregulated or unstandardized wages (Chreneková et al., 2016; Maclaren & Thu, 2003; Rojas, 2013; Vilks, 2016).



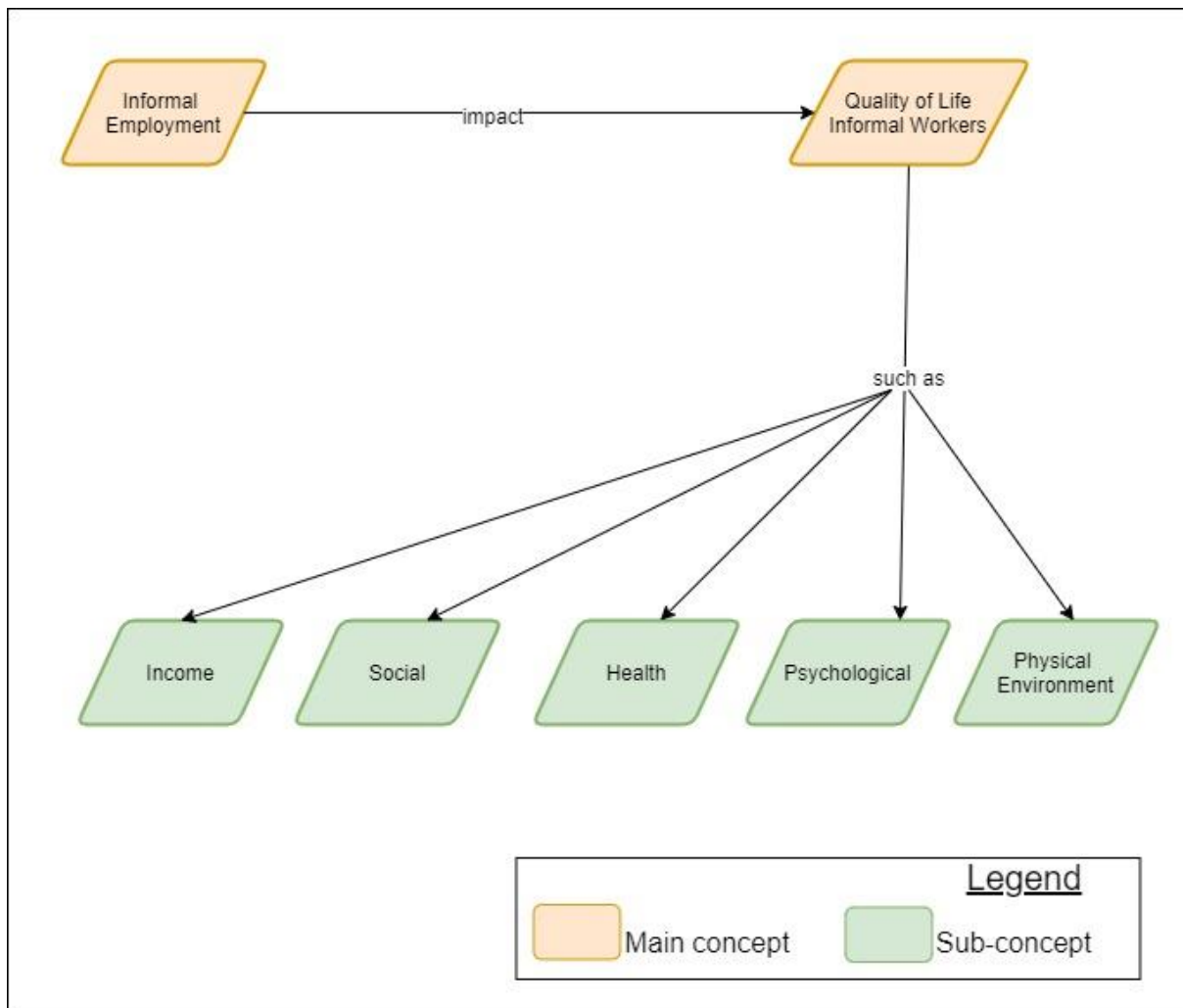


Figure 1: Conceptual framework

Informal workers could socially be disadvantaged because of social-economic and informal employment characteristics. The characteristics such as lack of social benefits or protection, low educational qualification, low income create segregation and deprivation between informal and formal workers in terms of accessing or adequate social support (Chreneková et al., 2016; Vélez Álvarez et al., 2016). Also, the interaction of informal workers with other workers in formal businesses is often restricted. Due to the above, many informal workers tend to be vulnerable in communities and subject to employers' abuse (by violating standard labour laws) that affects their social interaction, well-being, state support (such as lack of provision of amenities to improve the living or working condition of informal workers), and public abuse of these workers compared to places and workers with formal employment (Carr & Chen, 2001; McLean, 2000; Nzeadibe et al., 2012; Rojas, 2013). The above shows that informal employment workers could be more susceptible to **social domain** challenges than formal workers due to social, economic and informal employment characteristics.

The lack of adequate medical protection affects the **health QoL domain** of informal workers. Several informal employment workers do not have access to adequate formal health care and medical work benefits that could improve their health and address employment hazards when they might occur (Fransen & Meine, 2008; Vélez Álvarez et al., 2016). Many informal workers are more vulnerable to employment health hazards, as compared to workers in formal employment, due to unsafe working conditions, unregulated working environment, far distance to a health facility, and working informally at a household level with some degree of unsafe practice (Lin, 2014; Nzeadibe et al., 2012; Soebaryo, 2000; Vélez Álvarez et al., 2016). Also, the predominant attribution of low income associated with informal employment makes it difficult for workers to access formal health institutions due to costs of medical services compared to individuals in formal employment with insurance, private or public subsidies, and employment benefits (Eichhorst et al., 2019; Eurofound, 2019). Many informal workers sometimes resort to cheap (not necessarily the most suitable) health services, informal health facilities such as traditional health care and self-help medication.

Individuals engaging in informal employment influence their **psychological domain**. For example, the characteristics of informal employment such as undefined or excessive work hours, stigmatization due to working informally, and the stress of poverty linked to low and unstable employment affect informal workers (Eurofound, 2019; Fransen & Meine, 2008; Nzeadibe et al., 2012). From the above, many informal workers experience unstable emotions, mental stress, distress, negative feeling, and other stress that negatively impact the workers' psychological state (MacPhail & Bowles, 2008; Rojas, 2013).

Informal employment influences an individual's **physical environment** domain through their living conditions because it supports their living, infrastructure, feeding, housing and income. Informal employment is crucial to the survival of many individuals as it accounts for almost 90% of employment in less developed and developing nations (Chambwera et al., 2011). For example, the engagement of an individual in informal employment sometimes reduces insecurity because people are actively engaged in employment activities, generates income for the household, access to inexpensive support services (such as cheap houses), and can help improve the living condition (Chreneková et al., 2016; Sakuhuni, 2014; WIEGO, 2013). However, many individuals with informal employment' living conditions are worrisome, and they mostly end up living informally (Chen, 2016). The worrisome living condition of informal workers could be attributed to their lack of formal employment that could guarantee a stable (and well paying) income, lack of legal employment recognition to access loans from the bank or mortgage, and absence of social benefits such as public or private housing schemes that are available to formal workers (Chen, 2016; De Witte, 2005; Lin, 2014; MacPhail & Bowles, 2008). As a result of these, the informal workers resort to living informally at locations that are highly deprived (owing to their informal employment limitations) of quality and access to amenities such as transportation, safety, housing, infrastructure, social services, and a clean environment (Chen, 2007, 2016; Fransen & Meine, 2008; MacPhail & Bowles, 2008; Nzeadibe et al., 2012; Prasad, 2011). As such, living in the deprived area because of their informal employment will impact the satisfaction with their physical environment QoL domain. The summary of domains and possible indicators that could influence workers QoL due to informal employment are highlighted by authors (see ).

Table 1: Summary of domains and indicators

Domain	Indicators	Authors
Income		(Chreneková et al., 2016; Lee, 2008; Pierewan & Veenhoven, 2018; Rojas, 2013; Williams, 2014)
	Income adequacy	
	Income diversification	
	Perception on wages payment	
Social		(Carr & Chen, 2001; Chreneková et al., 2016; Maclaren & Thu, 2003; MacPhail & Bowles, 2008; Nzeadibe et al., 2012; Vélez Álvarez et al., 2016)
	Perception on access to social support	
	Perception on inclusiveness	
	Perception on work conduct	
	Social interaction at the workplace	
Health		(Eichhorst et al., 2019; Eurofound, 2019; Fransen & Meine, 2008; Lin, 2014; MacPhail & Bowles, 2008; Nzeadibe et al., 2012; Rojas, 2013; Vélez Álvarez et al., 2016)
	Access to formal health care satisfaction	
	Access to health benefit satisfaction	
	Medical care satisfaction	
Psychological		(Eurofound, 2019; Fransen & Meine, 2008; MacPhail & Bowles, 2008; Nzeadibe et al., 2012; Rojas, 2013; Vélez Álvarez et al., 2016)
	Emotional Feeling	
	Stress	
	Mental wellbeing	
Physical environment		(Chen, 2007, 2016; Chreneková et al., 2016; De Witte, 2005; Fransen & Meine, 2008; MacPhail & Bowles, 2008; Nzeadibe et al., 2012; Prasad, 2011; Sakuhuni, 2014; Vélez Álvarez et al., 2016; WIEGO, 2013)
	Perception of living environment	
	Perception on access to formal housing	
	Perception on access to amenities	
	Perception of living conditions	

### 2.3. Informal employment types and characteristics in the garment industry

#### 2.3.1. Types and common characteristics of informal employment in the garment industry

The types of informal employment and general characteristics in the garment industry have been highlighted by authors. Mezzadri & Fan, (2018) tried to clarify the types of garment workers in informal employment (see ). The first includes workers with informal employment in the large textile industries (such as textile factories with formal recognition but still practice some form of informality), where workers are employed

through a third party without a formal contract but have a defined work schedule. These informal workers often live and work precariously. The informal workers identified in the first category is in line with other studies that categorised and characterised informal workers as informal wage workers without any form of formal rights or benefits, often found in formal or informal large scale industries (Chen, 2007; ICLS, 2003). Other examples of informal workers that would fit within this category are casual and seasonal workers. A second type of informal workers consists of workers mainly employed at a small-scale level. The workers are often individuals working informally at the household level (home-based informal employment); some informal workers engage in minor garment jobs such as small-scale cloth sowing, manual embroidery, and clothing materials (Mezzadri & Fan, 2018). Chen, (2007) and Soebaryo, (2000) also highlighted that the informal workers in the second class are known as the informal entrepreneurs or individuals who have informal employment in establishments without formal recognition.

Table 2: Types of informal garment employment

<b>Types of informal employment in the garment industry</b>	<b>Authors</b>
<b>1. Informal employment offered by formal large and informal garment factory</b>	(Mezzadri & Fan, 2018)
Informal subcontractors to the factories and the workers are offered unfavourable terms	(Snowball & Mapuma, 2020)
The workers do not have formal employment benefits	(Chen, 2007; ICLS, 2003; Lahiri, 2017; Mezzadri & Fan, 2018)
Casualization of work	(Lahiri, 2017; Mezzadri & Fan, 2018)
<b>2. Informal employment offered at small-scale or non-factory garment business</b>	(Mezzadri & Fan, 2018)
Home-based employment and small-scale, informal garment employment	(Buechler, 2014; Lahiri, 2017; Mezzadri & Fan, 2018)
The workers are often informal contractors to other large- or small-scale garment businesses to meet their customers demand (informal outsourced workers)	(Buechler, 2014)
Employment at this level are often more stable compared to informal employment from factories	(Lahiri, 2017)

There are various types of informal employment in the garment industry in Global South countries. For instance, many tailors are responsible for sowing garments or clothes informally at the household level (as a home-based tailor), open market area, and individual lockup shops on different streets. Some of these tailors operate without formal recognition; due to this informality, they often collaborate by forming local associations such as cooperatives (Andrae & Beckman, 2013). Other individuals work informally for garment factories or are involved in the resale of clothing fabrics and accessories, which they procure from

a formal establishment under a certain payment arrangement, in some cases at the advantage of the supplier in South Africa (Snowball & Mapuma, 2020). Informal garment employment commonly found in some Global South countries include informal workers carrying out 'tie and dye' (creation of colourful patterns through manually knotting and applying chemicals) on fabric in an unregulated sometimes unsafe environment and creating embroidery manually, i.e. without mechanical help or automation (Mezzadri & Fan, 2018; Soebaryo, 2000).

The informal garment workers are often flexible and easily adapt to different working conditions and environments to sustain their livelihoods. Some informal garment workers are more flexible in terms of operations hours and have some degree of time freedom at the workplace, depending on the local context (Buechler, 2014; Mezzadri & Fan, 2018). Additionally, the flexibility of these informal workers gives the potentials of having multiple informal employment (to increase their income, clients, and productivity) at the same time without any form of formal constraint (such as legal, official contract, and taxation) (Chreneková et al., (2016).

In many developing countries like South Africa, many garment workers are engaged and paid informally; in some cases, there are no formal financial institutions such as a bank account registered under a business name of the employer that pays the informal worker directly into their personal accounts (Snowball & Mapuma, 2020). The non-registration under a business account often contributes to exploiting the informal workers in terms of suitable wages. On the one hand, these garment workers often receive unstandardised income or poor wages that do not necessarily commensurate with the work done in a given period (Mezzadri & Fan, 2018). The implication of such an act influences their ability to earn a better and standard income attributed to the same work done by those with formal employment due to the labour laws that cover them (formal garment workers). On the other hand, informal garment employment in Global South presents viable economic opportunities for people (Snowball & Mapuma, 2020). For instance, many individuals who could not secure white-collar employment or formal employment within the garment industry sometimes depend solely on informal employment in the garment industry, such as home-based tailoring, household making of tie and dye fabrics, working informally as sub-contractors for garment companies and so on. The workers' engagement in such employment could be traced to earning an income to survive, feed themselves and their households. An overview of the characteristics of informal garment employment is shown below in Table 3.

### **2.3.1.1. Other informal garment employment characteristics**

#### **2.3.1.1.1. Gender characteristics**

Casualization of informal employment is more predominant with women than men in some countries. Often, women are commonly found working casually for formal or informal garment industries and at home-based based level in some Global South countries (Handayani et al., 2018; ILO, 2014; Ko Ko et al., 2020; Margried, 2015; Mezzadri & Fan, 2018; Snowball & Mapuma, 2020). For instance, more women are employed in India work within precarious conditions commonly associated with informality, such as poor wages, unsafe working environment, and no access to formal rights or benefits (Mezzadri & Fan, 2018).

These women are often treated unfairly and become more vulnerable due to informality encountered in the garment industry while trying to work to support their families (Buechler, 2014). Another example could be found in Myanmar, where more women are working informally to support their households (Ko Ko et al., 2020). Also, in some cases, male employers or sub-contractors often offer informal employment, and they earn more than women (Chen, 2007).

#### **2.3.1.1.2. Exploitation, uncertainty, and vulnerability characteristics**

Informal garment workers are often exploited due to uncertainty of their employment or vulnerable condition. For example, some garment industries in Brazil often seek cheap labour by searching for and employing women from disadvantaged socio-economic backgrounds such as low literacy levels, individuals with vulnerable migration backgrounds (such as illegal immigrants), and low-income strata (Buechler, 2014; Sardenberg, 2020). Additionally, many workers in large formal or informal garment industries face uncertainty as the workers can be easily sacked (indiscriminately) without adequate compensation or job security (Mezzadri & Fan, 2018). Uncertainty in informal employment is often high among informal garment workers in large garment industries (Lahiri, 2017). Furthermore, most informal garment workers such as workers in formal, informal, home-based and small-scale employment are also exploited by large garment industries in terms of safety at the workplace, and they are poorly paid for executing outsourcing of certain production or other employment-related services rendered to the formal garment industries (Buechler, 2014; Ko Ko et al., 2020; Quayyum, 2019).

#### **2.3.1.1.3. Locational characteristics**

The locational characteristics (such as urban vs rural areas) influence income disparity for informal garment workers in developing countries. In South Africa, informal workers working close to or within an urban area tend to earn more than individuals working (doing the same task) in rural locations in some developing countries (Snowball & Mapuma, 2020). These disparities often impact the workers' ability to earn the appropriate income to live or work in an expensive neighbourhood such as high or medium-income areas. Additionally, access to customers is another challenge for informal garment workers in rural areas. There is low publicity in terms of exposure to potential buyers within the rural area or neighbourhood where the informal employment is located (such as home-based or small-scale), and it affects the ability of the workers to earn enough income compared to workers in urban areas.

Garment employment opportunities are often concentrated in urban areas and far away from informal workers. For instance, in India, some large garment workers who live in the rural area and their garment employment is located at the urban area often spend a lot of time and their income commuting to work daily; although in some cases, some factories make provision for small buses (Carswell & De Neve, 2013; Ramasamy & Pilz, 2019).

It is important to note that the locational characteristics due to informal employment attributed to informal garment workers should not be generalised for all workers as the local context often varies (Mezzadri &

Fan, 2018). For instance, there are also informal garment workers living and working at home-based or in large garment industries within a mixed-income (high-medium income earners) community with good access to services such as infrastructure and services (Ko Ko et al., 2020).

Table 3: Characteristics of informal employment in the garment industry.

<b>Informal garment employment characteristics</b>	<b>Authors</b>
Employment without formal recognition	(Andrae & Beckman, 2013; Lahiri, 2017)
Workers informally organise themselves as associations	(Andrae & Beckman, 2013)
Unsafe working environment	(Lahiri, 2017; Mezzadri & Fan, 2018; Soebaryo, 2000)
Lacks automation	(Mezzadri & Fan, 2018; Soebaryo, 2000)
Flexibility of workers	(Buechler, 2014; Chreneková et al., 2016; Mezzadri & Fan, 2018)
Adaptation to unclear working conditions	(Buechler, 2014; Mezzadri & Fan, 2018)
Opportunity to earn an income from various informal jobs	(Chreneková et al., 2016)
Unstable employment	(Lahiri, 2017)
Uncertainty	(Mezzadri & Fan, 2018)
Exploitation	(Buechler, 2014; Ko Ko et al., 2020; Quayyum, 2019)
Vulnerability	(Buechler, 2014; Sardenberg, 2020)

## 2.4. Influence of the characteristics of informal garment employment on Quality of Life

### 2.4.1. Income domain

A clear definition of income is necessary for the context of this study. Income is defined as monetary returns or financial resources earned by a worker formally or informally after implementing employment-related activities (McLean, 2000).

Informal employment influences the income domain of various types of informal garment workers differently. It is important to stress that the income domain of informal garment workers is influenced differently as studies have highlighted that formal workers often earn more than informal workers (Buechler, 2014; Shumi et al., 2015). However, informal workers in the formal garment industry often feel dissatisfied with their income because of casualization, being poorly paid, the cost of transportation from home to the place of work, and when a certain amount of their income is regularly given to a third party such as recruitment agent regular commission fee due to the informality and exploitation (Eaton & Goulart, 2009; Ko Ko et al., 2020; Mezzadri & Fan, 2018). For the formal workers, some garment industries often compile with official labour income rate set by the various public regulatory institutions and welfare of the workers such as non-casualization, transport shuttle or transport voucher and less illegal deduction from the workers'

income. The reduced income of these informal workers in formal industries affects their ability to adequately cater for themselves and family as the remaining income becomes insufficient to meet their daily needs. In contrast, informal workers working in informal large and small-scale garment businesses often feel less dissatisfied with their income domain (Buechler, 2014). Their satisfaction could be as a result of the flexibility to work and earn more income for unfixed hours, diversification of income, the workers are not obligatory to pay income tax, closeness to the place of work, i.e. less cost of transportation (as many informal garment employment are commonly home-based or within a short distance away from workplace) and sometimes the cost of production or marketing is relatively low thereby it gives opportunity to earn more income (Buechler, 2014; Chreneková et al., 2016; Lahiri, 2017). The workers in the informal small-scale and home-based tend to have adequate financial resources to support themselves and their household (Chreneková et al., 2016; Williams, 2014). Moreover, the informal garment workers' income domain in some cases determines the kind of services workers could access, lifestyle, buying basic household needs, their living standard or conditions, purchasing power, and their overall QoL satisfaction.

#### **2.4.2. Social domain**

The social domain in the context of this thesis relates to the context of social cohesion. Social cohesion can be seen as a state of improving social interaction and reducing inequalities among individuals or groups of people due to socio-economic characteristics, thus promoting fairness and equal treatment or opportunity (Manca, 2014; Markus, 2021).

Many informal workers in formal garment industries are assumed to be dissatisfied with their social cohesion (Dedeoğlu, 2010). The dissatisfaction could be attributed to unequal treatment at the place of work due to socio-economic background (such as most vulnerable: women, individuals with low educational profile, immigrants, and children) and less social interaction with other co-workers (Buechler, 2014; Eaton & Goulart, 2009). For instance, the informal workers are often assigned different tasks (unfairly), abused in the course of carrying out their daily work duties, segregated from other formal co-workers with different social-economic backgrounds, and they are susceptible to stigmatization which influences their social cohesion domain negatively (Carr & Chen, 2001; Chreneková et al., 2016; McLean, 2000; Nzeadibe et al., 2012; Rojas, 2013). It is important to note that the local context also determines the level of satisfaction of large scale informal workers, as some informal garment workers at this scale still experience good social interaction at the workplace.

Informal workers in informal garment businesses report good social interaction with co-workers and employers. Sometimes the workers working informally for informal garment small and home-based industries enjoy fair treatment irrespective of their socio-economic background, no segregation of workers, constant social interaction and bonding with their co-workers or employer at the workplace and even off work (Lahiri, 2017).



#### **2.4.3. Health domain**

Informal workers in the formal garment industry's health domain are perceived to be negatively influenced due to working informally. Formal large and small-scale garment industries only provide formal health care benefits to formal workers; the informal garment workers do not have access to formal health insurance or care and employment medical benefits to cater for their health and in case of work-related hazards (Andrae & Beckman, 2013; Dedeoğlu, 2010; Eaton & Goulart, 2009; Rajasekhar et al., 2007). These workers frequently suffer from health complications such as body pain (due to excessive working hours and ergonomic related activities), inhaling dangerous chemical substances from the work environment, less time for relaxation or sleep, and organ-related medical problems due to work-related exposure (Buechler, 2014; Ko Ko et al., 2020; Rajasekhar et al., 2007; Vélez Álvarez et al., 2016). Furthermore, informal garment workers often seek cheap local health care, unequipped, crowded medical facilities that they can afford, owing to the cost of formal healthcare, and they get less satisfactory health treatment (Buechler, 2014; Rajasekhar et al., 2007).

Studies have highlighted that informal workers working in informal establishments easily adapt to the unavailability of health benefits (Fransen & Meine, 2008; Vélez Álvarez et al., 2016). Garment workers in informal garment establishments (large informal industry, home-based and small-scale) are perceived to be less dissatisfied with the health domain because the flexibility of their employment gives them more time to rest (and not overwork), workers also improvise informally to reduce (or protect themselves against) work-related exposure that could impact their health. Additionally, they often rely on inexpensive traditional or self-help health services to ameliorate potential medical illnesses that could arise from working informally at home-based or small-scale garment industries.

Health domain is essential for several informal garment workers in Global South countries, and their perceived health satisfaction could sometimes be traced directly or indirectly to their type of employment (Ko Ko et al., 2020; Quayyum, 2019; Shumi et al., 2015). It should be noted that the satisfaction level of formal garment workers may also vary depending on several factors such as employment contract, local context, employer, the effectiveness of regulatory body, and job description as these workers could also experience some form of health dissatisfaction, but the severity may be less than garment workers with informal employment.

#### **2.4.4. Psychological domain**

The psychological domain refers to the feeling, emotion, mental stability, and psychological wellbeing of an individual as a result of informal employment-related activities (Vélez Álvarez et al., 2016). The type of employment within the garment industries (i.e. in formal or informal garments, large and small-scale) determines the level and type of influence the employment has on the informal workers' psychological wellbeing. For instance, informal workers in formal garment industries are often mentally stressed and feel anxiety from poor working conditions, sexual harassment (mostly women), verbal or non-verbal abuse at the workplace, and bias treatment based on gender (Carswell & De Neve, 2013; Nzeadibe et al., 2012; Quayyum, 2019; Zafarullah & Nawaz, 2019). The examples identified above influence informal workers

negatively in terms of psychological well-being, depression, mental states (such as sadness and negative feelings), interaction with others outside the workplace, and response to other spheres of their lives.

Informal workers in informal garment employment also experience some form of stress that negatively influences their psychological domain. For example, informal small and home-based workers are often mentally stressed due to trying to have enough time for work and taking care of the family as there are no clear distinctions between both (Carswell & De Neve, 2013; Dedeoğlu, 2010). On a positive note, some informal workers at informal small and home-based still experience less mental stress because the flexibility of the employment gives them more free time. Other stress comes from improvising to sustain the employment due to lack of adequate resources; and negative consequences or inhumane treatment from bad loan creditors or public discrimination (Ko Ko et al., 2020; Nzeadibe et al., 2012; Zafarullah & Nawaz, 2019).

#### **2.4.5. Physical environment domain**

For this thesis, the physical environment domain is known as built environment and housing as it is influenced by many factors that can be ascribed to individual garment workers' employment. Built environment and housing are explained as a geographical location or neighbourhood with various living conditions, amenities, infrastructure, and environmental attributes of where individuals live or perform their daily economic activities (Butterworth, 2000; Stout, 2018).

Under similar unfavourable environmental conditions, informal garment workers are worse off than formal garment workers. For instance, due to their employment characteristics, formal garment workers easily have access to formal housing mortgages (through the states, their garment industry, and private companies) in a good physical environment to live with their household. This influences their QoL positively because they enjoy better infrastructure (such as houses, good transportation networks, stable electricity, recreational facilities and development) and a less polluted environment. In comparison, informal garment workers often live in deprived areas with difficult access to formal housing, quality infrastructure, better amenities and a clean environment (Mezzadri & Fan, 2018). These factors have a negative influence on the workers' QoL. Locational attributes of where many informal garment workers live and where they perform their informal garment employment influence their QoL (Shumi et al., 2015). For example, informal garment workers with employment in informal, small-scale, and home-based locations far away from the core urban area are perceived to be less dissatisfied with their physical environment domain than informal workers in large formal industries. Their satisfaction level can be traced to the availability of cheap cost of living, less pollution that could arise from proximity to large production industries in urban areas, inexpensive cost transportation, less time/financial resources commuting for employment purposes, less taxes due to employment activities, more revenue from expanded informal networks of customer-based within the neighbourhood, and affordable formal or informal social amenities (informally organized community development projects) within close distance in the neighbourhood to support themselves or their household.

Another key factor influencing the physical environment domain of informal garment workers is the amount earned from informal employment-related activities. Ko Ko et al., (2020) highlighted that many informal home-based garment workers live in an overcrowded apartment (sometimes up to eight household members) and share a relatively small area of the housing unit as workspace. The authors further stressed that income from stable employment (formal or informal) is a mediating factor or an explanatory variable for individuals with informal garment employment in terms of physical environmental conditions (i.e. in the area of access to quality housing, social amenities, less polluted environment and better living conditions). For instance, home-based garment workers with higher income could be satisfied with the physical environment domain as they (home-based garment workers) could afford to pay or live within high- or medium-income neighbourhoods where there is adequate access to roads for easy commuting, electricity and water to support production or living, and medical services. The authors also explained that home-based garment workers with lower income tend to be less satisfied with their physical environment domain because they often live and work in informal communities with poor housing quality, poor social amenities, and insecurity (of lives and properties). A clear case of informal garment workers living or working in a deprived area is often found in India (Mezzadri & Fan, 2018).

## **2.5. QoL domains in informal garment employment**

From the previous section, the factors that could influence various QoL domains of garment workers are shown in Table 4 . Similarly, Appendix 1 also shows the relevant QoL domain in the context of informal employment in the garment industry.

Table 4: Factors that influence the QoL satisfaction of garment workers

	Formal garment large scale		Informal garment large scale	Small-scale garment	Home-based garment
	Formal employment	Informal employment	Informal employment	Informal employment	Informal employment
<b>Income domain</b>	Adequate income. Spend a substantial amount of the income on high cost of transportation. There are less illegal deductions. Less exploitation. Insufficient income for living.	Spend a substantial amount of the income on high cost of transportation. Illegal deductions. Exploitation. Insufficient income for living.	Spend a substantial amount of the income on high cost of transportation. Illegal deductions. Exploitation.	Flexibility Less cost on transportation. Diversification of income. Less tax on personal income tax. More income potentials.	Flexibility. Less cost on transportation. Diversification of income. Less tax on personal income tax. More income potentials.
<b>Social cohesion domain</b>	There is social interaction. Less segregation. Equal treatment. Less bias treatment based on social-economic background Less abuse at the workplace. Low stigmatization.	Less social interaction. Segregation. Unequal treatment. Bias treatment based on social-economic background. Abuse at the workplace. Stigmatization.	Fair treatment No segregation Better social interaction Improved associating with others at the workplace.	Fair treatment. No segregation. Better social interaction. Improved associating with individual at the workplace.	Fair treatment. No segregation. Better social interaction. Improved associating with individual at the workplace.
<b>Psychological domain</b>	Less workplace-related sexual harassment. Less verbal & non-verbal abuse at workplace. Less gender bias treatment. Less negative feelings.	Workplace related sexual harassment. Verbal & non-verbal abuse at workplace. Gender bias treatment. Negative feelings.	Effective time management for work and family Pressure from lack of adequate resources Inhumane treatment by creditors Public discrimination due to informality	Less effective time management for work and family. Pressure from lack of adequate resources. Public discrimination due to informality.	Less effective time management for work and family. Enjoy more free time. Pressure from lack of adequate resources. Loan-related harassment from creditors. Public discrimination due to informality.

<b>Health domain</b>	Access to formal healthcare. Availability of work-related insurance. High cost of health services in formal healthcare facilities.	Lacks access to formal healthcare. Unavailability of work-related insurance. Less time to sleep. High cost of health services in formal healthcare facilities. Inflexible work schedule to take care of potential health needs.	Have more time to rest or break from work for health purpose. Informal improvisation to reduce work-related health exposure. Access to traditional or self-help healthcare services. Inexpensive medications.	Have more time to rest or break from work for health purpose. Informal improvisation to reduce work-related health exposure. Access to traditional or self-help healthcare services. Inexpensive medications.	Have more time to rest or break from work for health purpose. Informal improvisation to reduce work-related health exposure. Access to traditional or self-help healthcare services. Inexpensive medications.
<b>Physical environment domain</b>	Access to formal housing or mortgage. Access to more basic amenities.	Lacks access to formal housing or mortgage. High cost of housing due to residing in an expensive neighbourhood (urban centre) close to the workplace. Time loss during work-related journey due to traffic congestion. High cost of transportation. High pollution of the environment from nearby large garment industries.	Difficult access to formal housing or mortgage. Less expensive neighbourhood that reduces the cost of living. Overcrowded living, Less polluted environment due to far distance or less large industrial pollution. Easy access to informal market within the neighbourhood. Cheap transportation cost. Less travel time within the neighbourhood. Less taxation. Access due to closeness to formal/informal cheap amenities.	Difficult access to formal housing or mortgage. Less expensive neighbourhood that reduces the cost of living. Overcrowded living Less polluted environment due to far distance or less large industrial pollution. Easy access to informal market within the neighbourhood. Cheap transportation cost. Less travel time within the neighbourhood. Less taxation. Access due to closeness to formal/informal cheap amenities.	Difficult access to formal housing or mortgage. Less expensive neighbourhood that reduces the cost of living. Overcrowded living, Less polluted environment due to far distance or less large industrial pollution. Easy access to informal market within the neighbourhood. Cheap transportation cost. Less travel time within the neighbourhood. Less taxation. Access due to closeness to formal/informal cheap amenities.

Table 4: Factors that influence the QoL satisfaction of garment workers.

### 3. QUALITY OF LIFE ASSESSMENT, CASE STUDY, AND METHOD

*This chapter presents an overview of QoL assessment, the case study, and the method adopted for the data collection and analysis approach. Highlights of the merits and demerits of both approaches used for assessing QoL was done. Similarly, a selection of the suitable QoL approach for this study was achieved. The next section dealt with a background into the case study selected for this study. It was followed with how secondary data collection for sub-objective one was done, which I operationalised for sub-objective two titled “To investigate the impact of informal employment in the Batik industry on its informal workers QoL” to answer the other three research questions (How do Batik workers perceived their QoL, How has formal and informal employment status in the Batik industry influenced the QoL perception of formal and informal workers, and To what extent does the informal employment status influence the QoL of workers in various types of informal employment in the Batik industry). Other sections explore the primary data collection instrument, pre-fieldwork, fieldwork and how the primary data collected will be analysed, known as post fieldwork.*

#### 3.1. The assessment of Quality of Life

Some authors evaluate QoL with an objective approach, and some use subjective while others combine both approaches (Serag et al., 2019). The objective approach is the evaluation of people’s satisfaction using empirical facts such as the official household survey and public statistical data (Boelhouwer, 2014). A subjective approach is the peoples' perception, feeling, and satisfaction using their background, norms and values to measure the achieved standards, goals and aspirations as it affects their lives and living conditions (WHOQOL, 1995). Table 5 shows that both QoL approaches have their merits and demerits.

Table 5: Merits and demerits of objective and subjective QoL approach.

QoL approach	Merits	Demerits	Authors
<b>Objective</b>			
	It allows for validation using official dataset.	Lack of official dataset on the studied case.	(Campbell et al., 1976; Pacione, 1982)
	It is easy for comparison of socioeconomic, infrastructure and environmental variation in a large and small context.	The reliability of how the data were collected often differs, i.e. there is no generally agreed template for data acquisition.	(Mihaela & Moise, 2011)

	It is less dependent on individuals' perception.	There can be biased towards selecting the type of statistical analysis and inferences adopted to meet specific interpretations based on the case.	(Mihaela & Moise, 2011)
	Easy to compute with indicator using generally accepted data in a geographical location such as states or countries.	There are often similar objective indicators, and the choice of selecting the most suitable one can be challenging.	(Mihaela & Moise, 2011)
	It provides some degree of precision of the measured data.	Using empirical data alone for assessment might not necessarily reflect the real value QoL satisfaction of an individual	(Mihaela & Moise, 2011)
	Easy measurement of characteristics that influences QoL of individuals in communities, states, and countries.	Negative indicators characteristics sometimes may differ in meaning in various countries.	(Berhe et al., 2014; Mihaela & Moise, 2011; Pacione, 1982)
<b>Subjective</b>			
	It represents the real value of how individuals perceive their QoL.	Inconsistency of satisfaction perception of individual(s) and temporal difference.	(Mihaela & Moise, 2011; Pacione, 1982)
	Indicators are more flexible.	There might be an error in the data collection process	(Mihaela & Moise, 2011)
	It promotes public participatory process in evaluating residents' satisfaction and needs to improve policy	Macroeconomics often influence individuals' perception. For example, Gross Domestic Product and infrastructural development in a location.	(Mihaela & Moise, 2011)

	formulation by the state or country.		
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Table 6: Merits and demerits of objective and subjective QoL approach.

In this study, a subjective QoL approach was adopted due to various factors. The research objective of investigating the impact of informal employment in the Batik industry on its informal workers QoL was one of the factors since it involves how the workers perceived their QoL taken their employment into consideration. Another factor was that no official data on informal Batik employment in the study area that can be used to investigate the impact of their employment with an objective approach. Similarly, there were limitations of investigating the impact of the employment on workers QoL with the objective approach by going to the field for measurement due to time constraints and Covid-19 infection rate in the study area.

### 3.2. Case study

#### 3.2.1. Case study approach and selection

Case study approach is commonly used in the field of social science research to understand simple to complex societal problems, impacts and relationships such as informality, urban planning, QoL and others within a specific context (Crowe et al., 2011). A case study approach is a scientific, qualitative, or quantitative way of assessing phenomena such as a group of people, geographical space, events, policy, development, interaction, and influence within a real-life spectrum (Press Academia, 2018; Ranjit, 2011).

This case study of Batik workers in Cigadung is relevant for understanding how informal employment in the Batik business influences the QoL of its informal workers in an urban Kampung, Bandung, Indonesia. Batik employment is one of the famous economic activities in the case. The case potentially illustrates the QoL of Batik workers, the relationship between employment status of the workers and QoL and how types of informal Batik employment will influence five QoL domains of the informal workers in the case.

#### 3.2.2. The case study description

Production of various garment designs by creating locally inspired design patterns on a garment is a popular employment activity in Indonesia, and it is called Batik (Fahmi et al., 2016; Fahmi & Mccann, 2017). The Indonesian Batik is internationally recognized as an intangible cultural heritage asset by United Nations Educational, Scientific and Cultural Organization (UNESCO) because of its cultural /artist characteristics, process and value (Soebaryo, 2000; UNESCO, n.d.). The Indonesian Batik has created many employment opportunities in Indonesia and contributes to the local economy (Maryunani & Mirzanti, 2015).

Informal Batik employment is a significant source of living and skills acquisition strategy that is transferred from one generation to another for the cultural purpose of keeping the Batik heritage in Indonesia (Hengky, 2015; Kusumantoro et al., 2020). Many informal and local Batik workers are passionate about Batik making, its employment activities and opportunities (Hengky, 2015; Rulistia, 2015). For example, family and households informally engage in teaching and training their children at a young age (after basic education)



on Batik skills, and the skills acquired will be fully developed by the children as a source of employment (formally or informally) and living (Adi, 2015; Hengky, 2018; Kusumantoro et al., 2020).

In Indonesia, the culture of keeping the Batik heritage through generational skill transfer and working informally plays a significant role in the QoL of the workers. There are informal employment characteristics (such as seasonal worker, low wages, low academic qualification, lack of social rights, etc.) attached to informal Batik employment that could influence their life satisfaction (positively or negatively) in terms of the type of accommodation they could afford (housing), accessibility to social facilities like good healthcare (health), financial stability or grant (income) and other domains of lives. (Adi, 2015; Alhada et al., 2017; Chreneková et al., 2016; Hengky, 2015; ILO & Jamsostek, 2010; Soebaryo, 2000).

### **3.2.3. Urban Kampung in Bandung, Indonesia**

Bandung is one of the creative cities proposed by the Indonesian government to promote the local economic potential of the city. Bandung is the capital of West Java (province) of Indonesia and has the fifth largest population with over two and half million habitants in 2020; it has many informal neighbourhoods popularly known as urban *Kampung*, some of which are Cigadung, Jakarta, Depok, Garut, and others (Adam et al., 2012; Citipedia.info, n.d.; World Bank, United Nations, Census, 2020). The establishment of creative sectors clusters in Indonesia could be traced to the innovative local economic activities carried out by people in Bandung (Fahmi et al., 2016).

Urban Kampung are agglomerates of settlements with informal housing, economic, and social living; the term (Urban Kampung) means *villages* in the native language “*Bahasa*”, which is widely spoken in Indonesia (Nazura et al., 2020). There are many informal businesses that often underpay the workers, the academic background of some of these entrepreneurs is relatively low, and people also experience a high level of unemployment in some settlements in Indonesia (Rothenberg et al., 2016), including urban Kampung. Many urban Kampung’s inhabitants have low and middle-income, and the majority live or work informally and strive for better financial means to survive and achieve better QoL (Nazura et al., 2020; Sutandyo-Buchholz, 2013). An example of an urban Kampung in Bandung is Cigadung Kampung.

### **3.2.4. Administrative characteristics of Cigadung Kampung**

The Cigadung Kampung occupies over 26,000 hectares of area coverage (see Figure 2), about 80% of the area is built up; it is also one of the most populous areas in Bandung with a continuously growing population close to 30,000 inhabitants as of the year 2010 (Furqon et al., 2018; Pusat Badan & Republik, 2019). The administrative boundary is segmented into 91 communities, also known as “*Rukun Tetangga*” (RT) and 15 smaller traditional towns locally called “*Rukun Warga*” (RW) in Indonesia (Furqon et al., 2018; Kaler & Angka, 2016).

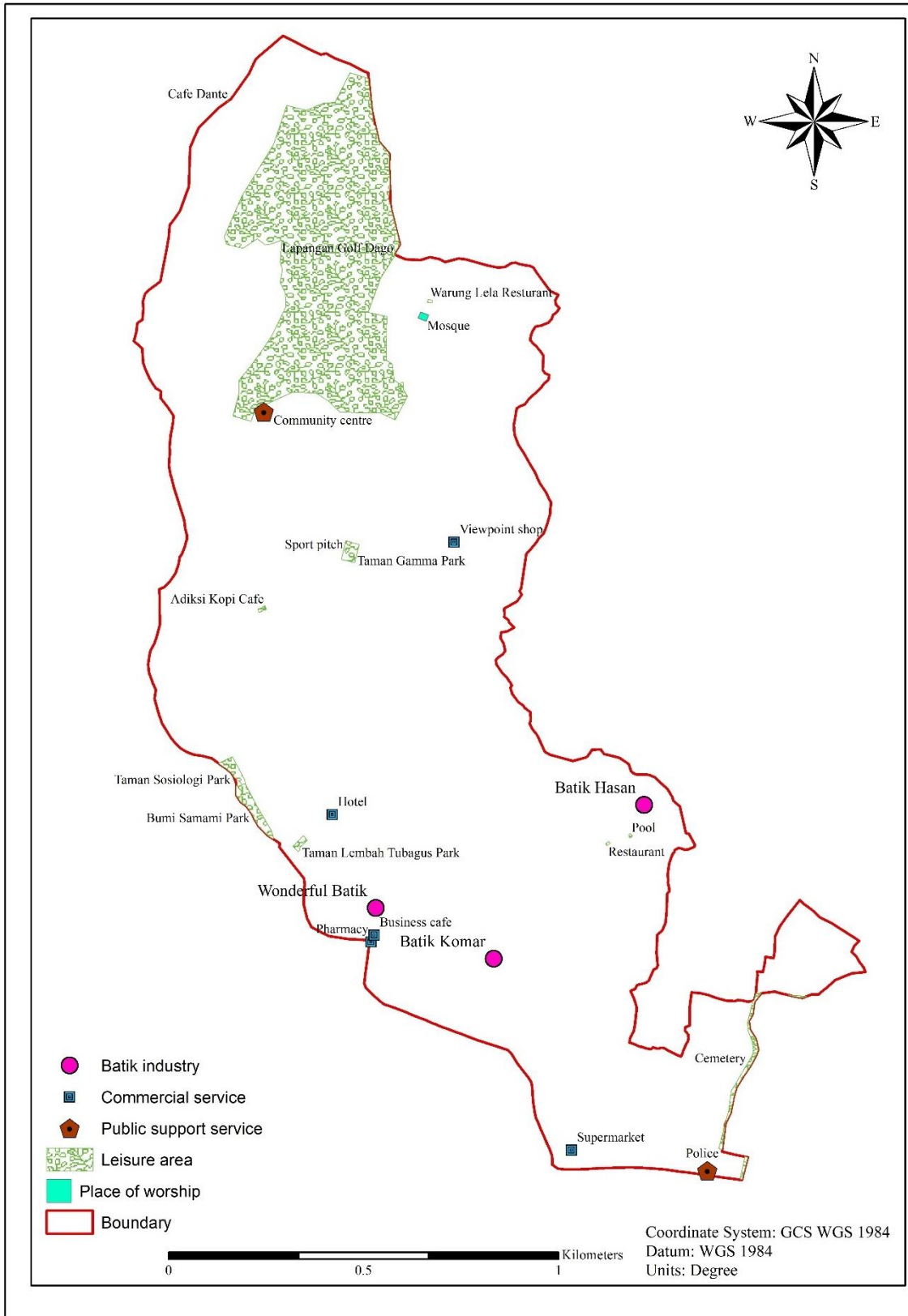


Figure 2: Location of Batik industries and some landmarks in Cigadung.  
 Source: Open StreetMap, 2021.

### **3.2.5. INECIS project data in Batik employment in Cigadung**

The secondary data used to characterise informal Batik employment in Cigadung in this thesis was from the data acquired in the Informal Economies and Creative Industry Strategies (also known as INECIS) project and Open Street Map (OSM) data. The project team comprises an NGO (INISIATIF), academia and researchers from ITC, University of Twente, The Netherlands and Institut Teknologi Bandung (ITB), Indonesia. The INECIS project data was acquired in 2019 and focused on understanding informal economy within the creative industry in Kampung, Indonesia. Cigadung, Coblong, Binong, Batununggal, Cibeunying Kaler, and Dago Kampung were selected for the study. The data collected across the six Kampung mentioned above during the project was above 160 participants. Also, primary data such as Key Informant Interview (KII) and questionnaire were used to acquire data such as characteristics of creative businesses, including Batik employment and the workers through their employer and stakeholders. Similarly, the questionnaire was designed with Kobo toolbox. The research team conducted the interview in person; all data were translated from Bahasa into English and analysed accordingly. Furthermore, the study area's spatial characteristics data such as major landmarks, commercial activity area, Batik employment location, leisure, and public support service area (see Figure 2) were sourced and used for the case description (Geofabrik, 2018; OSM, 2021).

Batik employment activity in the Kampung is popular and relevant to Indonesia economy. Specifically, the government has made continuous efforts through the Small and Micro-Enterprises Agency (known as UMKM) and other stakeholders by establishing creative industry clusters from the informal economy in urban Kampung, including Cigadung Kampung (Fahmi & Mccann, 2017). In the context of developing Batik employment through the community in the study case, Cigadung Creative Village was established in 2020 to promote Batik tourism, Batik related cultural events, fashion exhibitions and hospitality (Apriatin, 2020). In addition, the government and local entrepreneurs or owners of Batik industry, such as Pak Haji Komar of Rumah Batik Komar have invested significantly in the Batik garment industry because of its enormous potential and contribution to the formal and informal economy (Fahmi et al., 2016 & INECIS project). Similarly, many individuals have leveraged this traditional garment business of "Batik" to create several hundreds of formal and informal employment in many neighbourhoods (Fahmi & Mccann, 2017). A practical example in Cigadung can be found in large Batik industries of Batik Komar and Batik Hasan (Widiaty et al., 2018). According to INECIS project data collected, Batik garment from Cigadung is widely purchased within Indonesia by government institutions and residents, and many other countries of the world, such as Australia, The Netherlands, and Ukraine.

### **3.2.6. Batik employment characteristics in Cigadung**

From the data collected in the INECIS project, some characteristics of Batik employment in Cigadung were revealed. Different producers adopted a marketing strategy to promote product differentiation for various types of Batik design. For example, there are ordinary Batik, Batik with roses motives, Batik with sunflower motives, Batik with lotus motives, Batik with lily flowers motives, and Batik fabric with the Amaris flower design. Each of the above designs is a type of flower design, and it requires specific skills of the producer

or worker. Also, the product differentiation is employment opportunities because some workers are specialists in certain designs, and such skills will increase their income. The aesthetics from Batik also attract potential buyers locally and internationally, such as individuals and public institutions.

For the purpose of this study, a clear explanation of large, small and home-based business scale is stressed. Large scale Batik industry was not based on the number of Batik workers. Instead, it was based on the industry's capacity of a Batik industry to produce Batik at a large scale and also the categorisation of these Batik industries in the study area as a large scale industry by respondents and stakeholders (INECIS project data, Fieldwork, 2021). A business with 1-4 workers can be categorised as micro-scale (in the context of this study, micro represents home-based), while 5-19 workers in a business establishment can be categorised as a small-scale (Badan Pusat Statistik, 2016; OECD, 2018). Small-scale Batik workers with informal employment sometimes aggregate on a small-scale under a recognised association to collectively (in smaller groups) carry out Batik employment activities in Cigadung (Fieldwork, 2021).

There are different types of Batik employment in Cigadung. For this study, Batik employment can be broadly categorized into formal and informal batik employment. For example, two of the three historic and famous formal large scale Batik making industries in the area include Batik Komar and Batik Hasan as shown in Figure 2 (Widiaty et al., 2018). The third major large scale Batik industry in the study area is known as Wonderful Batik, is not in operation due to Covid-19 (Fieldwork, 2021). From INECIS (2019) project data, these large garment industries often offer formal and informal employment to their workers. The data also highlighted other types of informal Batik employment that are commonly found in Cigadung, namely at informal large, small-scale and home-based level in different parts of RT and RW, even though some of them are partly recognized by the government through their various Kampung Batik associations. The KII (CG1, CG2, CG3 and CG4) and the study's survey (INECIS, 2019; Fieldwork, 2021) also highlighted some degree of informality in the area as most Batik garment workers do not have formal employment.

INECIS project data also showed that the informal Batik workers in Cigadung are often women, migrants with low educational backgrounds. The data revealed that some of the workers migrated to Cigadung from other parts of the country due to family ties and employment opportunities. Furthermore, the data pointed out that a significant number of Batik workers with informal employment in Cigadung do not have higher education qualifications, while some only have a high school or a diploma certification.

### **3.3. Data collection**

The data collection involved a sequential approach. The sequential approach involves using secondary data to determine the primary data that was needed in this research. The secondary data collected and the analysis of research sub-objective one led to operationalisation needed to answer research sub-objective two by formulating the appropriate questions and identifying the type of primary data required.

#### **3.3.1. Secondary data collection**

Secondary data collection through a systematic literature review was used to explore the relationship between informal employment in the garment industry and QoL. Since there are not enough or relatively

few studies that have explicitly focused on the relationship between informal employment QoL of informal workers in the garment industry. To understand the link between individuals working informally and their QoL in the garment industry.

A systematic literature review is the search and use of scientific studies, research or publications to make an unbiased or evidence-based argument to understand or analyse processes, phenomena or societal issues (Bryman, 2012). In my case, I searched various scientific databases such as Web of Science, Scopus, SpringerLink, and ScienceDirect to systematically identify relevant literature needed to conduct a literature review. Keywords, synonyms, and criteria were used (see Table 7) to search and select the relevant scientific literature that was used in the review. The systematic literature review was guided by studies exploring relationships, characteristics, impacts, or problems of informal employment or informal workers linked to QoL within the garment industry context. Also, the literature context was within the defined characterization of ICLS, (2003) on informal employment, informal workers by Carr & Chen, (2001) and based on Chreneková et al., (2016) on QoL all within the scope of the garment industry.

The systematic literature review search entails different stages. Firstly, a total of 791 studies was explored from the four focused scientific databases. At the second stage, the inclusion and exclusion criteria (see Table 7) was applied, and the studies were reduced to 14. Furthermore, some studies appeared in more than one database; hence such duplication was removed. The final eligible studies relevant for the relationship between informal employment in the garment industry and QoL were 14 studies from the selected scientific database (see Appendix 2). In addition, other related QoL studies that have discussed employment (most especially informal and the workers) were introduced to strengthen the method of answering the QoL research questions since there are limited QoL studies on informal employment in the garment industry.

Table 7: Systematic literature review search and selection approach

Keywords	Synonyms	Inclusion criteria	Exclusion criteria
Informal Employment	Unregulated job, seasonal employment, undocumented work, informally done occupation	<ul style="list-style-type: none"> <li>• Scientific research.</li> <li>• Peer-reviewed.</li> <li>• Focus on informal employment; informal workers link to QoL in the garment industry</li> </ul>	<ul style="list-style-type: none"> <li>• Non-English language.</li> <li>• Not peer-reviewed.</li> <li>• Publication without characteristics of informal employment or QoL of workers in the garment industry.</li> </ul>
Informal worker	Casual worker, undocumented employee, seasonal worker, home-based worker, informal factory worker,	<ul style="list-style-type: none"> <li>• English language.</li> <li>• Within the defined characterization specified</li> </ul>	<ul style="list-style-type: none"> <li>• Broad QoL studies.</li> </ul>

	unregulated street trade worker	in this thesis for the main concepts.	
Garment industry	Fabric industry, clothing production, Batik industry, textile market		
Quality of Life	Wellbeing, life satisfaction, standard of living, living condition		

Table 7: Systematic literature review search and selection approach

### 3.3.2. Primary data collection: questionnaires

Studies concerned with subjective QoL of vulnerable groups have used questionnaires as a data collection instrument (Nzeadibe et al., 2012; Tesfazghi et al., 2010; Vélez Álvarez et al., 2016). This data collection instrument is relevant for my case study because it will help in gaining adequate insights about the well-being of the workers due to their employment (formally and informally) in a well-structured and comprehensive manner.

I used a questionnaire as a major instrument for my primary data collection. Questionnaires offer guided and organized questions (open or closed) to participants based on their prior knowledge, literature findings, and hypothesis with the aim of understanding phenomena, interactions, and relationships in a simple operationalized manner (Trobia, 2008). Also, another method for primary data collection, such as Key Informant Interview, was practically impossible due to time, the pandemic measures and language constraints.

The questionnaire was used to ask participants open and closed-ended questions about socio-demographic characteristics, employment characteristics, and five QoL domains (income, health, social, psychological and physical environment). The open questions were designed to gain more insights and allow freedom for participants to express opinions that are not captured in the closed-ended questions. Similarly, the open questions helped in revealing some interesting findings from the participants' perspectives (qualitatively) that could be useful for an in-depth understanding of their feeling or satisfaction level and other factors that the questionnaire might not cover but influences their satisfaction as a Batik worker. Additionally, the closed-ended questions were in multi-choice and a 5-point Likert scale, i.e. 1 means very dissatisfied, and 5 means very satisfied (Shumi et al., 2015; Vélez Álvarez et al., 2016). In QoL studies, one major way of measuring individual satisfaction is through a Likert scale, ranging from 'very dissatisfied' to 'very satisfied' (Shumi et al., 2015; Tuan Seik, 2000). The Likert scale helped quantify the participants' perception (Berhe et al., 2014).

The questionnaire was organised to investigate the impact of informal employment on the QoL of informal workers in the Batik industry (see Appendix 3 and Appendix 8). The section that asked about their satisfaction with life as a whole, was intended to understand how Batik workers perceive their QoL taking their employment into consideration. Also, the “employment characteristics” section was also explored to compare those working formally with those working informally within the context of their life satisfaction to understand how formal and informal employment status in the Batik industry has influenced the QoL perception of formal and informal employment workers. Finally, the five QoL domains were used to explain the influence of informal employment on workers working informally at various types of informal Batik employment (identified from chapter two), i.e. small-scale and home-based Batik business.

Another data collection that was done on-site during the fieldwork was Personal Notes (PN). Personal Notes were taken during the process of administering the questionnaire and having an open discussion with the Batik association coordinator and some of Batik workers in the study area. The PN was used to support the open questions in gaining more insight on Batik employment, experiences and the potential link with the workers’ QoL in the study area.

### **3.4. Pre-fieldwork**

The questionnaire was designed in an online platform for remote data collection using research assistants due to travel restrictions as the result of the Covid-19 pandemic. The questionnaire was designed with “Kobo toolbox”, an open-source or free-to-use software used to collect spatial and non-spatial data online and offline with a mobile phone, tablet, and computer (KoBoToolbox, n.d.). The next phase was the design of questions (see Appendix 3), which was based on results from the systematic literature review in chapter two, emphasising .

The questionnaire was designed in English and translated into Bahasa before it was used for data collection. The Bahasa and the English versions were present in the questionnaire.

In Indonesia, before the commencement of onsite or primary data collection, approval must be sought and granted by a government agency. Approval by the National and Political Unity Agency (Badan Kesatuan Bangsa Dan Politik) of the Bandung city government was granted on the 31<sup>th</sup> of May 2021 (see Appendix 4). The formal approval from the government and an introductory letter from ITB was presented to Batik industries, Batik coordinator and some workers as a point of contact before the questionnaires can be administered to the participants.

Research assistants were trained (by myself) to administer the questionnaire to the Batik workers. Research assistants were contacted through a member of the INECIS project team. The research assistants facilitated all local paper works in Indonesia, budgeting, addressing administrative concerns of the fieldwork and crucial contacts needed to get the permission and data collection. The research assistants are recent graduates that have experience with Batik workers in Cigadung linked with their bachelor thesis. Several meetings were held from May, 2021 with research assistants via Skype and WhatsApp to discuss the thesis, plan the sampling strategy, development of incentive strategy for the participants (shopping voucher), introduce the

research assistants to how they would use the tool (Kobo Toolbox) to collect the primary data at the field with their mobile phone, test the tool with them and get their feedback to modify some questions for the workers' clarity purpose based on their local knowledge in the study area.

### **3.5. Fieldwork**

The primary data collection was done from 7<sup>th</sup> of June 2021 to 29<sup>th</sup> of June 2021. It is important to highlight that the data was collected at the peak of the Covid-19 pandemic in Indonesia.

#### **3.5.1. Sampling strategy**

Some of the characteristics of Batik employment highlighted above influenced how the participants were sampled in the study area for this thesis. For instance, data acquisition was done across all types of Batik employment workers, i.e. formal workers, informal workers at formal large scale batik, informal workers at informal large scale batik, informal workers at small-scale batik, and informal home-based batik workers. Also, some of the participants sampled were from the two out of three major formal Batik factories (Batik Komar and Batik Hasan) and other Batik businesses in Cigadung (see Figure 2).

The participants were first identified through a two-stage quota sampling. Quota sampling is the equal identification, representation, and sampling of a group or sub-group of people with similar characteristics, especially in case study research (Lawrence Neuman, 2014; Ranjit, 2011). Quota sampling was used to sample, first, an equal number of workers with formal and informal employment in the Batik industry and secondly, to sample an equal number of workers with informal employment at large, small-scale and home-based levels based on literature findings (in chapter two) and the common type of Batik informal employment found in the study area.

The second sampling strategy used in this study is snowball sampling. Snowball sampling is important in this study because some of the Batik workers are unwilling to participate in such a sensitive study that might reveal their living conditions, socio-economic characteristics, or personal information. Similarly, a snowball sampling technique involves the location and engagement of a participant or stakeholder for primary data collection purposes, and this participant suggests other potential or willing participants relevant for the same research data collection (Lewis-Beck et al., 2004). Likewise, using one participant (or someone with close relation to such employment) to identify the next Batik or garment participants (Shumi et al., 2015) will give the other participants some comfort, trust and freedom to share their experience and information freely, and it will in turn aid time management for data collection. As such, the participants belong to the "hard-to-reach" category (Chamberlain & Hodgetts, 2018). In the context of this thesis, snowball sampling for formal Batik workers was done through the Batik industry (Batik Komar and Batik Hasan), i.e. employer or human resources department of the industry were used to identify the workers with formal employment. For the workers with informal employment, a stakeholder at their association and one informal worker leading to the next was used as the point of contact to reach these workers.



### 3.5.2. Sampling size

The sample size of the 36 participants comprised of workers with various Batik employment (see Table 8). This includes 18 Batik workers with formal employment and 18 workers with informal employment. The sample size was selected to have enough field data that could explain or understand the QoL of the workers. Similarly, to know the impact of informal employment on informal workers' QoL, understanding how it influences those with formal employment in the Batik industry needs to be understood. Another reason for choosing an equal number of participants is to adequately compare workers with formal vs informal employment to investigate the impact of informal employment in the Batik industry on its workers QoL. Also, getting more than the above sample size became difficult due to Covid-19 health measure and unemployment implication of the pandemic in the study area as some of the workers have lost their employment and moved out of the study area.

In the context of the participants' composition of Batik workers with informal employment, various factors were considered before selecting a sample size of 18 workers. The sample size was an accumulation of two types of informal employment, i.e. small-scale and home-based. In the study area, informal Batik employment only exists at these two levels during data collection. Similarly, there are 9-workers with informal employment at small-scale Batik and 9-workers with informal employment at home-based Batik (see Table 8). The choice of 9 workers per each informal employment was to have a good baseline for comparison to show the potential influence of informal employment on the QoL of these two types of informal Batik workers.

Table 8: Sample size composition.

	Formal employment workers	Informal employment workers
<b>Batik business scale</b>		
Large scale	18	-
Small-scale	-	9
Home-based	-	9
<b>Total</b>	<b>18</b>	<b>18</b>

Source: Fieldwork, 2021.

### 3.6. Post fieldwork: Data analysis

The systematic literature review applied to answer the relationship between informal employment in the garment industry and QoL is meta-ethnography. A meta-ethnography systematic literature review is the interpretation of specific existing scientific studies into another form such as qualitative or quantitative by researchers based on an extensive reading understanding or analysis of this subject of discourse to compliment or establish new scientific facts, show relationships, and reproduce the result in a simple approach to ease better understanding of a broader audience (Bryman, 2012; Noblit & Hare, 1988). The 14 studies were imported to ATLAS.ti version 9.0.24.0, and coding was done. These studies were coded

inductively to identify types of informal employment, characteristics, the relationship of informal employment to QoL and relevant QoL domains in the garment industry (see Appendix 5). The QoL section of this sub-objective was further supported with studies that have focused specifically on employment and QoL in Global South. The results were used to develop the literature review section of this thesis.

The research assistants translated all questionnaire data from Bahasa into English. The personal note was also summarised and translated into English and shared through Google drive.

The primary data were checked for completeness and sorted to answer each of the research questions (e-g). The first phase of the analysis answer broadly how the Batik workers perceive their QoL. Furthermore, data for workers with formal employment were separated from workers with informal employment for the purpose of understanding how Batik employment status, i.e. formal and informal, has influenced the QoL perception of both workers. Finally, workers' data with different types of informal employment at small-scale and home-based Batik were sorted separately to investigate the influence of these types of employment on the workers' five QoL domains.

The quantitative data from the primary data collection was analysed using descriptive statistics, graphs, charts and tables (Shumi et al., 2015; Vélez Álvarez et al., 2016). The data was downloaded from the Kobo toolbox and exported into Microsoft Excel and Statistical Package for Social Sciences (SPSS).

The open questions data was coded. The English version of the open question data was downloaded into Microsoft word and exported into ATLAS.ti for deductive coding to identify the major themes. The theme results were further used to support the discussion of the result on how Batik workers with formal, informal and types of informal employment's QoL is impacted.

The spatial component was also considered in this study. The locational coordinates of where the workers live and where they work were acquired and downloaded from the Kobo toolbox. The coordinates were exported into ArcGIS version 10.8.1 platform (ESRI software) for the spatial distribution of Batik employment and physical environment domain characterisation of the participants. Also, for the purpose of visualisation, a description of the employment condition and living environment was further supported by geotagged images taken during fieldwork.

### **3.7. Ethical consideration**

Ethical considerations were considered in this research. All participants were duly informed that the research is strictly for academic purposes. Regulatory approval in Indonesia was sought and granted. The participants' personal information that could be used to identify them were anonymized for their protection. For instance, the name or unique identifier data of the Batik worker that can be attributed to their geo-location was collected with less than 100% locational precision, and in some cases, the location points were offset by a certain distance. In addition, informed consent was sought to explain the objective of the research and the rights of the participants and afterwards, it was agreed by the participants. The General Data Protection Regulation through the University of Twente stipulates participants' rights on time length, the reason for the study, confidentiality, explanations, and risk involved (if any), was adopted in this research (UT, 2019).

The research assistants collected and translated data into English from *Bahasa* (where applicable) without altering its original content. The data was not shared with anyone outside this research and the University of Twente. Furthermore, the data collected was stored on the ITC, University of Twente server.

### 3.8. Reflection on research design

One of the employment scales, i.e. informal large scale that offers informal Batik employment, was not found; therefore, it was not included in this study. In the context of Cigadung Batik employment, one of the four types of informal employment identified in chapter two differs. On the one hand, informal employment at formal large, small-scale and home-based Batik exists in the study area. On the other hand, informal Batik employment at informal large scale garment businesses was not identified due to time constraints and the potential risk of exposing the research assistants to Covid-19 in the study.

The economic implication of the Covid-19 pandemic created the non-inclusion of workers with informal Batik employment at formal large scale industries in this study. At the pre-pandemic level, there seem to be four types of informal employment, i.e. informal employment at formal large scale, informal large scale, small-scale and home-based in the study area. During the pandemic, many Batik workers with formal and most especially informal employment at formal large scale garment industries like Batik Hasan and Batik Komar have been sacked due to the economic implications of the health pandemic. Both industries do not offer informal employment during the data collection period due to declining demand for Batik products and revenue shortage.

At the data collection period, there were challenges getting respondents for this study due to loss of employment by Batik workers. Only a few Batik workers were actively working in this garment employment. For example, many Batik businesses have sacked the workers, and some operate at less than 10% capacity, such as Batik Komar, compared to pre-pandemic. Similarly, many Batik workers who have lost their employment have moved outside the study area to other parts of Indonesia. In addition, some ex-Batik workers have switched their profession from Batik employment to other sectors. Also, some of the current workers do not contact or communicate with other ex-workers, making it difficult to establish communication with these sets of Batik workers for sampling.

Descriptive or exploratory analysis was done after the collection of the primary data due to several reasons. The total number of Batik workers in the study area that could help determine the appropriate sample size in this study was unknown. The absence of this data was due to the lack of official statistics of Batik employment or workers in Cigadung. Similarly, correlation or chi-squared analysis to statistically explore possible relationships between employment status and QoL (Vélez Álvarez et al., 2016) was not achieved due to low sample size<sup>1</sup>. It should be stressed that efforts were made to show correlation analysis with employment status and QoL (Appendix 6 and Appendix 7), but the analysis was not used in this study.

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<sup>1</sup> According to David, (1938) to show a possible relationship between variables statistically, including Pearson correlation, it is essential to have a higher number of sample size, and in the event of the statistical relationship necessity in the research with a smaller sample size, each variable size must be more than 25 samples to be fairly accepted. Bonett & Wright, (2000) also highlighted that the sample size for a correlation variable should be more than 20 and the more sample size, the better for the correlation

Spatial mapping was affected due to the data collection. The questionnaire was administered at the place of work with limited time, space and spread of the workers to avoid clustering. Also, there were safety concerns in terms of the safety concerns to contact some dispersed respondents. The spatial challenges also informed the decision to offset some location points by few distances during the analysis.

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analysis. In my case, the same size for each of the employment status and types of informal Batik employment was less than the 25 samples.

## 4. INFLUENCE OF BATIK EMPLOYMENT ON WORKERS' QUALITY OF LIFE

*This chapter addresses research sub-objective two: To investigate the impact of informal employment in the Batik industry on its informal workers QoL. The chapter is informed by a literature review, questionnaire, and personal notes. The literature review was the outcome of sub-objective one: To explore in existing literature, the relationship between informal employment in the garment industry and QoL, in chapter two. The questionnaire and the personal note were data acquired from the fieldwork in the study area.*

*The chapter is organized into four sections, where each section addresses one research question: 1. Socio-demographic characteristics of Batik workers in the study area; 2. "How do Batik workers perceived their QoL"; 3. "How has formal and informal employment status in the Batik industry influenced the QoL perception of formal and informal workers" and 4. "To what extent does the informal employment status influence the QoL of workers in various types of informal employment in the Batik industry".*

### 4.1. Socio-demographic characteristics of Batik workers with formal and informal employment.

Informal Batik employment has more older workers than formal employment in the study area, as shown in Figure 3. Most of the workers with formal employment are within a young age group concentrated in four groups only, while 13 of the 18 workers with informal Batik employment are clustered within the age group of 38 years old to 57 years old. The KII of INECIS project data and PN during the fieldwork revealed that long term Batik workers often complain about the challenge in terms of the hesitancy of the younger generation in participating in Batik employment; as many of the young age group prefer to seek employment in other sectors such as catering and Information and Communication Technology (INECIS, 2019; Fieldwork, 2021). Also, having formal employment seems essential to the younger workers, which is also shown in the age composition of Batik workers in this study (Figure 3).

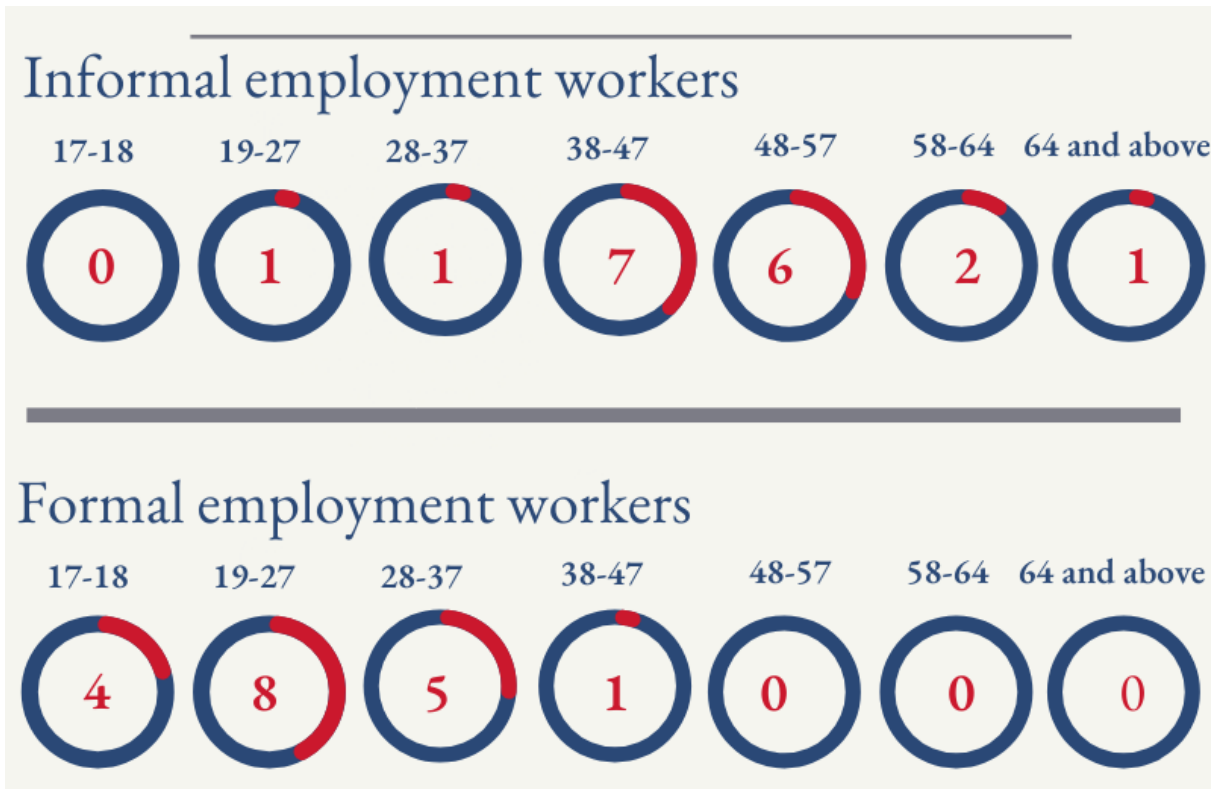


Figure 3: Age distribution of Batik workers in Cigadung.  
Source: Fieldwork, 2021.

Most workers with informal Batik employment have two major ties for working in the study area, while formal workers have a different reason (Fieldwork, 2021). Some informal workers are natives of the study area, and others moved to this area for family reasons. Of the eight informal employment Batik workers with local migration backgrounds, six moved to Cigadung for family reasons. For formal workers, 14 out of 18 of them migrated to Cigadung from other parts of Bandung, West Java province, and other provinces in Indonesia for employment purposes only. In the context of this study area, both workers working with formal and informal Batik employment understood and speaks the official language - Bahasa. Social interaction problems, exploitation based on communication barriers with an employer or co-workers and residents at the living area of the Batik worker does not arise.

Table 9: Batik workers' migration background to the study area from various locations within Indonesia.

Characteristics	Categories	Informal employment workers	Formal employment workers
<b>Migrating within the country</b>			
	Not applicable (native of Cigadung)	10	4
	Parts of Bandung	3	7
	Parts of West Java province	5	5
	Another province in Indonesia	0	2
		<b>18</b>	<b>18</b>
<b>Residency period in Cigadung</b>			
	Less than 1 year	0	9
	1-5 years	1	2
	6-10 years	0	4
	11-20 years	1	1
	21-30 years	4	1
	30 years and above	12	1
		<b>18</b>	<b>18</b>

Source: Fieldwork, 2021.

The promotion of Batik employment in Cigadung is mostly driven by long term residents, especially individuals with informal employment. Table 9 also show that many formal Batik workers recently migrate to the study area; for employment reasons. Informal Batik workers are largely Cigadung residents for more than 30 years. The table (Table 9) further confirms that there might be attempts by the long term residents with informal Batik employment to promote Batik jobs in the study area since they have passion and responsiveness towards Batik growth. For instance, the KII revealed that efforts were highlighted by the

active participation of the informal Batik workers in the study area in various Batik training, organise exhibitions for marketing purposes, producing Batik in order to sell to public and private individuals, registration of their association to access government support for Batik tools and public awareness to involve the younger population in Batik employment activities (INECIS, 2019).



Figure 4: Gender distribution of Batik workers in the study area.

Source: Fieldwork, 2021.

There are more women in general with informal employment in the Batik workforce (within respondents) than men to support their household. From Figure 4 above, almost all the Batik workers with informal employment are female in Cigadung. At the formal employment, only one-third of the workers are male, as shown in Figure 4. The presence of more females than males, especially at the garment jobs done informally have been highlighted in other studies (Ko Ko et al., 2020; Mezzadri & Fan, 2018). For example, female garment workers with informal employment are often partly or fully responsible financially for supporting, taking care of children, family, and other household members (Ko Ko et al., 2020). This is also the case of informal Batik workers in Cigadung, as 17 of 18 workers are either married (working multiple jobs), divorced or widow in Figure 5, and 16 of the 18 informal workers have a household size between 3 and 8. These women often play a significant role in supporting their household through the income generated from Batik employment.



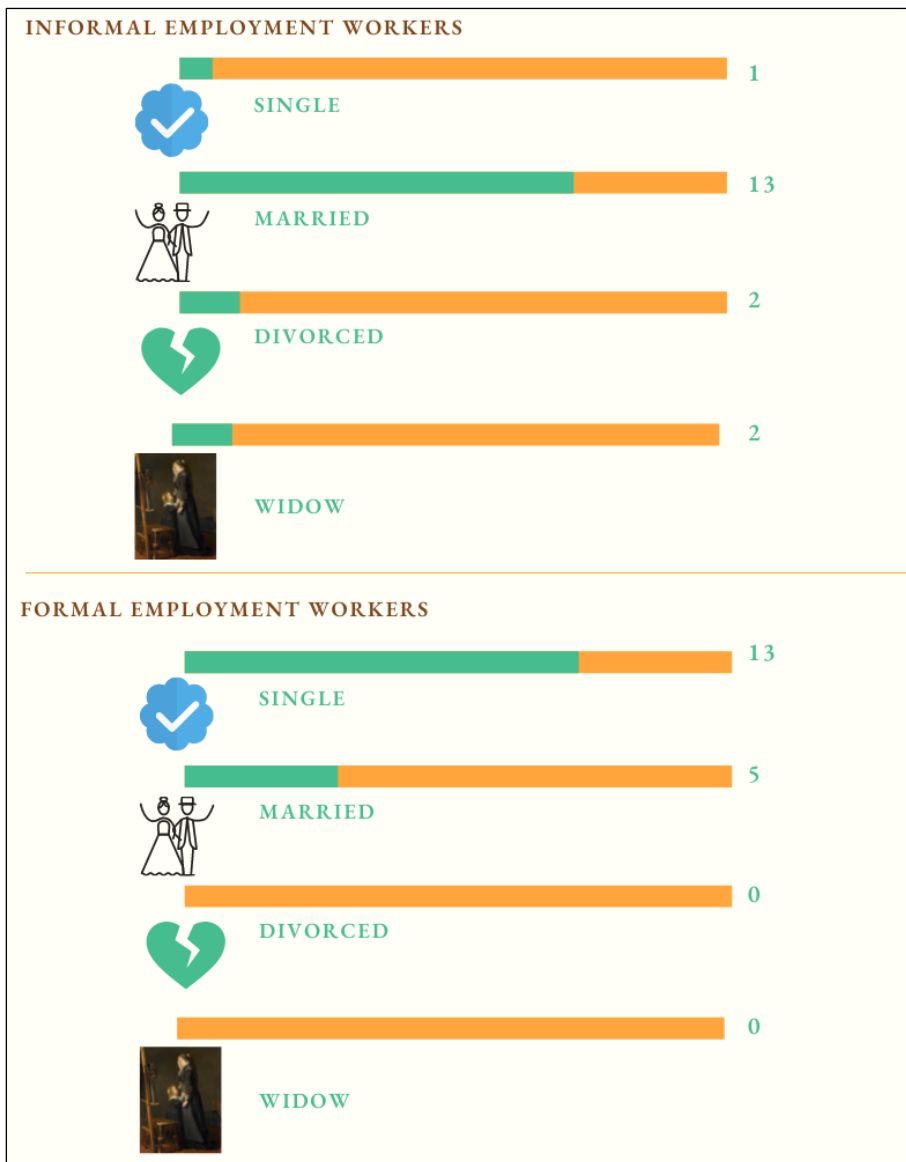


Figure 5: Marital status of Batik workers in the study area.  
Source: Fieldwork, 2021.

Educational literacy level is relatively low among the Batik worker respondents, but informal workers are more educated in the study area (Fieldwork, 2021). The highest academic qualification level attained by 20 out of the 36 Batik workers respondents is high school. Also, it is quite impressive to discover that three of five respondents with a university degree in the study area are Batik workers with informal employment. Similarly, of eight respondents with middle school education levels, five are workers with formal employment.

On the one hand, there is a low level of education among workers in the garment industry, and this often can be attributed to some of the employers who often seek to recruit garment workers with low academic qualifications for profit maximization, exploitation and cheap labour (Buechler, 2014; Sardenberg, 2020). On the other hand, the local context of the garment industry's business environment, salary/wages structure

offered to employees by the garment employer, revenue growth of the garment industry, and the garment product value also determines the type of workers employed. All these often lead to the participation of individuals with relatively low education levels since the garment industry often does not necessarily require individuals with higher educational qualifications for garment production. Cigadung Batik workers have similar low-level educational characteristics. It is impressive that respondents with informal Batik employment have more university degree holders than those in formal Batik employment in the study area, even when the income from such Batik employment may not automatically reflect this educational qualification.

#### 4.2. How do Batik industry workers perceive their Quality of Life

Figure 6 shows that majority of the Batik respondents were satisfied with their life as a whole. Only two respondents were dissatisfied. Dissatisfaction with life seems to be rare among Batik worker respondents in Cigadung.

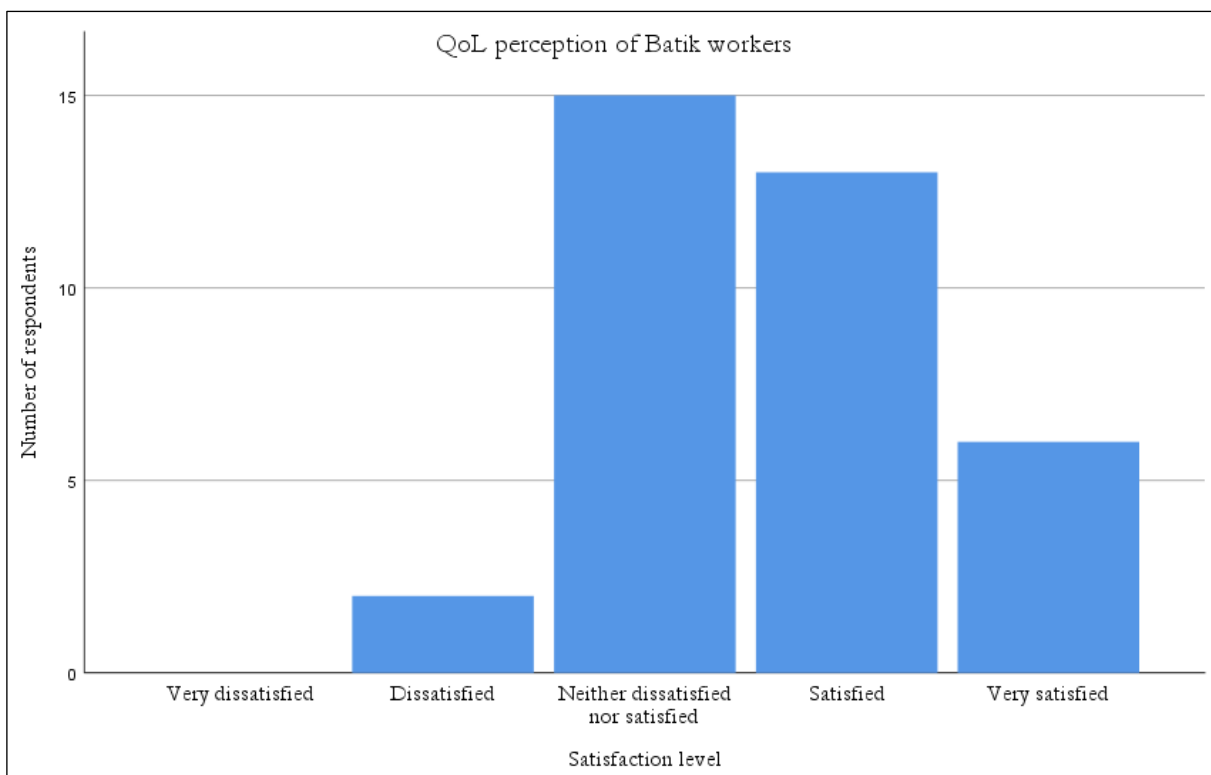


Figure 6: How Batik worker respondents in Cigadung perceive their QoL.  
Source: Fieldwork, 2021.

Physical environment, health, and social domain characteristics might be responsible for Batik workers that are more satisfied in the study area, as shown in Figure 6 and Figure 7. At the physical environment domain, almost 30 of the 36 respondents live within Cigadung, and the area has some level of infrastructure development within less than a three-kilometre radius. For example, some areas have several motorable roads, telecommunication infrastructure, electricity facilities, canals for flood control, schools and houses.

The presence of health infrastructures such as public health care facilities is another reason for their satisfaction. Other reasons that sought to improve the social domain for some workers in the study area include the availability of mosques, cheap local market, recreation area, and hotels within a 2km radius of where they live or work.

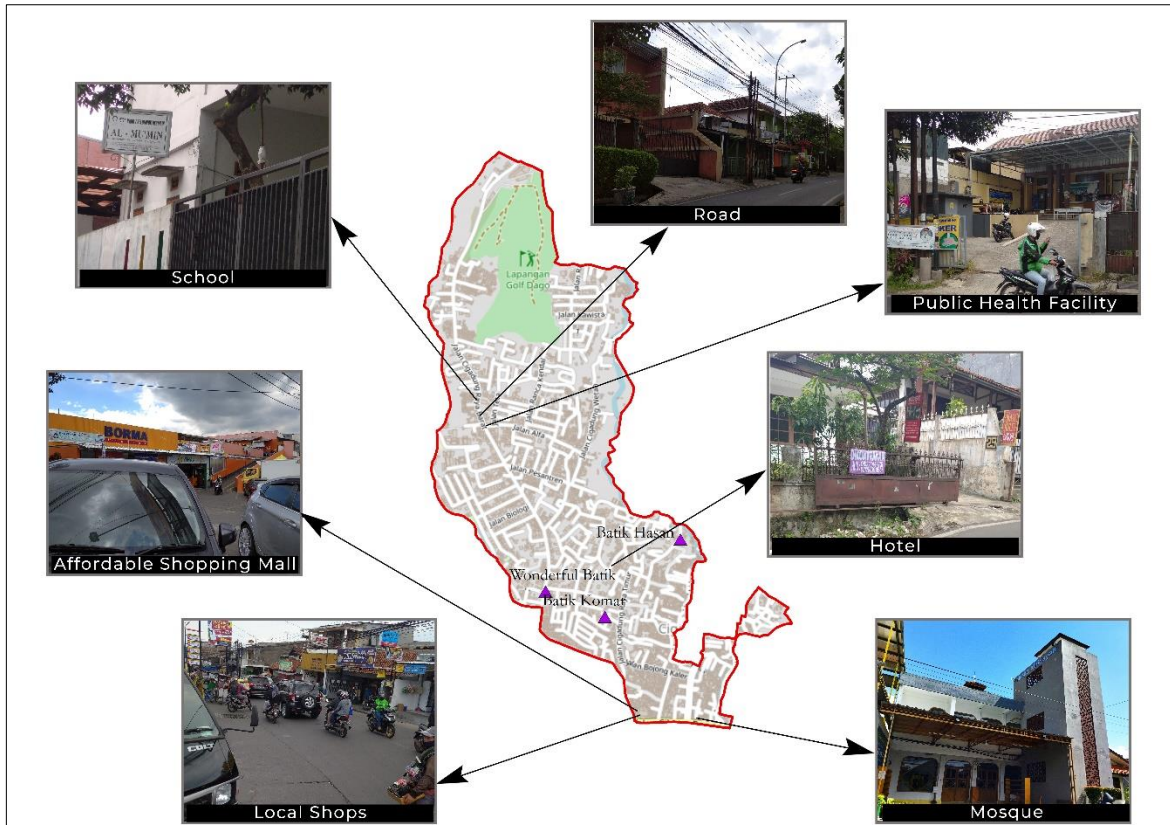


Figure 7: Physical environment, health, and social infrastructure in Cigadung and its environs.

Source: Fieldwork, 2021 and OpenStreetMap, 2021.

Figure 8 and Figure 9 show the spatial distribution of the QoL satisfaction and the living area of Batik workers in the study area. The majority of the dissatisfied respondents are workers working at Cigadung Raya Timur. Some of these workers live outside Cigadung and travel long distances to get to work, such as BW3, BW5 and BW8, who work at Batik Hasan and live in Ranca Catang area, Cijawura Hilir, and Sersan Bajuri street of Sukasari district, Bandung, respectively (see Appendix 12). For workers that are satisfied, all of them live within Cigadung in places like Ciagdung Kaler II and IV 04, Cigadung Barat, RW9 Cigadung, Cigadung Raya Timur street, and Kampong Sapan. Likewise, some of the workers live and carry out their Batik employment at the same location without incurring major travelling expenses, easy walk from home to work, and closeness to amenities. For instance, BW15, BW16 and BW17 revealed that the living location is close to work since they live at the employees' dorm provided by their employer; there is a good drainage network in the area, adequate electricity supply, close to the mosque and good road. These workers are not

dissatisfied with their life, and some of the locational characteristics of the living and workplace environs that might be responsible for the satisfaction are shown in Figure 10.

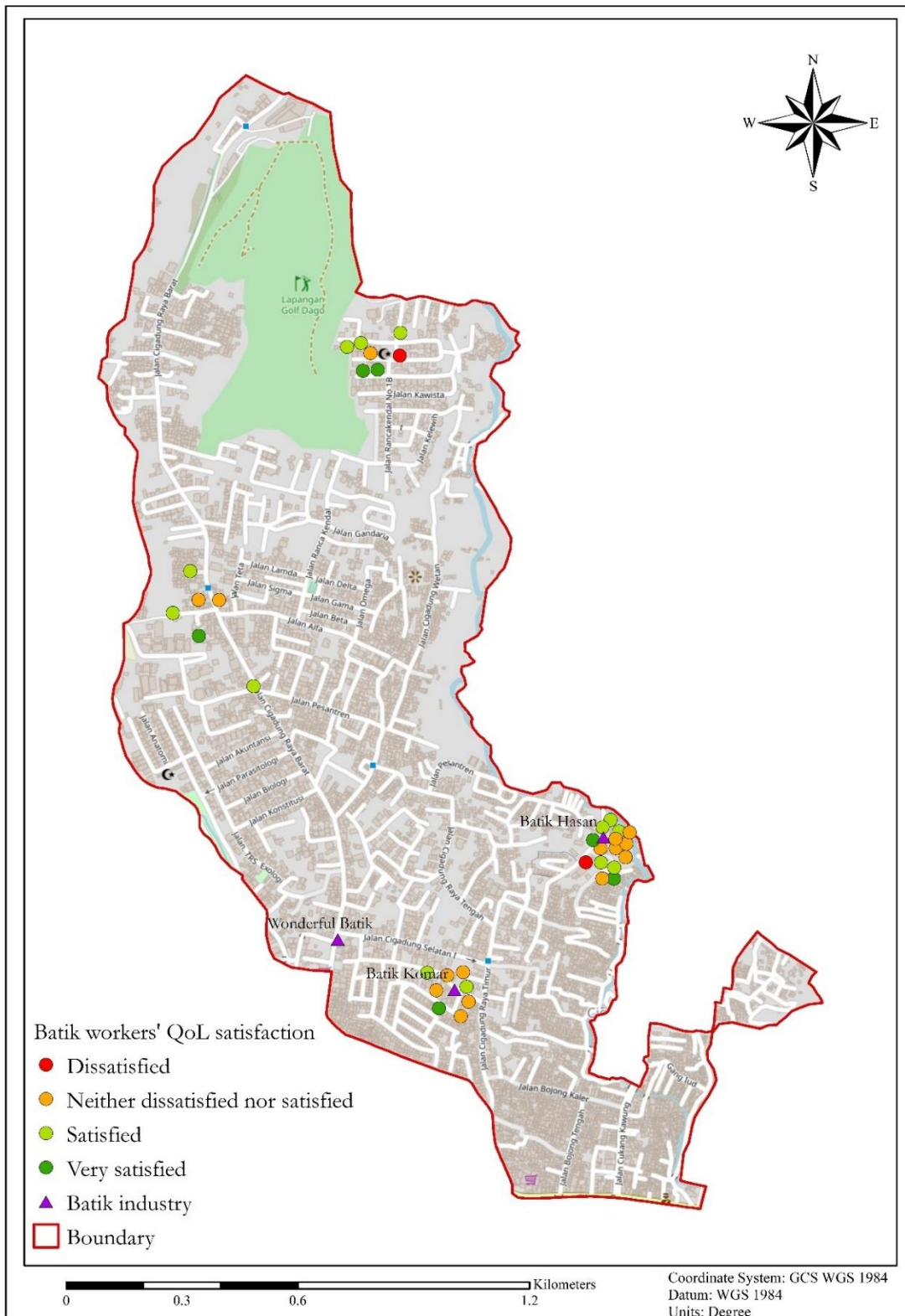


Figure 8: QoL satisfaction of Batik workers and employment locations.  
Source: Fieldwork, 2021 and OpenStreetMap, 2021.

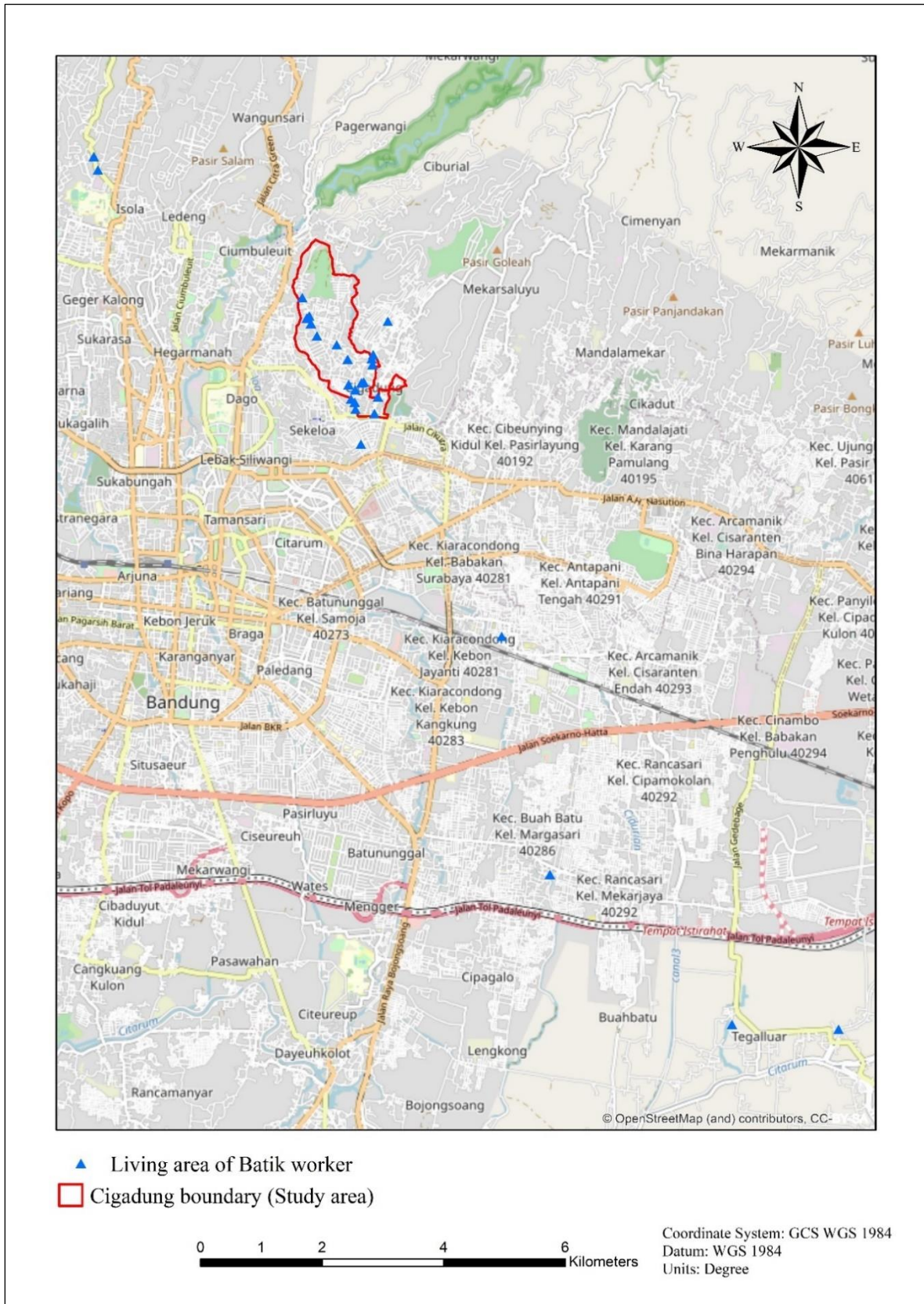


Figure 9: The neighbourhood where the Batik workers respondent lives.  
Source: Fieldwork, 2021 and OpenStreetMap, 2021.



Figure 10: Locational characteristics of the living area of some formal Batik respondents in the study area. Source: Fieldwork, 2021.

Based on the fieldwork experience, another factor that influenced the perception of the workers on their QoL that emerged from this study is the Covid-19 health pandemic. From the PN “*The batik business in Cigadung is heavily affected by the pandemic (Covid-19), especially the Big Industry. Batik Komar, which initially had approximately 40-50 batik craftsmen, currently only has about 6 people left, with details for the writing and stamping sections from 13 to 3, the drawing section from 6 to 0, the colouring section from 6 to 1, then the sorting and the initial sketch of about 6 to 7 people left 1 person, and the last one left 2 people who have versatile abilities to fill in the blanks and help the overall batik activity. The craftsmen who are currently working also have fear and anxiety regarding the possibility of being laid off under current conditions, because the stock of Batik in Batik komar has accumulated enough, not to mention the increasing pandemic conditions and the resumption of travel bans in West Java. Batik Hasan has more or less the same condition, namely that many employees have been laid off during the pandemic. The workers who were laid off mostly choose to return home and there is a possibility that they will be able to return to work later if conditions improve*”. Also, BW27 “*I am grateful because I can still fulfil all my needs even though sometimes my salary is not enough. The current pandemic conditions, still being able to work is also very grateful for me*”.

Many workers were dismissed, shops industries were closed, social gatherings were limited, and hospitals were dealing with Covid-19 related cases. The implication of pandemic also influenced the perception of the Batik workers on their QoL because these workers still feel lucky to have their employment to feed

themselves and family members compared to some of their colleagues who have lost their Batik employment.

Proximity in terms of distance between the place of living and employment location plays a significant role in the QoL satisfaction of garment workers (Sardenberg, 2020; Shumi et al., 2015). In this context, living close to work improves satisfaction with the income domain because workers spend less income on transportation to their place of employment; some walk short distances without incurring any financial expenses, others easily travel on their motorbike and spend less time. Availability of affordable infrastructure within close distance to work and the living area of the worker contribute to better satisfaction of the physical environment domain. For example, the availability of houses that the workers can afford to pay the rent, good road network to make commuting easy, and presence of public schools for the children of the workers within a close distance to their living area. The psychological domain is often influenced positively since the garment workers reside close to work where they are less stressed in trying to enjoy basic amenities and traffic congestion associated with peak hours. Location of health care centre close to living and employment area also creates a positive satisfaction for the worker, because the workers do not necessarily have to travel on long distances to get medical attention for themselves or their household. However, access in terms of affordability of these health services by the workers still needs to be addressed. The presence of cheap local market, recreation area and place of worship like mosques within close distance from house to work foster social interaction of the garment workers, family members and the community. It should be stressed distance is not the only factor that determines QoL satisfaction. Authors have also emphasised that the nature of employment (formal and informal) and the wages received from such employment is one determinant factor to the level of satisfaction and accessibility to some of the QoL domains highlighted above (Pierewan & Veenhoven, 2018).

#### **4.2.1. Batik employment and its Covid-19 implication in Cigadung Kampung**

The data from the questionnaire revealed that due to the economic challenges of Covid-19, Batik workers in Cigadung are facing job loss, reduction of income, less working hours, career switch, inability to afford living costs and excessive workload for other workers (see Figure 11). The working hours of some of the workers still actively employed in Batik have been reduced significantly, with many others experiencing lower incomes compared to pre-pandemic levels.

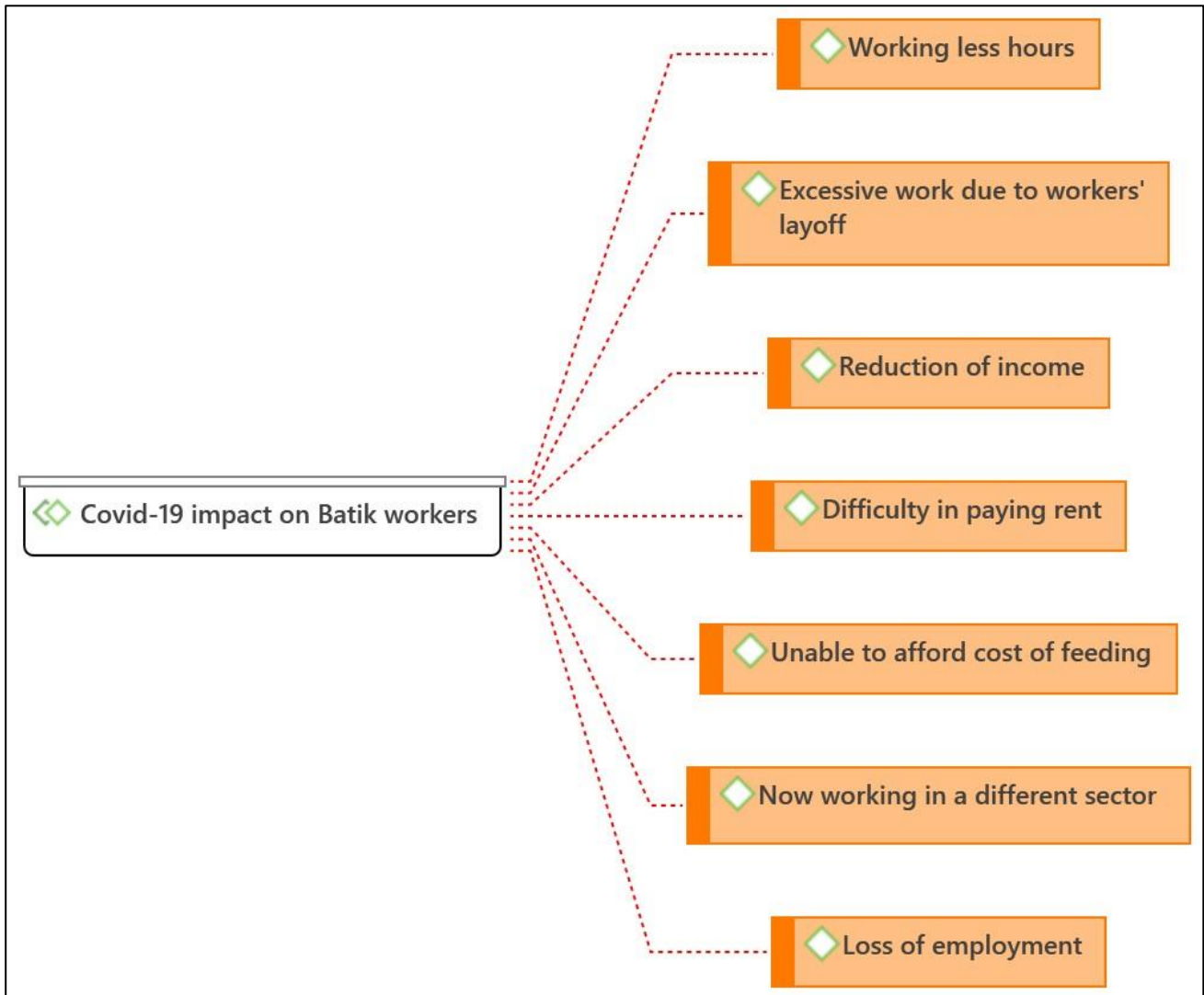


Figure 11: Covid-19 employment-related impact on Batik workers.  
Source: Fieldwork, 2021.

For example, BW10 “I do not work regularly anymore compared to the pre-pandemic, i.e. before Covid-19. My income has reduced significantly”. Also, for BW24 “The pandemic conditions also made the lack of tourists who come (for purchasing Batik). Currently, the stock of batik had piled up in warehouses, and orders are very low for now”. Similarly, some the workers have been laid off from their Batik employment, others that are still employed are either forced to multitask by doing the job of others that have been sacked, leading to excessive workload, or they (workers) have switched to a different profession, like culinary to have a source of income such as BW23 “We can't produce batik since we do it in group (RW 9) because gathering is not allowed. No income. My husband has also been laid off at the start of the pandemic (not in the Batik industry) that's why I moved to culinary”. Furthermore,



some workers who could afford to pay their monthly rent and feeding are currently struggling to meet these essential needs like BW6 <sup>o</sup> *It is now difficult to pay my house rent. It is now difficult to feed myself/ household*<sup>o</sup>. Covid-19 has increased vulnerability and uncertainty, especially among female garment workers since women are overrepresented in the garment industry. The impact identified in this study (see Figure 11), especially female garment workers, has also been stressed by another study (ILO, 2020).

#### 4.3. How has formal and informal employment status in the Batik industry influenced the Quality of Life perception of formal and informal workers

There seems to be a potential influence of employment status on the satisfaction with life as a whole of Batik workers. From Figure 12, formal Batik workers are more satisfied in comparison to the life satisfaction of workers with informal Batik employment. More than half of the respondents with informal Batik employment are neither dissatisfied nor satisfied. The result shows that most workers with formal Batik employment are more satisfied than informal employment workers in the study area.

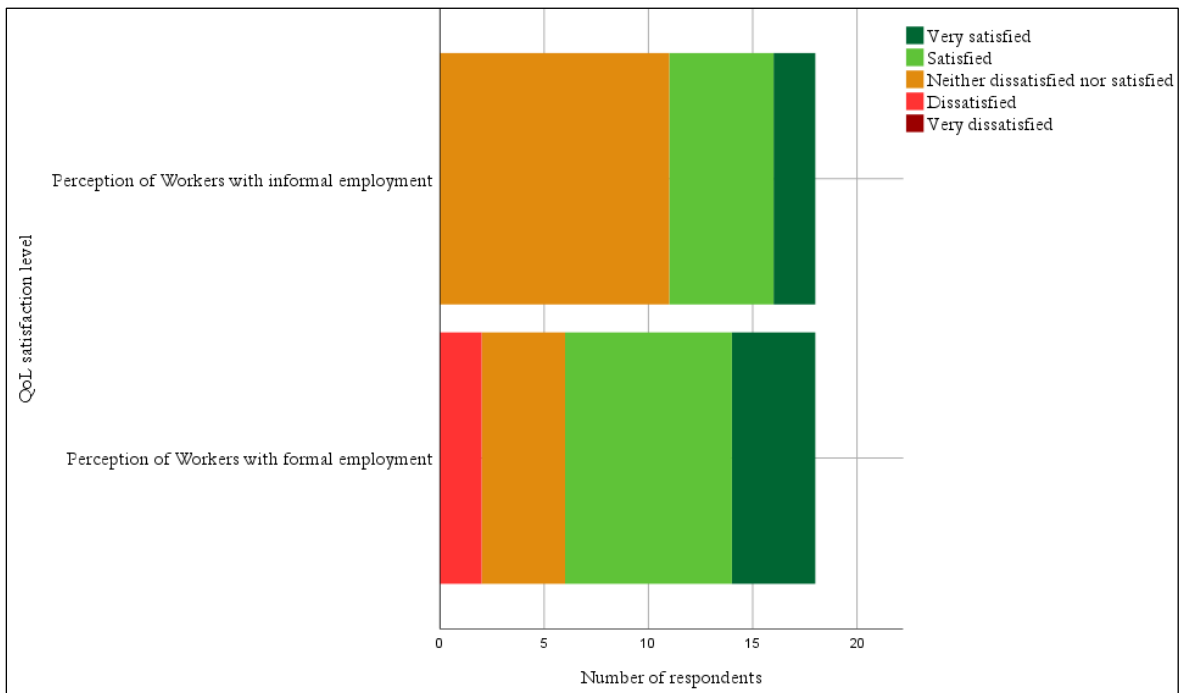


Figure 12: Batik employment status and satisfaction with life as a whole perception.  
 Source: Fieldwork, 2021.

Studies have highlighted that the QoL satisfaction of formal workers could be attributed to employment and socio-economic characteristics (Buechler, 2014; Sardenberg, 2020). In the case of formal Batik workers in Cigadung, the majority of them were young, educated enough for such employment, single and with less than 5-household members. These characteristics contribute to higher disposable income, less household dependant expense, easy adjustment to mitigate against work-related risk, some degree of freedom to live at any location close to work since the workers are single with no immediate dependant family such as children, husband, or wives.

For informal employment workers, apart from socio-economic disadvantages such as education, migration, household size and gender which often affect their satisfaction (Buechler, 2014; Eaton & Goulart, 2009; Ko Ko et al., 2020; Rojas, 2013; Sardenberg, 2020). Income from Batik employment for the informal workers is not sufficient for most of them to be satisfied with QoL since they often work seasonally, and 16 out of 18 respondents still depend on earn income from other jobs.

#### 4.3.1. Formal employment status influences on workers' Quality of Life

From the respondents' data coding analysis, formal Batik employment status has positive and negative influences on the workers' QoL perception. These factors are explained below.

##### 4.3.1.1. The positive influence of formal Batik employment over Quality of Life

Some of the positive factors identified by formal Batik workers are the availability of working tools, time, and employment flexibility (see Figure 13). Some workers revealed that the formal Batik industries are adequately equipped to carry out their employment tasks. For instance, BW24 "All working tools are adequately provided. Good Boss, If I need anything Mr. (A, owner of Batik industry) will help". It is interesting to see that 16 out of 18 respondents with formal Batik employment enjoy either employment flexibility or have more time to do other things.



Figure 13: Positive influencing factors for workers with formal employment. Source: Fieldwork, 2021.

For pleasant working environment perception of some formally employed Batik workers, this was attributed to their specific employment task and workspace. For instance, workers assigned with the task of designing the Batik pattern (Appendix 9), sorting the stamps or garment, and marketing often have a better workspace (see Figure 14) in comparison to workers assigned with the task of waxing and dyeing the garment (Figure

16). The physical environment domain at employment location for these formal workers is linked to their specific employment task location and work area only.

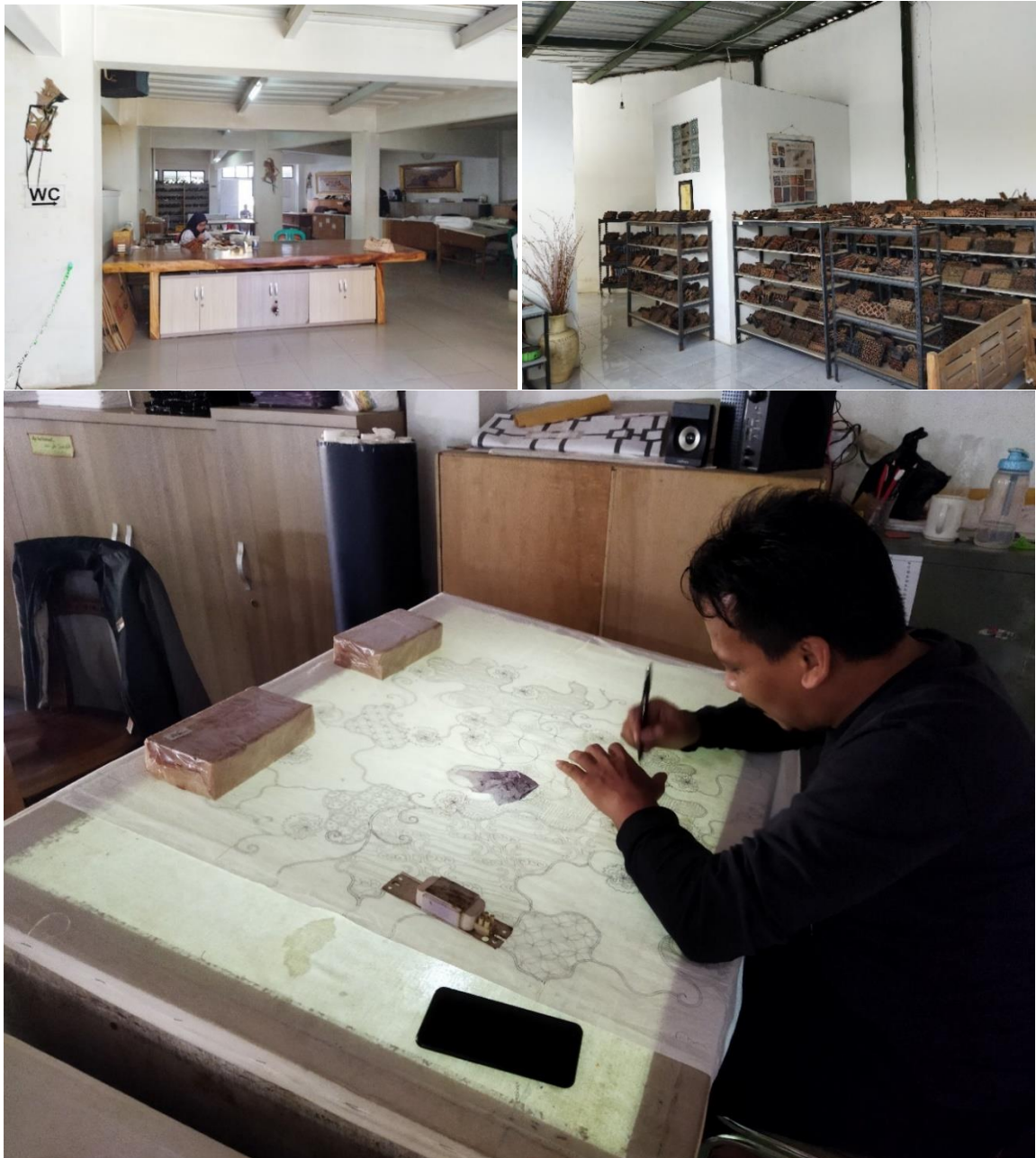


Figure 14: Pleasant workspace in one of the major Batik industries in the study area.  
Source: Fieldwork, 2021.

Flexibility and availability of time for other purposes are also common with formal Batik workers in the study area. This is in contrast to the assertion of some authors on formal employment (Buechler, 2014; Chreneková et al., 2016; Mezzadri & Fan, 2018). The presence of these factors within formal workers in the Batik industry can be attributed to a sequential process of making Batik (Bogatz, 2016). For example, several expertise are used for different production parts of Batik; without completing one, the other worker cannot

carry out his/her own employment task. Hence, based on the fieldwork experience, the Batik industry often use working according to shift scheme to create flexibility and availability of time for the formal workers.

#### 4.3.1.2. The negative influence of formal Batik employment over Quality of Life

The absence of work benefits exists with formal Batik workers, which negatively affects the health and income domain. In other words, some of the negative factors highlighted by other formal workers are lack of work benefits, low salary and health exposure at the workplace (see Figure 15). In principle, the workers often get sick, and they cannot afford to go to the hospital for treatment through employment benefits; hence, they pay for health treatment from their income. Also, some of the formally employed workers are affected by various work benefits challenges such as lack of compensation for longer working hours, poor salary structure (resulting in low income), some lack workers' rights and health insurance. There are health and income domain implications for many of these formal workers, such as BW2 *“The smoke and smell of the wax for making batik made my nose and the throat sore and uncomfortable”* and *“To fulfil my medical needs, I use Kartu Indonesia Sehat. Kartu Indonesia Sehat is an insurance provided by the government to access health services for the underprivileged”*; BW4 *“Working as a batik craftsman has quite an impact on my health. My skin is often exposed to liquid or wax for making batik, so it sometimes makes my skin sting and irritates”* and *“To fulfil the medical needs I buy my own medicine and going to the nearest health facility at my own expense”*; BW8 *“There are accidents in my workplace such as getting splashed by hot Malam wax because there are no safety clothing”* and *“I paid them myself”*; and BW11 *“Because in the process of making Batik, there's a lot of chemical ingredients which could affect my organ, such as my lungs”* and *“Using my own money to pay for my own public healthcare (BPJS)”*. These workers are often exposed to health risks and incurring health expenses due to an unsafe working environment and lack of health benefits. An example of an unsafe workplace due to production chemical spill leading to potential harmfulness to workers, less hygienic tools, and a cluttered workspace in a Batik industry within the area is shown in Figure 16. It is important to stress that some formal workers are given stipends as health benefits by their employers, such as BW15 and BW16.

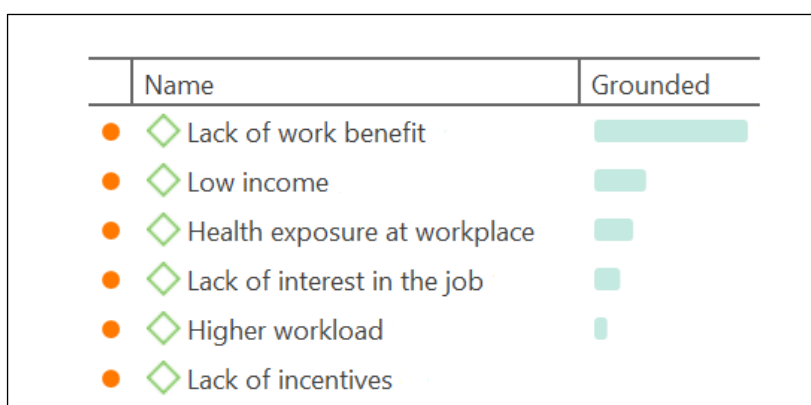


Figure 15: Negative influencing factors for workers with formal employment. Source: Fieldwork, 2021.



Figure 16: Working conditions of formal Batik industry in Cigadung.  
Source: Fieldwork, 2021.

Formally employed Batik workers also have some negative employment factors that influence their QoL perception, as shown in Figure 15. Studies have identified the availability of workers benefits, good salary and safe workplace for formal workers (Andrae & Beckman, 2013; Chen, 2007; Dedeoğlu, 2010; Eaton & Goulart, 2009; Hussmanns, 2012; Lahiri, 2017; Mezzadri & Fan, 2018; Rajasekhar et al., 2007). However, in the case of some formal Batik workers, the above factors attributed to formal employment in the garment industry by these authors are missing, and it negatively influences these workers. Some of these work benefits include lack of compensation for overtime, unavailability of health insurance, and unattractive wage structure. Soebaryo, (2012) has also stressed the health exposure of Batik workers, and the exposure of the workers is linked to where their employment task is located particularly in the Batik production ladder, such as the dyeing department of Batik. The author stressed that these workers often inhale hazardous chemicals and skin rashes that negatively influence workers' health. Some of the health exposure emphasised in the authors' study also exist among these Batik workers in the study area.

#### 4.3.2. Informal employment status influences on workers' Quality of Life

Similar to what was the case with formal workers, individuals with informal employment often have positive and negative factors that influence their QoL perception. These factors are highlighted below.

#### 4.3.2.1. The positive influence of informal Batik employment

In Figure 17, passion for Batik related employment often contributes positively to how the informal workers perceive their QoL. For example, BW25 “Working as a batik worker makes me happy because it is a hobby for me and a fun activity”, BW28 “I can preserve culture and gain new knowledge” and BW14 “Getting more knowledge in the batik making process”. It is important also to highlight that 16 out of the 18 respondents with informal Batik employment have other jobs that generate income.

Batik employment for informal workers is seen as a stress management strategy. Managing the associated stress has been challenging for some workers. In contrast, this study showed that informal Batik employment is linked with leisure and stress management for some of the workers in Cigadung. For instance, BW34 and BW18 highlighted that “Batik activities can relieve stress and become a leisure activity for me” and “Because making batik is a way to reduced stress, it's refreshing for me” respectively. The stress management strategy often improves the mental state and psychological wellbeing of these types of workers.

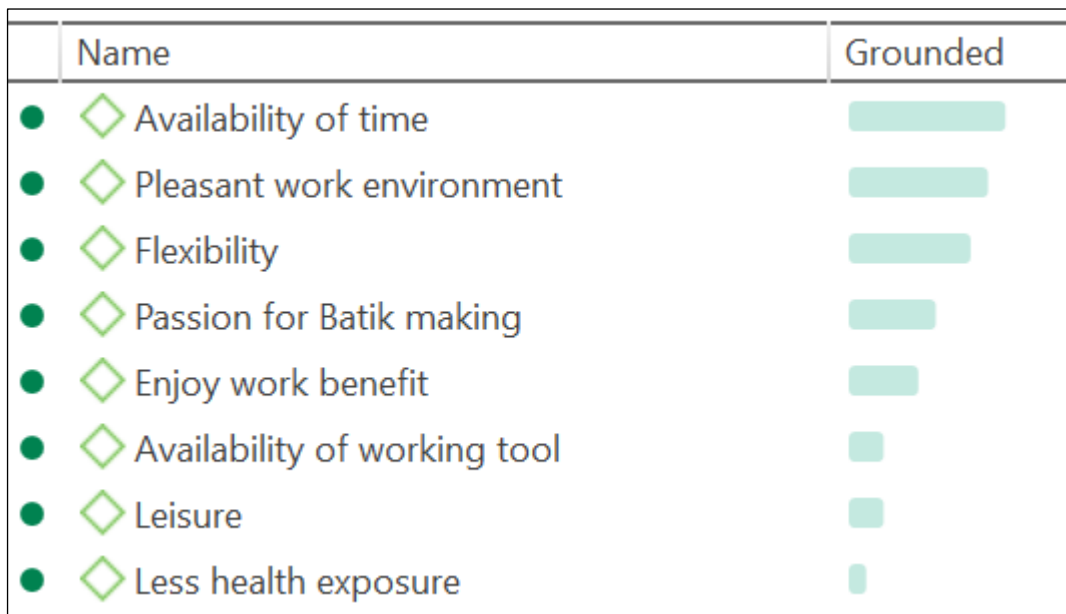


Figure 17: Positive influencing factors for workers with informal employment.  
Source: Fieldwork, 2021.

To some informal workers, Batik is more than a source of employment. The results agree with other authors that these workers do informal Batik employment to keep Batik culture and as a skills acquisition strategy (Hengky, 2015; Kusumantoro et al., 2020). Also, many of the informal Batik workers are culturally attached to the Batik culture or tradition of batik employment or opportunities (Hengky, 2015; Rulistia, 2015). However, the psychological stress differs, as literature has revealed through data modelling and context-specific that informal workers often face employment-related stress (MacPhail & Bowles, 2008; Rojas, 2013). For workers with informal Batik employment, making Batik is a stress relief and fun activity.

#### 4.3.2.2. The negative influence of informal Batik employment

Health implication under certain circumstance has impacted the income generated through informal Batik employment. For example, BW14 “Due to covid-19, order for batik decreased drastically” and BW22 “I do not get much income, and covid is affecting the income”. The demand for Batik products is significantly low, and many of the respondents rarely earn income from Batik during the fieldwork as most of them highlighted that the health pandemic was responsible for the downward trend of Batik employment income (see Figure 18).

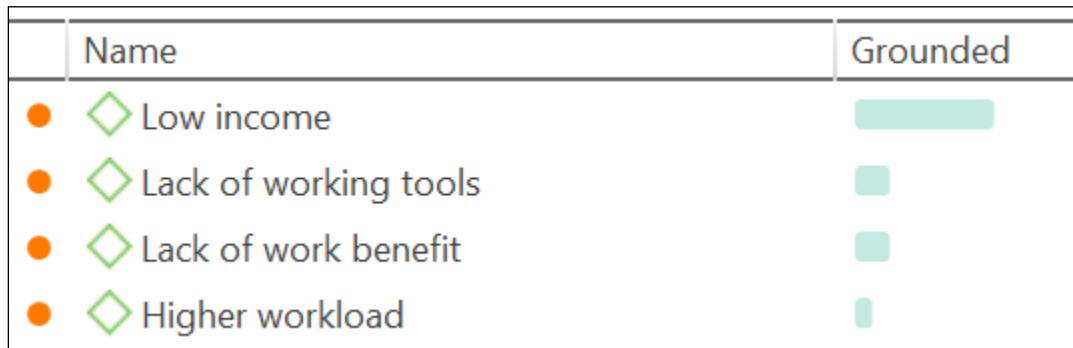


Figure 18: Negative influencing factors for workers with informal employment.  
 Source: Fieldwork, 2021.

Health pandemic outbreak has a negative influence on the income domain of Batik workers with informal employment. According to Buechler, (2014) flexibility of employment increase the potential of earning more income from multiple employment opportunities by informal garment workers. Thus, the informal workers tend to be satisfied with their income domain. Within the context of the health pandemic, the implication of the pandemic was one of the major factors that are depriving some informal Batik workers of fully exploring or enjoying the flexibility highlighted by the above author. Many of the Batik workers with informal employment attributed the low income to the current Covid-19 health pandemic, causing dissatisfaction with their income domain.

#### 4.4. To what extent does the informal employment status influence the Quality of Life of workers in various types of informal employment in the Batik industry

To understand the extent at which informal Batik employment influence the five QoL domain of various types of informal Batik employment workers (Section 4.4.2). There is a need to understand how formal and informal employment status influence the same QoL domains of Batik workers in the study area (Section 4.4.1).

##### 4.4.1. Quality of Life domains of informal and formal employment Batik workers

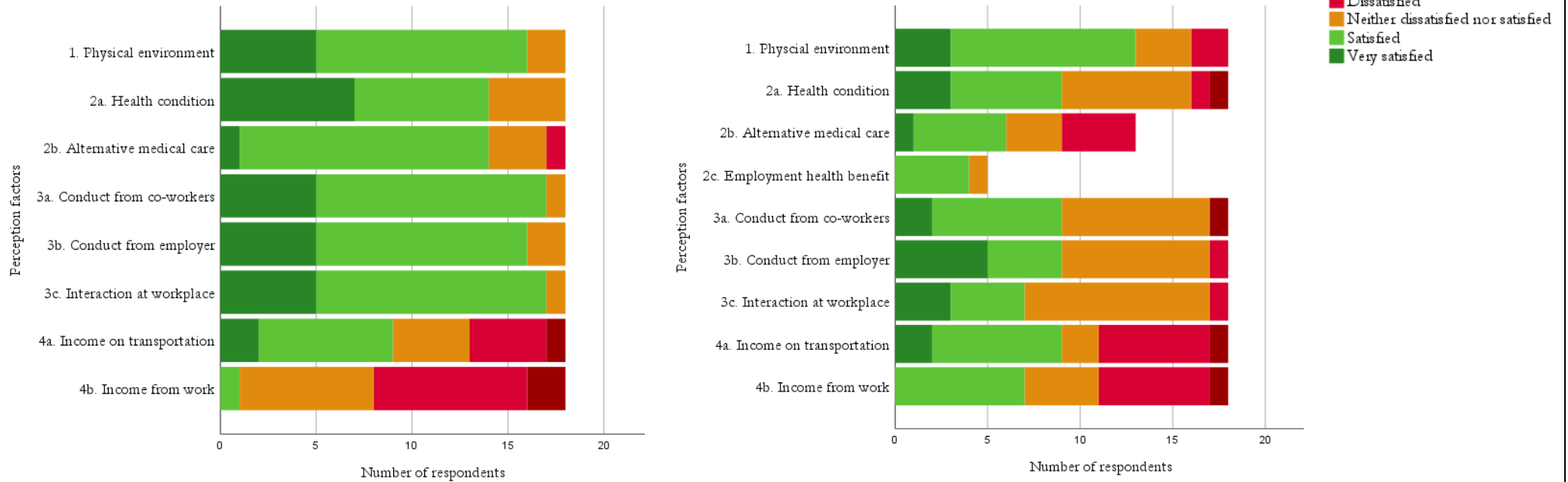
In Figure 19 and Figure 20, informal Batik employment workers are more satisfied with four out of the five QoL domains than formal employment workers. Informal Batik employment workers are more satisfied with their physical environment domain than formal workers. On the health domain, the majority of formal Batik workers with employment health benefits are satisfied, while others who depend on alternative medical care

Informal employment workers

Formal employment workers

Satisfaction on physical environment, health, social, and income domains

Satisfaction on physical environment, health, social, and income domains

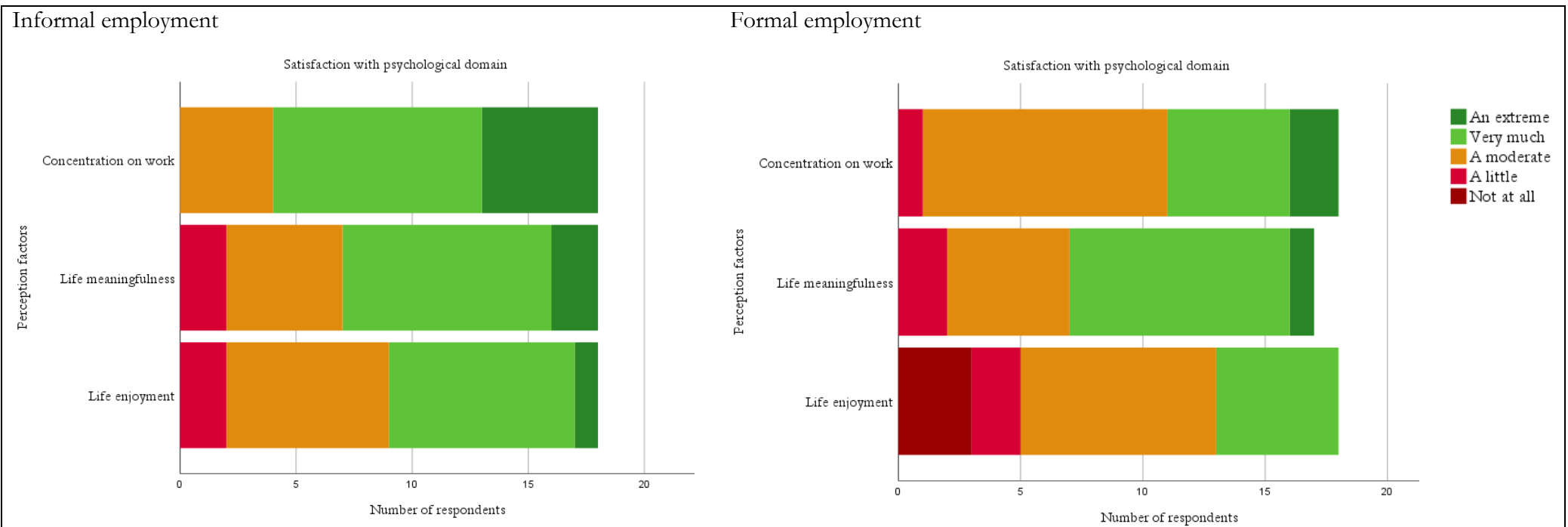


Domains: 1=Physical environment; 2=Health; 3=Social; 4=Income

Figure 19: Informal and formal Batik employment respondents' satisfaction with factors of physical environment, health, social and income domain. Source: Fieldwork, 2021.



Informal and formal Batik employment respondents' satisfaction with factors under psychological domain.



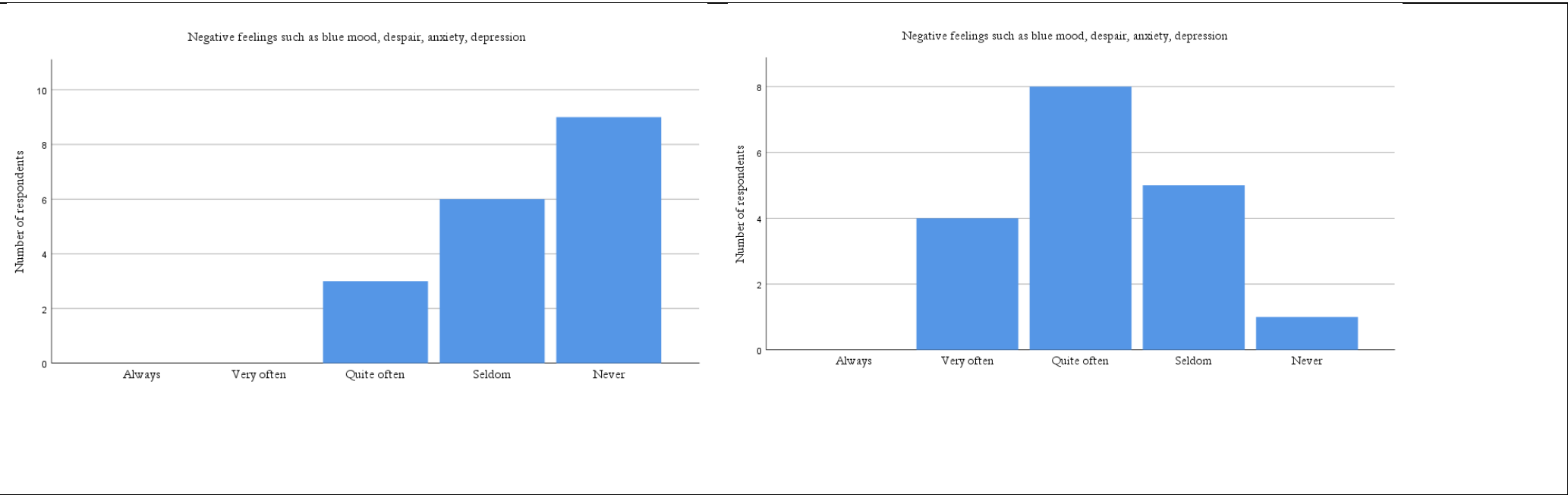


Figure 20: Informal and formal Batik employment respondents' satisfaction with factors under the psychological domain  
 Source: Fieldwork, 2021.

(health treatments that are not accessed through employment health benefits) are less satisfied compared to informal employment workers. Generally, informal employment workers are more satisfied with their health conditions than formal workers. For the social domain, respondents with informal Batik employment are more satisfied with their social domain in comparison to those with formal employment. The satisfaction of the informal employment workers is as a result of they are satisfied with the conduct of their employer and co-workers towards them. Also, they enjoy better social interaction compared to those respondents with formal employment. At the income domain, formal workers are more satisfied with the income they receive from Batik employment even though they are more dissatisfied with the amount they spend on transportation for employment purposes in comparison to their colleagues with informal employment who are more dissatisfied with the income they receive and more satisfied with transportation expense related to Batik work. For the psychological domain, informal employment respondents are more satisfied by being able to concentrate more on their work, life meaningfulness, they enjoy life more and have less negative feelings than respondents with formal employment.

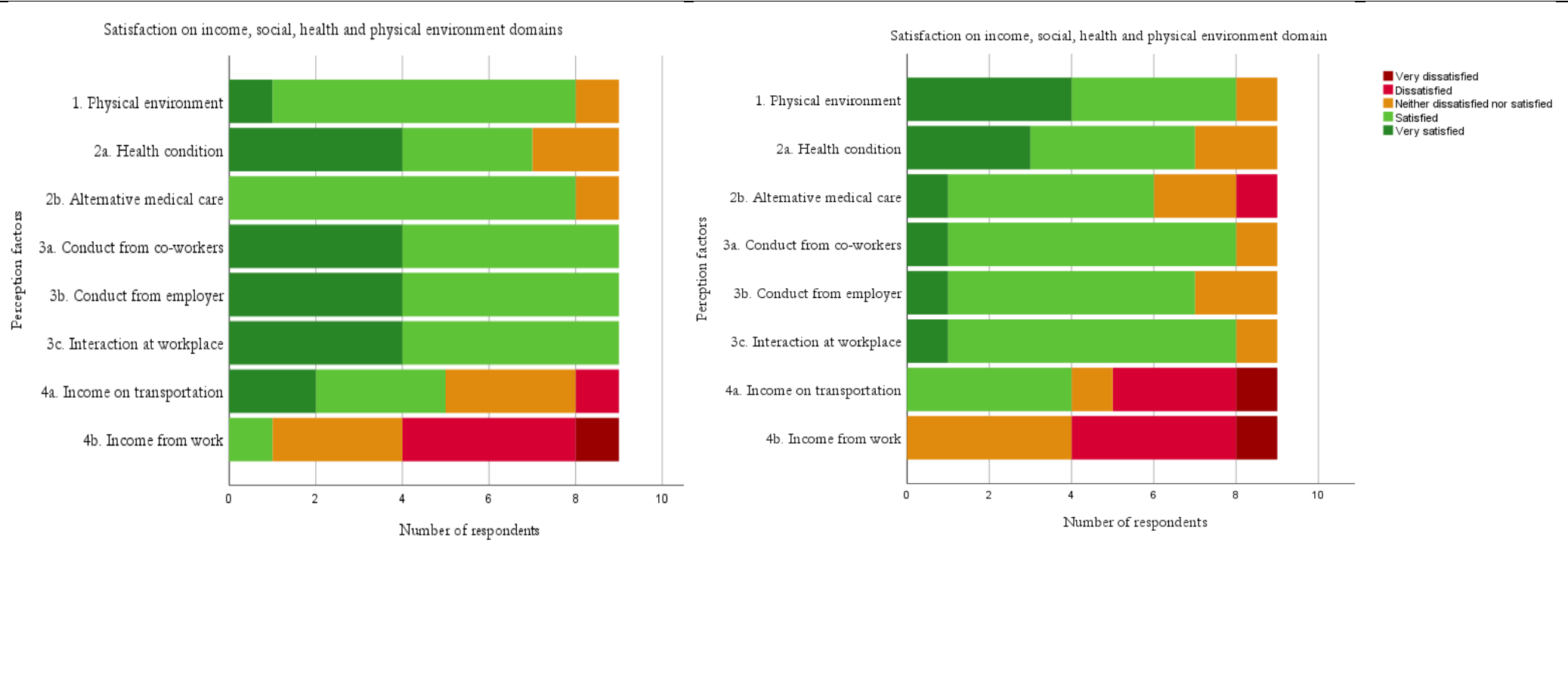
The five QoL domains of informal Batik employment workers are discussed as follow. In the physical environment domain, informal Batik employment workers do not live or work in a deprived area with difficult access to housing, infrastructure, better amenities, and a clean environment. These findings are in contrast to the study of Mezzadri & Fan, (2018). Health benefits provided for formal garment workers to take care of their health and work-related hazard as argued in studies of Andrae & Beckman, (2013); Dedeoğlu, (2010); Eaton & Goulart, (2009) and Rajasekhar et al., (2007) differs for formal Batik workers in the study area. Some of these formal Batik workers do not enjoy employment-related health benefits (see Figure 19). In fact, the informal Batik workers easily adapt to the unavailability of employment health benefits to take care of their health as emphasized by literature (Fransen & Meine, 2008; Vélez Álvarez et al., 2016). Thereby, the informal employment Batik workers are more satisfied with the alternative medical care and their health condition in comparison to formal Batik workers. Within the social domain, enjoying social interaction, the conduct of employer and co-workers towards Batik workers with informal employment align with what was concluded in the context of garment workers with informal employment by Lahiri, (2017). For income domain, workers with formal Batik employment receive more income and spend more income on transportation than informal workers, agree with the result of informal garment workers Buechler, (2014). At the psychological domain, workers with informal employment are more satisfied because they were less stressed mentally that could create negative feelings, lack of concentration at work and life as opposed to the argument by authors in literature (Carswell & De Neve, 2013; Nzeadibe et al., 2012; Quayyum, 2019; Zafarullah & Nawaz, 2019).

#### **4.4.2. Quality of Life domains of types of informal employment Batik workers**

Figure 21 and Figure 22, show that Batik workers with types of informal employments' QoL domains are influenced differently. All the five QoL domains of workers with informal Batik employment at home-based and small-scale have some level of significant variability that is worth discussing.

### Home-based

### Small-scale



Domains: 1=Physical environment; 2=Health; 3=Social; 4=Income

Figure 21: Types of informal Batik employment respondents' satisfaction with factors of physical environment, health, social and income domain. Source: Fieldwork, 2021.

#### 4.4.2.1. Physical environment domain of Batik workers with informal employment at home-based and small-scale

Batik workers with informal employment at home-based and small-scale reported that they are satisfied with their physical environment domain, as shown in Figure 21. All the respondents live within Cigadung, and most of them enjoy the housing and the built environment in their neighbourhood. Some of the reasons for such satisfaction include closeness from the living area to place of work or mosque, clean public water, sanitation, good roads, adequate electricity supply, functioning drainage system, recreational facilities or public schools within a close distance of 2km. For example, BW20 and BW22 from Sekemirung Kaler, revealed that they enjoy good roads, adequate electricity supply, good sewage or sanitation and closeness from the living location to the place of work and mosque.

The characterisation of the physical environment where garment workers with informal employment live and work that could lead to dissatisfaction with this domain by Mezzadri & Fan, (2018) and Mezzadri & Srivastava, (2015) does not concur with the home-based and small-scale informal Batik workers in this study. The result of the authors revealed that these workers live precariously in neighbourhoods that are deprived of electricity, good roads, quality houses and other relevant amenities. In the context of the Batik workers with informal employment in Cigadung, 17 out of 18 respondents are satisfied with their physical environment (as shown in Figure 21) due to the extent they enjoy good housing, social amenities within close distance, and many of them live close to work (Figure 7). Hence, working informally does not necessarily translate into living or working within a dissatisfied physical environment domain.

#### 4.4.2.2. Health domain of Batik workers with informal employment at home-based and small-scale

From Figure 21, home-based and small-scale Batik workers with informal employment reported that they are more satisfied with their health. 16 out of 18 of the workers revealed that they are satisfied with their health condition and do not have any health complaints. In fact, one of the home-based respondents revealed that the smell of the wax in Batik making is a form of therapy like BW32 *“It doesn’t matter (health-wise), sometimes wax for Batik are like aromatherapy for me because they smell good”*. Some still have some reservations about the smell from making Batik, such as BW21, who work at small-scale *“From the colouring process, using chemical, so the smell is affecting me”*. The satisfaction with the health condition of these workers is largely attributed to how they take care of their health needs.

Both home-based and small-scale informal Batik employment workers in the study area mostly improvise with alternative medical care to address their health needs. Some of these alternative medical care options include herbal medicine, health insurance of their partner, free healthcare services from the government (BPJS) and paying directly to take care of their health needs. For instance, B12 *“Insurance from husband’s workplace”*; BW 26 *“I have (health) insurance from another job, besides that usually if I get sick I just need to rest and take herbal medicine”*; BW25 *“If I get sick I will use herbal medicine, and I also have Kartu Indonesia Sehat (Free Insurance from the government)”* and BW14 *“Paid (for health needs) by myself”*.

The opinion on the impact of garment employment on informal workers like inaccessible health care at public institutions, ergonomic discomfort and internal body organ issues by Buechler, (2014) cannot be aligned within this case. The context differs since the author focus was vulnerable immigrant garment workers with informal employment in a Global North country. In Cigadung, primary health care facilities are accessible at a subsidized rate by the government to some level to the workers, and those who cannot easily access the health care facilities seek alternative traditional medical care. Also, the informal Batik workers are mostly native (with no migration background) of the study area. Additionally, most Batik workers with informal employment at home-based and small-scale did not report major health complications due to their Batik employment, and they often use alternative medical care and public health facilities to address their health conditions.

#### **4.4.2.3. Social domain of Batik workers with informal employment at home-based and small-scale**

Home-based Batik workers are more satisfied with their social domain in comparison to their colleagues with informal employment at small-scale (see Figure 21). At the Home-based, all the respondents are more satisfied with the conduct of their co-workers towards them, their employer and they enjoy interaction at their place of work. Also, none of the home-based workers reported dissatisfaction with their social domain. For small-scale workers with informal employment, only one individual is very satisfied with these three social domain factors, and some of the workers reported low satisfaction scores, i.e. neither dissatisfied nor satisfied with this domain.

The social domain result aligns with the highlight from Lahiri, (2017). Workers with informal employment at home-based and small-scale garment industry enjoy some factors like good social interaction at workplace due to the workers are not segregated, and they easily interact during working hours or off-work hours, they get fair treatment from employer and co-workers. These factors also exist within informal employment workers at home-based (especially) and small-scale Batik industries in Cigadung. For these workers, Batik employment is a way of socializing and fun, as it is not the only source of income for many of them.

#### **4.4.2.4. Income domain of Batik workers with informal employment at home-based and small-scale**

Both types of informal employment have similar and a slight variation in satisfaction perception with their income (see Figure 21). Both workers reported dissatisfaction with the income they get from Batik employment except one individual working at home-based. Apart from the Covid-19 implication on informal Batik workers with informal employment that has affected the income of the workers. Some other reasons for dissatisfaction of the workers with their income include lack of patronage or marketing, high cost of production and unstable income from Batik employment. For example, BW 32 *“Marketing is still lacking so the income earned doesn't cover production costs”*; BW28 *“The capital to make Batik is quite expensive and sales and market are still lacking”*; BW14 *“Due to covid-19, order for Batik decreased drastically”* and BW25 *“Currently, Batik activities have just started, so it is not sustainable yet still needs further development. Batik orders are still relatively small so the income is not much. In addition, production costs are quite expensive”*. For income on transportation, home-

based workers are more satisfied compared to small-scale workers. The satisfaction variability was expected since their employment is located at the same place they live for home-based Batik workers, and small-scale workers often travel a certain distance to get to where the Batik employment is located.

Another reason for dissatisfaction with the income domain can be traced to marketing challenges and the high cost of Batik production. For instance, PN *“For marketing activities, although they (Batik workers with informal employment) have started to market themselves, they still depend on selling Batik cloth to larger industries. Most Batik products or fabrics are sold at low prices or given as souvenirs to officials to further introduce Batik Cigadung. Marketing of Batik for members (Batik workers with informal employment in their association) is also a serious problem because there is no clear market, and the quality produced is still far below that of Batik from large industries. So because of this lack of marketing, Batik activities are rarely carried out; Batik activities are only used as a hobby for workers, not their main livelihood. This condition makes (the association) continue to spend funds, but sales from Batik are few. Another problem faced by the members is the high cost of Batik production. There are many factors that cause this production cost to be expensive. First, the production carried out is still on a small scale, in buying materials are also in small quantities and makes the price of materials more expensive. The price of materials needed for cloth is around Rp.30.000 to Rp.40.000, for one kg of wax is Rp.60.000,- and all these items are still bought through (Batik industry A). The association community actually wanted to buy Batik materials from suppliers or producers in Solo or Pekalongan, but this couldn't be done because, again, the market problem was unclear/non-existent, causing production to be low so they couldn't buy materials on a large scale. Apart from purchasing materials that are quite expensive, in the process of making Batik as a whole (association members) still depends on (Batik industry A), especially in the colouring process, which costs approximately Rp. 20.000 to Rp.35000 per colour per fabric”*.

Although the income dissatisfaction reported within home-based and small-scale informal Batik workers agree with low income earning attributed to these types of garment workers in the study of Mezzadri & Fan, (2018). Also, marketing issues and the high cost of production remain a challenge for these workers. However, less expense on transportation cost and flexibility of informal garment employment in sustaining income from other employment activities, as highlighted in the findings of Buechler, (2014); Chreneková et al., (2016) and Lahiri, (2017) have helped Batik workers with informal employment in the study area to continuously diversify sources of income to cope with their income dissatisfaction from Batik employment and to support themselves and their household.

#### **4.4.2.5. Psychological domain of Batik workers with informal employment at home-based and small-scale**

Figure 22, reveals that home-based Batik workers are more satisfied with the psychological domain than workers with informal Batik employment at small-scale. More home-based Batik workers are very satisfied and satisfied with their life meaningfulness and concentration on work respectively than their colleagues working informally at small-scale. On life enjoyment, more than half of home-based workers are more satisfied with enjoying their lives even as some of the small-scale Batik workers with informal employment are not enjoying their life. Also, more than half of the respondents at home-based and small-scale Batik do not experience any form of anxiety, depression, despair or blue mood, although few respondents reported it.

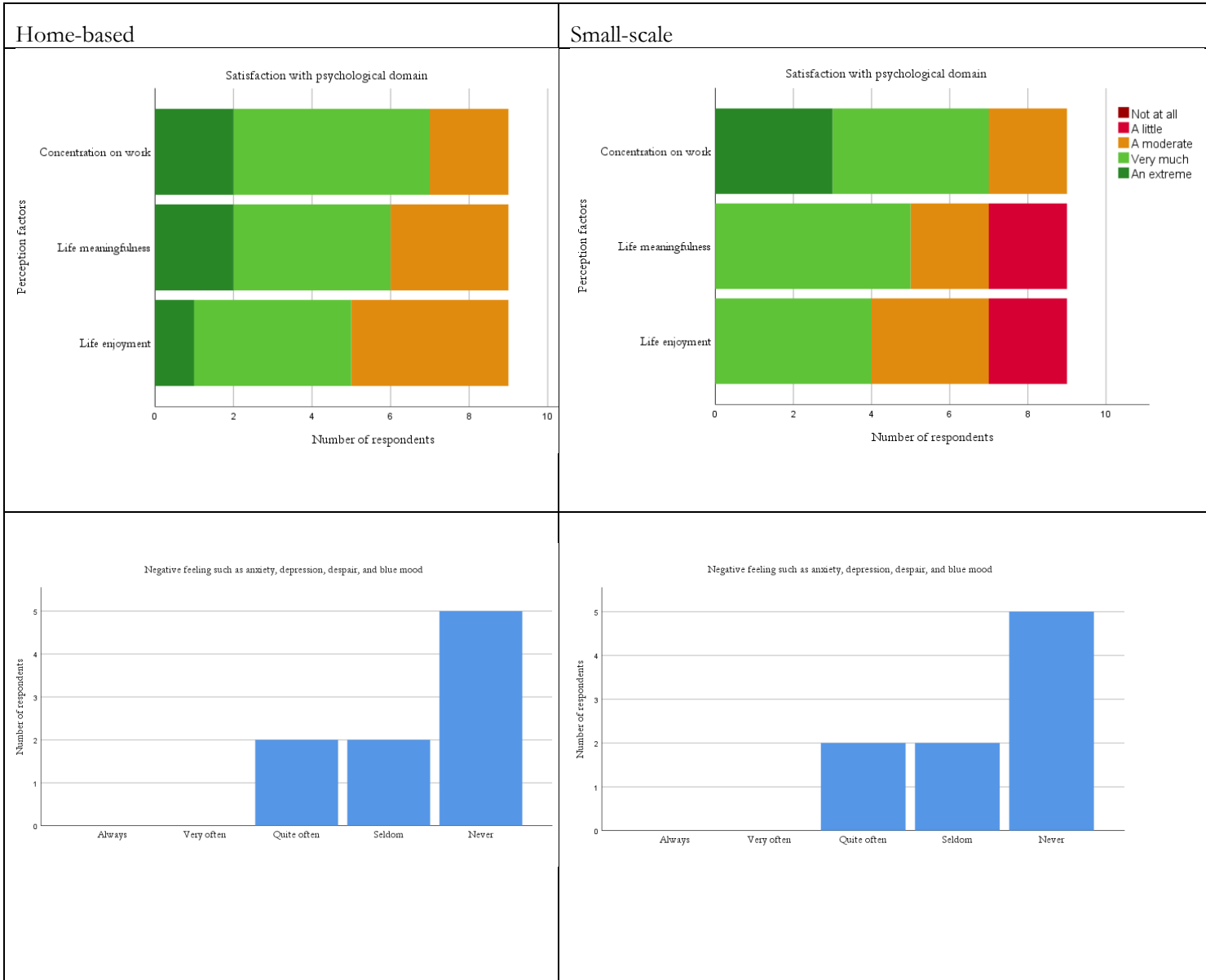


Figure 22: Types of informal Batik employment respondents' satisfaction with factors under psychological domain. Source: Fieldwork, 2021.

Some of the psychological domain challenges faced by informal garment workers, especially those working informally at home-based and small-scale, highlighted in literature were less dominant and even absent in this study. Arguments highlighted by authors on psychological challenges of garment workers with informal employment such as negative feeling, inhumane or harassment treatment, discrimination, pressure due to lack of resources, less effective time management for work and family (Carswell & De Neve, 2013; Dedeoğlu, 2010; Ko Ko et al., 2020; Quayyum, 2019; Zafarullah & Nawaz, 2019). That could cause a lack of concentration on work, life becomes less meaningful, and the workers with informal employment do not enjoy life (Vélez Álvarez et al., 2016). The above arguments are less dominant within home-based and small-scale informal Batik employment workers in Cigadung. This is as a result of mutual cooperation within Batik



industry, stakeholders and the workers in the study area; passion for the job and using Batik employment as a means of easing stress as reported by some informal workers. Similarly, informal Batik employment at home-based and small-scale provide workers more time and help improved their psychological wellbeing.

## 5. CONCLUSION AND RECOMMENDATIONS

*This section summarises the aim of the thesis, the method used to achieve the purpose of the thesis and the findings. Similarly, it highlights the contribution, recommendation, limitation and future research.*

### 5.1. Informal employment and Quality of Life of garment workers

The aim of this thesis is to understand how informal employment in the Batik business influences the QoL of its informal workers in Bandung, Indonesia. The method adopted for this aim involves using a systematic literature review to establish the relationship between informal employment and QoL in the garment industry then operationalising the findings from the relationship in a subjective QoL approach manner to investigate the impact of informal employment on Batik workers' QoL in Cigadung Kampung (see chapter 3).

The main findings of the systematic literature review include where types of informal employment can be found, the characteristics and factors that influence garment workers' QoL domain. Informal employment was found in formal and informal garments large scale, small-scale and home-based (). Some characteristics of informal employment identified are flexibility, vulnerability, exploitation, the potential for diversification of income, lack of automation, uncertainty of employment, location, and gender characteristics (Section 0). Also, each type of informal employment has various factors that influence garment workers' satisfaction with income, social, health, psychological and physical environment domain (see Section 0).

The investigation of informal employment on Batik workers' QoL revealed some interesting findings. On comparing formal and informal Batik employment workers, formal workers are more satisfied with their life as a whole compared to informal workers (Figure 12). On the one hand, at each domain satisfaction level, workers with informal Batik employment are more satisfied with four QoL domains: social, health, psychological, and physical environment than formal workers (Figure 19 and Figure 20). On the other hand, workers with formal Batik employment are more satisfied with their income domain in comparison to their counterparts. At the types of informal Batik employment level, home-based workers are more satisfied with the health, social, psychological and income domain in comparison to small-scale workers (Figure 21 and Figure 22). The small-scale workers are more satisfied with the physical environment domain than home-based workers.

Regarding employment status, formal and informal Batik employment offer both positive and negative influences on the QoL of the workers. The positive factors that influence formal Batik workers' QoL are work benefits, availability of working tools, flexibility of employment (Figure 13). On the negative side, not all the workers enjoy work benefits, low income and health exposure at work ( Figure 15). For Batik workers with informal employment, the positive influencing factors are availability of time, flexibility of employment,

passion for making Batik and using Batik employment as a leisure activity (Figure 17). Low income has been a major negative factor for these informal workers (Figure 18).

The thesis has made significant contributions. The thesis has used various scientific pieces of literature to open up discussions on understanding and the relationship that exist between two different concepts (i.e. informal employment and QoL) that have not been communicating together in the science world within the context of the garment industry. For example, it has established factors that influence the five QoL domain satisfaction of formal and informal employment garment workers. Similarly, the thesis has contributed to the scientific literature on informal employment and QoL within the five domains in the garment industry since there are limited studies in scientific database. Also, to further strengthening these scientific findings, it was tested in a UNESCO recognised case in Global South, where stakeholders have advocated for such study in the past (see Section 1.3). Some findings from pieces of literature were confirmed with the case, while others differ and open more research questions for scientists.

## **5.2. Policy recommendations**

Indonesia cities need Batik workers to sustain its UNESCO recognition while in the phase of the Covid-19 pandemic (Pramudyani, 2020). Workers (especially women) in urban Kampung like Cigadung with Batik employment should be financially taken care of by the state during a health pandemic to ameliorate the suffering of loss of employment that leads to income challenges, psychological stress, career switch, relocation for employment opportunities, and to be able to pay rent (see Figure 11). By offering the financial welfare package, QoL domain like income, social, health and psychological will be influenced indirectly; Batik employment will be resilient to pandemic shock and maintain its recognition by the global institution. Informal Batik employment should be encouraged and fully supported by stakeholders, especially in the area of patronage, access to market and funding. These supports will boost the income domain of the workers, encourage the younger age group (see Figure 3) to participate in Batik growth due to its lucrateness and benefits, create more positive impact on the social, health, psychological and physical environment domain of the workers, and other positive multiplier effects on the national economy of Indonesia and the locals.

## **5.3. Limitation and future research**

The current study cannot be generalized since it took an exploratory approach only due to data and time constraints. A large sample size, with data from all types of informal employment, and official dataset (such as census and earth observation data) could be used to investigate the workers' QoL with both objective and subjective QoL aspect based on indicators and analysed using spatial, exploratory, and statistical methods.

The study was conducted during a health pandemic, and some findings showed that the pandemic also impacts workers' QoL. The study could be replicated in the same or another sector, a new study area, in a non-pandemic time, at a larger scale where travelling to the case study for fieldwork is possible. Also,

longitudinal research could be adopted to study the QoL of these garment workers at the pre-pandemic, during the pandemic and post-pandemic to fully understand the impact of Coronavirus on employment and workers' QoL (Hossain et al., 2021).

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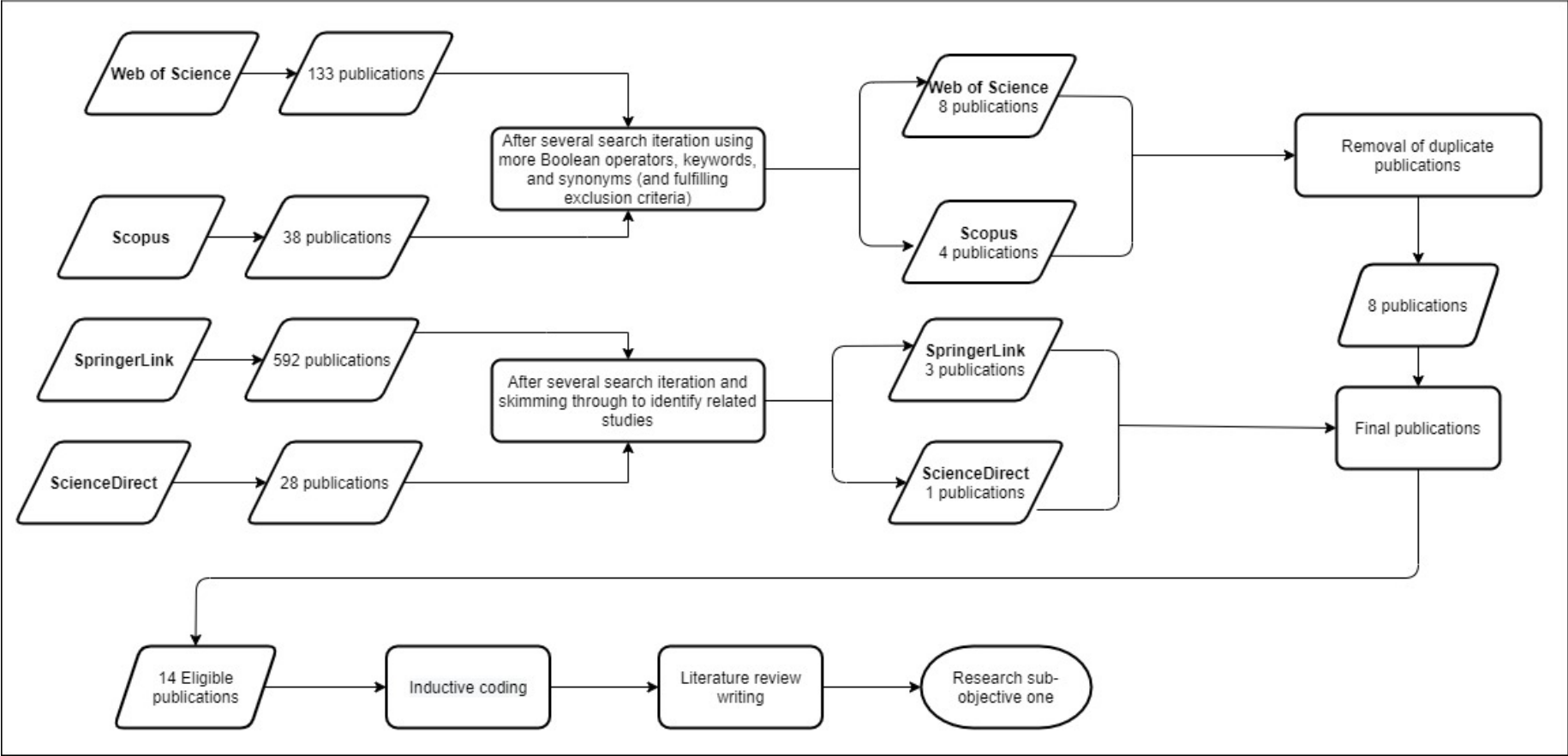
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## APPENDICES

Appendix 1: QoL domains of informal employment in the garment industry.

<b>Relevant QoL domain for informal employment in the garment industry</b>		
S/N	Domains	Author
1.	Income	(Asibey et al., 2017; Buechler, 2014; Eaton & Goulart, 2009; Lahiri, 2017; Shumi et al., 2015)
2.	Social	(Buechler, 2014; Dedeoğlu, 2010; Eaton & Goulart, 2009; Lahiri, 2017; Shumi et al., 2015)
3.	Health	(Andrae & Beckman, 2013; Buechler, 2014; Dedeoğlu, 2010; Ko Ko et al., 2020; Quayyum, 2019; Shumi et al., 2015)
4.	Psychological	(Carswell & De Neve, 2013; Dedeoğlu, 2010; Ko Ko et al., 2020; Quayyum, 2019; Zafarullah & Nawaz, 2019)
5.	Physical environment	(Ko Ko et al., 2020; Mezzadri & Fan, 2018; Shumi et al., 2015)

Appendix 2: Systematic literature review approach



Appendix 3: Some of the questions in Kobo toolbox environment.

project  
Employment and Quality of Life of workers in Cigadung Kampung

SAVE

Add from Library Layout & Settings

Socio-demographic background (Social Demografis)

1. Location of participant (Lokasi Partisipan)  
Question hint

123 2. How old are you? (Berapa usia anda?)  
Question hint

3. What is your level of formal education? (Apa tingkat pendidikan formal terakhir anda?)  
Question hint

No formal education (Tidak ada)	XML value: no_formal_education
Elementary school (SD)	XML value: elementary_school
Middle school (SMP)	XML value: middle_school
High school (SMA)	XML value: high_school



## PEMERINTAH KOTA BANDUNG BADAN KESATUAN BANGSA DAN POLITIK

Jalan Wastukencana No.2 Telp. 022 4230097 Bandung

### **SURAT KETERANGAN PENELITIAN**

NOMOR : PP.09.01/662-kesbangpol/V/2021

- Dasar : 1. Undang-undang Republik Indonesia Nomor 14 Tahun 2008 tentang Keterbukaan Informasi Publik  
2. Undang-undang Republik Indonesia Nomor 25 Tahun 2009 tentang Pelayanan Publik  
3. Peraturan Pemerintah Republik Indonesia Nomor 18 Tahun 2016 tentang Perangkat Daerah  
4. Peraturan Menteri Dalam Negeri Nomor 3 Tahun 2018 tentang Penerbitan Surat Keterangan Penelitian  
5. Peraturan Daerah Kota Bandung Nomor 08 Tahun 2016 tentang Pembentukan dan Susunan Perangkat Daerah Kota Bandung
- Menimbang : Surat Dari Institut Teknologi Bandung Nomor : 028/V/KKPWD/SAPPK/2021, Tanggal 27 Mei 2021, Perihal Penelitian

### **MEMBERITAHUKAN BAHWA :**

- a. Nama : **AZKABELLAJATI SYEFERA, S.T.**  
b. Alamat Lengkap : Perum Bale Ayu Jl. Pringgondani 4 Blok A No. 1.S, RT 008/RW 002, Desa Purwomartani, Kec. Kalasan Kabupaten Sleman  
No. Identitas, Hp : NIK. 3320066012970005, Hp.081572890025  
c. Untuk : 1) Melakukan Penelitian dengan Judul "*Studi Mengenai Hubungan Regulasi Tata Guna Lahan dan Strategi yang Ada untuk Pengembangan Industri Kreatif dan Bagaimana Situasi Pekerja Kreatif di Kampung-Kampung Kreatif*".  
2) Lokasi : Bappelitbang, Dinas Pekerjaan Umum, Dinas Penataan Ruang, Dinas Koperasi Usaha Mikro Kecil dan Menengah, Dinas Perdagangan dan Perindustrian, Dinas Kebudayaan dan Pariwisata, Kelurahan Cigadung, Dago Pojok, Gumuruh Kota Bandung  
3) Anggota Tim : Zahara Sitta Iskandar, S.T., M.PWK., Averina Isabella Wibowo, S.T., Dinan Permana Ramadan, S.T., Dewi Widaningsih, A.Md.  
4) Bidang Penelitian : -  
5) Status Penelitian : Baru  
6) Waktu Pelaksanaan : 31 Mei 2021 s.d 01 Desember 2021
- d. Melaporkan hasil Penelitian kepada Wali Kota Bandung c.q Kepala Badan Kesatuan Bangsa dan Politik Kota Bandung, paling lambat 1 minggu setelah selesai. Demikian rekomendasi ini dibuat untuk digunakan seperlunya.

Bandung, 31 Mei 2021

a.n KEPALA BADAN KESATUAN BANGSA  
DAN POLITIK  
Sekretaris,

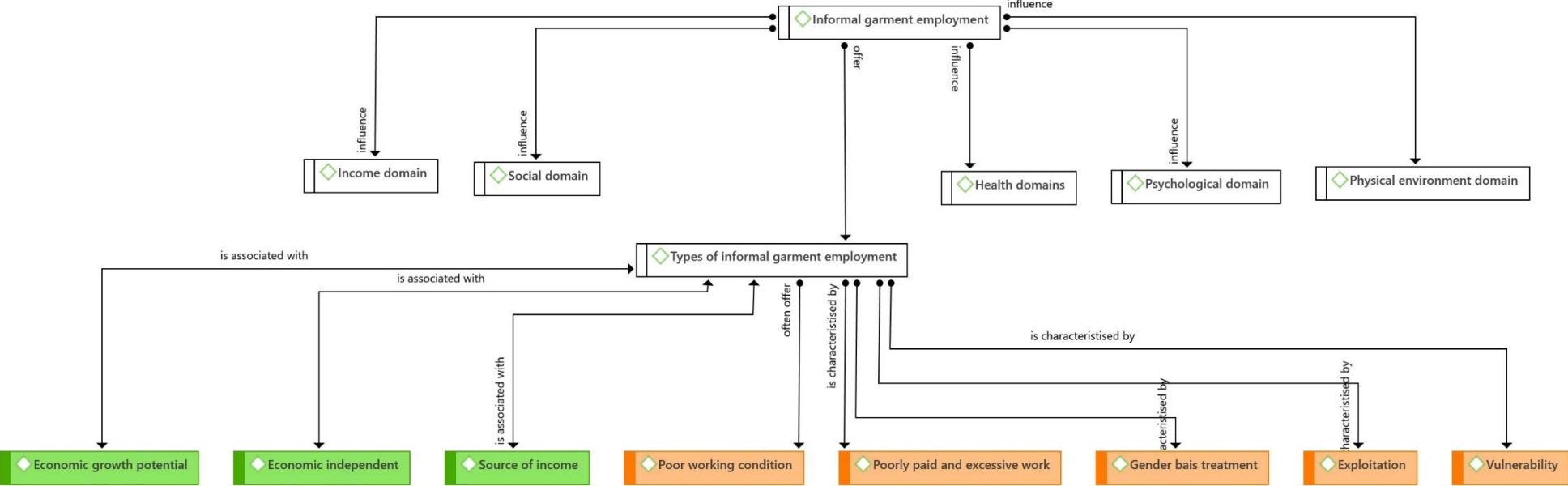


**Drs. INCI DERMAGA., M.MAP**

Pembina

NIP. 19690320 199008 1 001

Appendix 5: Analysis of literature review coding using ATLAS.ti



Appendix 6: Significant statistical correlation of formal employment status and QoL factors

Factors		Income from work	Income on transportation	Interaction at workplace	Conduct from employer	Conduct from co-workers	Life enjoyment	Life meaningfulness	Concentration on work	Alternative medical care	Health condition
<b>QoL satisfaction</b>	Pearson Correlation							.651**			
	Sig. (2-tailed)							0.005			
<b>Employment condition</b>	Pearson Correlation	.744**			.600**						
	Sig. (2-tailed)	0.000			0.009						
<b>Income from work</b>	Pearson Correlation		.744**		.598**		.499*				
	Sig. (2-tailed)		0.000		0.009		0.035				
<b>Income on transportation</b>	Pearson Correlation		.861**				.634**		.604**	.755**	
	Sig. (2-tailed)		0.000				0.005		0.008	0.003	
<b>Interaction at workplace</b>	Pearson Correlation				.631**					.714**	
	Sig. (2-tailed)				0.005					0.006	
<b>Conduct from employer</b>	Pearson Correlation								.644**		
	Sig. (2-tailed)								0.004		
<b>Life meaningfulness</b>	Pearson Correlation										.676**
	Sig. (2-tailed)										0.003

\*\* . Correlation is significant at the 0.01 level (2-tailed).



Appendix 7: Significant statistical correlation of informal employment status and QoL factors

<b>Factors</b>		<b>Life meaningfulness</b>	<b>Conduct from employer</b>	<b>Conduct from co-workers</b>
<b>QoL satisfaction</b>	Pearson Correlation	.686**		.606**
	Sig. (2-tailed)	0.002		0.008
<b>Interaction at workplace</b>	Pearson Correlation		.925**	.804**
	Sig. (2-tailed)		0.000	0.000
<b>Conduct from employer</b>	Pearson Correlation			.752**
	Sig. (2-tailed)			0.000

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Introduction**

Hello, our names are Averina Isabella Wibowo and Dinan Permana Ramadan. We are conducting a survey on behalf of Mr Kazeem Sodiq Oke, who is undertaking research titled "The role of informal employment on the Quality of Life (QoL) of workers in Cigadung Kampung, Indonesia". Mr Kazeem is a master's degree student in the Department of Urban and Regional Planning and Geo-information Management at the University of Twente, The Netherlands. Before starting, we would like to tell you about the survey briefly. We intend to know how you feel about how your current Batik employment has influenced your life. You are invited to answer the questions on a voluntary basis, and you can stop at any time without having to give a reason. Personal information and data collected during this research will be maintained confidential and anonymous. There are no right or wrong answers since we only want to know your feelings or perceptions. The survey should take approximately 15 minutes. If there are questions or doubts, kindly let me know. If there are none, and you fully agree to participate in this survey, can we start?

- Yes, I fully agree to participate
- No, I do not want to participate

**Socio-demographic background**

1. Location of participant

---

latitude (x.y°)

---

longitude (x.y°)

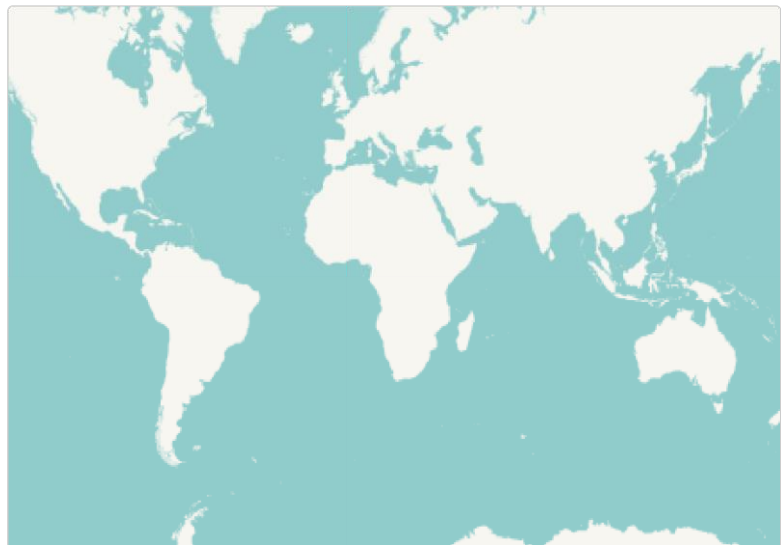
---

altitude (m)

---

accuracy (m)

---



2. How old are you?

---

3. What is your level of formal education?

- No formal education
- Elementary
- school
- Middle school
- High school
- College (Ahli Madya Diploma D1, D2, D3)
- University education
- Other

If other, please specify

---

4. What is your marital status?

- Single
- Married
- Divorced
- Widow

5. How would you describe your current household situation?

- I live alone
- I live with my partner only
- I live with my partner and child/children
- I live with my child/children only
- I live with my parent/s
- I live with other members of my family
- I live with my friends

5b. How many people are living in your household?

---

6. Before living in Cigadung Kampung, did you live somewhere else?

- Yes
- No
- Not applicable, because I am a native of Cigadung

6a. How would you describe where you previously lived?

- I lived within Bandung city
- I lived within West Java province
- I lived in other parts of Indonesia
- I lived outside Indonesia

6b. Why did you move to this Kampung?

- For family reason
- For employment reason
- For cheap cost of living reason
- Other reasons

If other reasons, please specify

---

7. For how long have you been residing in this Kampung?

- less than 1 year
- 1 - 5 years
- 6 - 10 years
- 11 - 20 years
- 21 - 30 years
- 30 years and above

### **Employment characteristics**

8. What type of Batik employment do you have?

- Employment in a large Batik such as industry, or large Batik production centre

- Employment in a small-scale Batik
- Employment at home-based Batik
- Other

If other, kindly specify

---

9. What kind of agreement does the employment offer you?

- Verbal agreement
- Written agreement

Employment condition	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
10. How satisfied are you with your employment conditions?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10a. Kindly choose from the list below the reason for such negative employment conditions satisfaction.

- I do not get adequate compensation for working overtime
- I work more hours than necessary
- I do not enjoy work benefits
- I do not have more time for other things
- I do not enjoy workers' rights
- I am expose to health risk at workplace
- I do not have the needed tools to carryout my job
- The salary/wages I do receive is unattractive
- I am working here because I do not have other better employment alternative
- Other

If other, please specify

---

10b. Kindly choose from the list below the reason for such positive employment conditions satisfaction.

- It is flexible
- It give me more time for other things
- I sometimes get rewarded at work
- I am adequately compensated for overtime work
- I enjoy all work benefits
- The working environment is pleasant
- The salary/wages is attractive
- All working tools are adequately provided
- There are less work related health risk
- Other

If other, please specify

---

11. Do you used to work with written agreement before Covid-19?

- Yes
- No

11a. How has Covid-19 impacted your employment situation?

- I have lost my Batik employment
- I am still looking for a job
- I changed my job to a different profession
- I cannot get any job at the moment
- I am now working in another sub-district outside Cigadung
- I do not work regularly anymore compared to the pre-pandemic i.e. before Covid-19
- My income has reduced significantly
- It is now difficult to feed myself/household
- It is now difficult to pay my house rent
- I am currently working for less hours
- Other

If other please specify

---

---

## Employment and QoL

### » Income

	Very unfair	Fair	Moderate	Generous	Very generous
12. Considering the type of work you do at your workplace, how would you describe the payment you receive?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12a. Please explain why you assigned such ratings?

---

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
13. How satisfied are you with the amount of your income you spend on transportation to and from work daily?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Do you earn income from more than one job often?

- Yes  
 No

15. Do you pay any form of tax from your income?

For example, Personal income tax

- Yes  
 No  
 Not applicable

### » Social interaction

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
16. How satisfied are you with interacting with your co-workers at workplace?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17a. How satisfied are you with the conduct of your employer towards you?

17b. How satisfied are you with the conduct of your co-workers towards you?

» Psychological

	Not at all	A little	A moderate amount	Very much	An extreme amount
18. How much do you enjoy life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. To what extent do you feel life to be meaningful?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. How well are you able to concentration work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Never	Seldom	Quite often	Very often	Always
21. How often do you have negative feelings such as blue mood, despair, anxiety, depression?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

» Health

» » Access to healthcare

22. Does your employment provide you with health benefit?

- Yes
- No

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
22a. How satisfied are you with accessing the healthcare through your employment health benefit?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. How do you take care of your medical needs?



Very dissatisfied      Dissatisfied      Neither dissatisfied nor satisfied      Satisfied      Very satisfied

23b. How satisfied are you with the alternative medical care?

» » Health condition

Very dissatisfied      Dissatisfied      Neither dissatisfied nor satisfied      Satisfied      Very satisfied

24. How satisfied are you with your health condition?

25. Could you please indicate how your job might be affecting your health?

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» Physical environment

» » Housing and built environment

26. What is the name of the area or neighbourhood where you are currently living?

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26a. Kindly locate the street or neighbourhood that you are currently living.

latitude (x.y°)

---

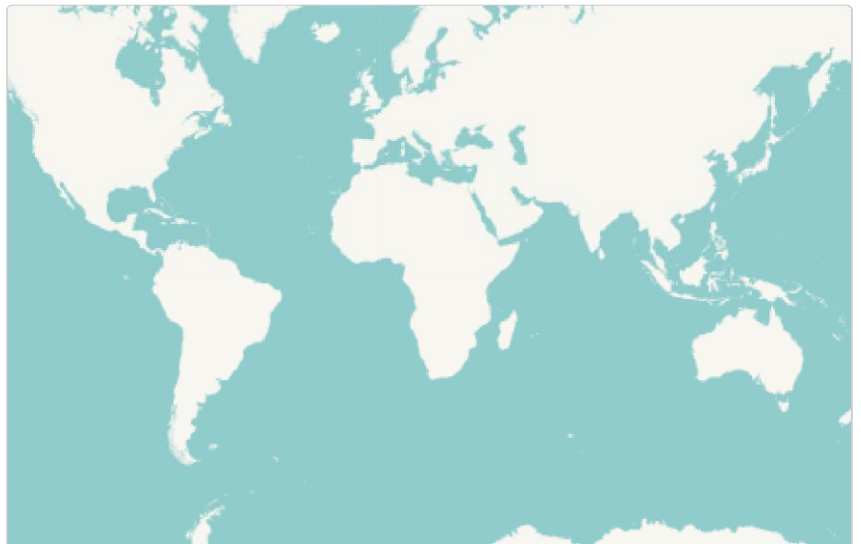
longitude (x.y°)

---

altitude (m)

---

accuracy (m)



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27. Do you own a house?

- Yes, I do own a house
- I live in my family inherited house
- No, I do rent a house
- I live with my parents/friends

27a. How are you able to pay for the house?

- Through access to government housing program
- Through a payback agreement with my employer
- Through my work cooperative funding program
- I inherited the house
- Through a bank loan
- Through community cooperative contribution
- Other

If other, please specify

---

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
27b. How satisfied are you with the amount you spend on house rent?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28a. From where you live, indicate in the list below the things you dislike about your living area.

- I live in an overcrowded area
- I live uncomfortably in a small place
- There is pollution problem (such as noise, air (smell) and waste from various business activities
- High cost of rent
- I spend a lot of money to get to work
- The roads are in a bad condition
- There is lack of public water provision
- Lack of adequate electricity supply
- My living area is far from my workplace
- Public schools are not within 2km radius
- Healthcare centres are not within 2km radius
- Recreational facilities are far (more than 2km) away from where I live
- There are problems with high criminality in the area
- Other

If other, please specify

---

28b. From where you live, indicate in the list below the things you like about your living area.

- Good road condition
- Closeness to my workplace
- Adequate electricity supply
- Good drainage network/flood control
- Good access to clean public water
- Access to good sewage system/sanitation
- Good recreational facilities within 2km radius
- Access to public schools within 2km radius
- Access to healthcare centre within 2km radius
- Access to mosque within 2km radius
- Crime rate is low
- Local open markets
- Other

If other, please specify

---

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
29. Taking the above characteristics into consideration, how satisfied are you with your living environment/situation?	○	○	○	○	○

» Satisfaction

	Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
30. How satisfied are you with your life as a whole?	○	○	○	○	○

**Thank you for your time.**



Appendix 9: Batik stamping process using Malam wax in one of the Batik industries.

Source: Fieldwork, 2021.



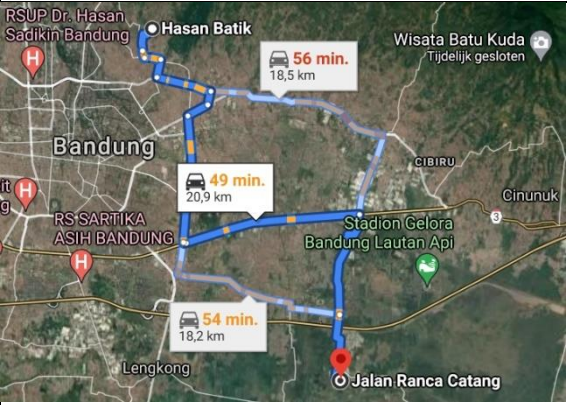
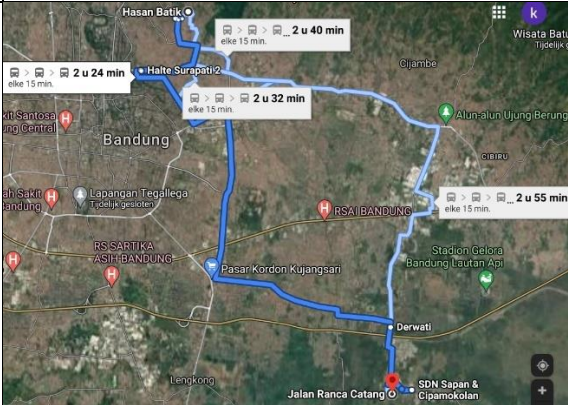
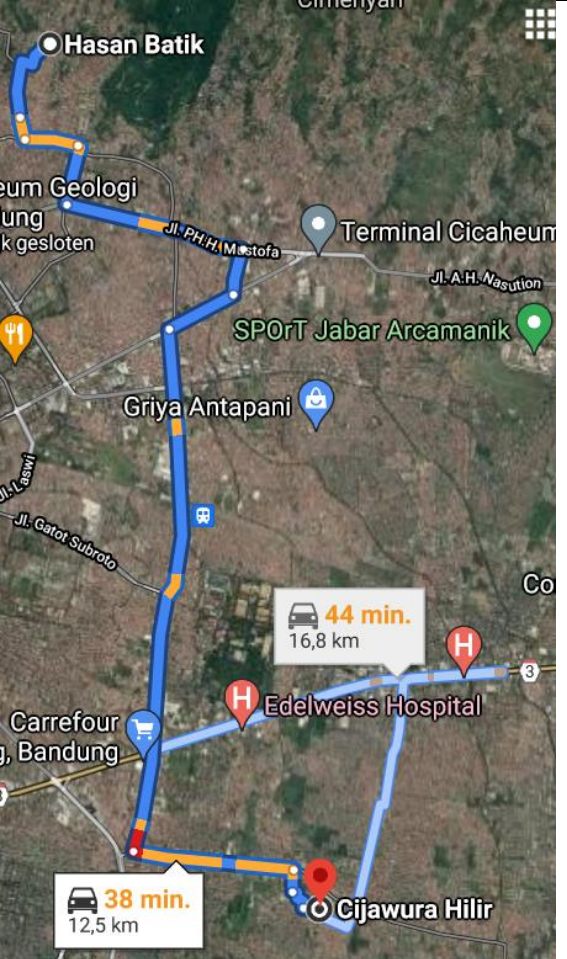
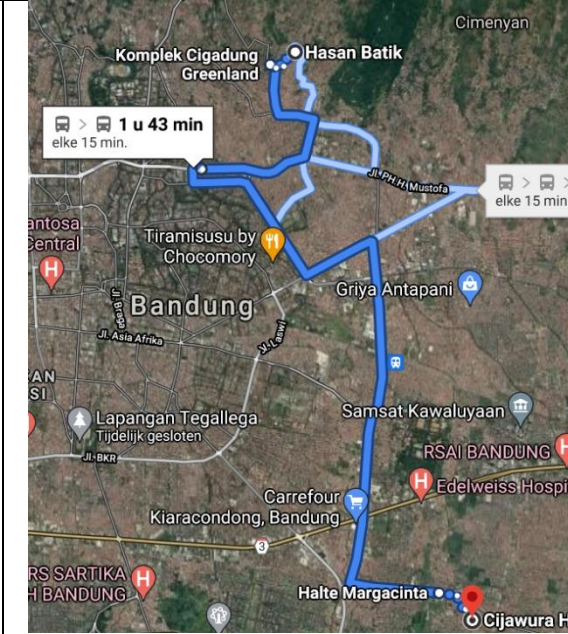
Appendix 10: RW Hall1 at section A for Batik employment and other purpose activities in Kismis road.

Source: Fieldwork, 2021.



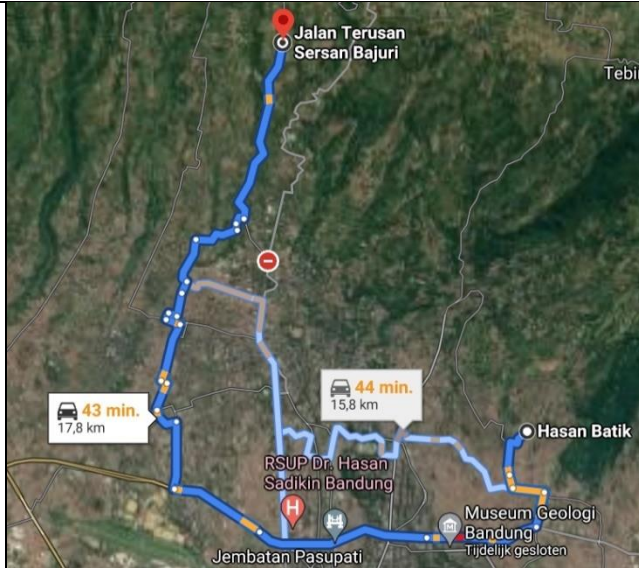
Appendix 11: Research assistants with some Batik workers during the fieldwork.  
Source: Fieldwork, 2021

Appendix 12: Estimated travel time and distance of some formal Batik workers from the living area to employment location.

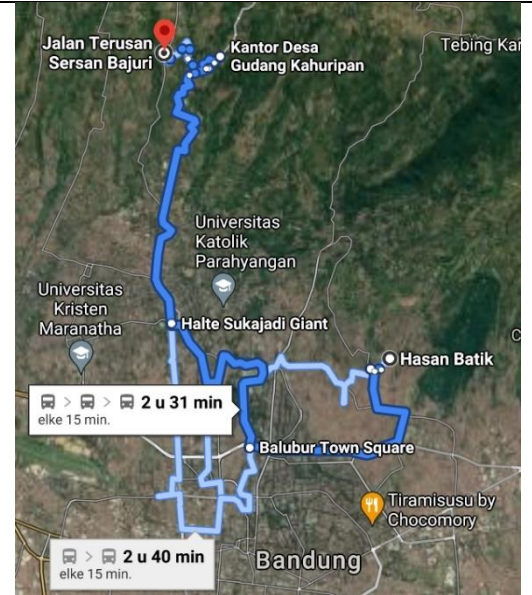
Living location to Workplace	By personal vehicle	By public transport
Batik Hasan to Ranca Catang	 <p>Estimated travel time average= 53 minutes</p>	 <p>Estimated travel time average= 2 hours 38minutes</p>
Batik Hasan to Cijawura Hilir	 <p>Estimated travel time average= 41 minutes</p>	 <p>Estimated travel time average= 2 hours or less</p>



Batik Hasan  
to Sersan  
Bajuri



Estimated travel time average= 43 minutes 50 seconds



Estimated travel time average= 2 hours 36 minutes

Source: Google Map, 2021.