

**FACTORS INFLUENCING DECENT WORK PRACTICES IN PRODUCTION AND
PRIMARY PROCESSING WITHIN COFFEE ESTATES IN KIAMBU COUNTY,
KENYA**

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the Master of Science Degree in Agri-enterprise Development of Egerton University**

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DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been presented in this university or any other for the award of a degree.

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DEDICATION

I dedicate this thesis to my lovely mother Mrs. MUKANDANGA Joséphine, my uncle Charles NKURUNZIZA and my aunties MUKAMUHIRE Agnes, KANKINDI Godelive, and DUSABE Caritas, for their priceless support, love, prayers, and commitment to my studies. Special thanks also go to my only blood sister IGIRANEZA Hirwa Joselyne and my love UMWALI Happy for their continuous motivation.

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ABSTRACT

In Kenya, coffee production employs approximately 30 percent of the agricultural labour force. Due to its labour-intensive nature, coffee requires human capital throughout its production and primary processing, leading to casual workers' high engagement. These workers experience complex and challenging working conditions, including long working hours, poor remuneration, limited social capacity, poor health, poor living conditions, and unfavourable employment terms, which lead to job insecurity as well as poor livelihoods. Moreover, the empirical evidence about decent work compliance literature in coffee production and primary processing is limited. To bridge this gap, the current study sought to provide empirical research about compliance with decent work and factors that influence compliance within coffee estates to promote productive employment, workers' livelihoods, and sustainable economic growth in Kiambu County. A Multistage sampling method was used to select 385 casual workers from Fairview, EAAGADS, Ibonia, and Yadini coffee estates. Data was collected using structured questionnaires and subjected to analysis using descriptive statistics and Multivariate Probit Model. Results from the descriptive statistics shows high compliance with adequate earnings and productive employment with an index of 0.65, medium compliance with social protection with an index of 0.51, and low compliance with safety at the workplace and social dialogue with indices of 0.44 and 0.41, respectively. Multivariate probit results indicated that factors including age, gender, marital status, education, the position of an employee, estate ownership, the estate size, coffee marketing channel, monthly salary, working hours, break time, training, ILO's inspection were significantly influencing the compliance with decent work. Therefore, the study recommends that coffee estates owners and managers should be encouraged to put more effort into achieving all decent work practices as per ILO standards. There is a need for tripartite efforts and consistent supervision to promote safety at the workplace and social dialogue pillars within coffee production and primary processing. Lastly, both private and public-private coffee estates should consider all factors that influence the compliance of decent work within coffee production and primary processing. Decent work should be complied with equally across all genders and age groups without any discrimination. Continuous training and supervision would encourage coffee estate owners to comply with decent work within their enterprises. The findings help guide coffee estate owners in information about the status of decent work within their enterprises and informing policy makers on how to improve decent work practices.

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LIST OF ABBREVIATIONS AND ACRONYMS

AFA	Agriculture and Food Authority
AFA – CD	Agriculture and Food Authority-Coffee Directorate
APRA	Agricultural Policy Research in Africa
CBK	Coffee board of Kenya
CIDP	County Integrated Development Plan
COVID-19	Coronavirus disease 2019
DWCP	Decent Work Country Program
DWD	Decent Work Deficit
DWI	Decent Work Index
ECOSOC	Economic and Social Council
EU	European Union
FKE	Federation of Kenya Employers
GDP	Gross Domestic Product
GoK	Government of Kenya
ICO	International Coffee Organization
ILO	International Labour Organization
ISSA	International Social Security Association
KES	Kenya Shillings
Km²	Square kilometer
KPCU	Kenyan Planter Cooperative Union
KPHC	Kenya Population and Housing Census
MLE	Maximum Likelihood Estimation
MoA	Ministry of Agriculture
MT	Metric Tonnes

NSSF	National Social Security Fund
SDG	Sustainable Development Goals
SPSS	Statistical Package for the Social Sciences
STATA	Statistic and Data
UN	United Nations
UNDP	United Nations Development Programme

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

Domestic Worker Convention 189 which concerns decent work practices is among the many achievements of human rights history that improve the livelihoods of employees within organizations, where it focuses on labour rights, women's rights, and children's rights (Islam *et al.*, 2016). Work is a fundamental right and good for humankind as it is an appropriate way for individuals to give expression and enhance their welfare (Edralin, 2016). This criterion is almost the same as that for decent work agenda as defined by the International Labour Organization (ILO) which ratifies eight main conventions including the Forced Labour Convention, Abolition of Forced convention, Freedom of Association, and Protection of the Right to organise Convention, the Right to organise and Collective Bargaining Convention, Equal Remuneration Convention, Discrimination (Employment and Occupation) Convention, Minimum Age Convention and the Worst Forms of child labour convention (ILO, 2013).

All the conventions deal with four main pillars of decent work that are productive work for men and women, health and safety, social security, and social dialogue for formal and informal employees and individuals who are self-employed (Job & Mary, 2017). Decent work entails opportunities for productive work where individuals get a fair income, assured security in the workplace, and family social protection. Decent work should also give better prospects for personal development and social inclusion, freedom of expression, organization, and participation in making decisions that affect the livelihoods of individuals (Pereira *et al.*, 2019).

The decent work agenda was adopted by the International Labour Organization (ILO) in 1999 as a platform that focuses on four main pillars which are: full and productive employment, rights at work, social protection, and promotion of social dialogue (International Labour Organization [ILO], 2019). A time-bound Decent Work Country Program (DWCP) is the main instrument for ILO cooperation in a specific country. Through DWCP, ILO constituents and social partners articulate country priorities and implementation strategies that effectively and efficiently utilize both human and financial resources to generate the greatest possible results in terms of development. The DWCP encourages strategic partnerships that leverage resources and enhance resource mobilization (Federation of Kenya Employers [FKE], 2019). The majority of poor people in developing countries have jobs, but the environment and working conditions are usually insecure and workers are not getting adequate income (Bell & Newitt, 2010). This implies that fighting poverty is not only a question of how revenues are generated among small households and employment opportunities but also about enhancing

the quality of available work as a key aspect of poverty reduction by addressing the nature and number of employment opportunities.

In Kenya, the Agenda of decent work practices has become active since the independence period and its priorities are in the line with vision 2030 (ILO,2013). Over the years, many programs and projects have been implemented in terms of employment creation, women entrepreneurship development, labour relations, youth entrepreneurship, and the elaboration of child labour (FKE, 2019). ILO and the government of Kenya (GoK) had prioritized decent work practices' interventions within the main platforms which include: the second Kenya medium-term plan (2013-2017), the Kenya Jubilee manifesto, and the United Nations (UN) development assistance framework from 2009 to 2014 (Mureithi, 2008).

Agriculture-related wages are determined by the agricultural and general wage councils constituted under the labour institution act 2007 (Government of Kenya [GoK], 2018). There are the main factors that should be considered in this process of wage determination including workers' needs and their families, the country's general level of wages, the cost of living, and social security like insurance. Economic factors including levels of productivity, the desirability of attaining and monitoring a high level of employment, and the ability of employers to carry on their business successfully, are considered in wage determination (Ahmad, 2021).

In Kenya, coffee is a major cash crop that is globally recognized in terms of value and outstanding quality and it plays an important role in the economic development of the country through income generation, creation of employment, contribution to exports that earn the country foreign currency, and tax revenue (Mureithi, 2008). Kenya exports 95 percent of coffee produced and 5 percent is consumed domestically (Kundu & Ngigi, 2018). Around 800,000 households and 4,000 estates are involved in the production and primary processing of coffee (ICO, 2019), this make coffee contribute to 30 percent of total employment in Kenyan agriculture (Kundu & Ngigi, 2018). Coffee production and primary processing involve a labour-intensive nature due to various non-mechanized activities that are undertaken. This means that considering decent work practices could promote sustainable productive work, social security, and social protection along with coffee production and primary processing.

According to GoK (2023), the basic minimum consolidated wage at the farm level is 15120 Kenyan shillings (\$104.595) per month for unskilled employees. Despite the rules and regulations, there is limited decent work in the agricultural sector, especially employment wages during production, where casual employees tend to be excluded from labour legislation and social protection. This exclusion has led to unfavourable working conditions for many

agricultural workers working under part-time job conditions. Also, there are still some problems related to risky working conditions like the high occurring rate of injury during production (Lavers & Tighe, 2016).

In times of risk and uncertainty, coffee estate workers are worse off. According to Agricultural Policy Research in Africa [APRA] (2020) findings in a study conducted in Kiambu, Nakuru, Kilifi, Kwale, and Murang'a counties, coronavirus disease (COVID-19) reduced the demand for on-farm and off-farm labour, yet the cost of living increased according to the 90 percent of respondents and 40 percent recorded an increase in prices of food commodities. Limited decent work, therefore predisposes humankind to harsh conditions and makes their welfare worse by negating their basic needs, such as the right to food, hence SDG 1-no poverty, SDG 2-Zero hunger, and SDG 3-Good health and well-being.

The coffee estates owners who fail to pay their workers a decent wage also show the decent work deficit in Kenyan Coffee production and primary processing. Workers also work under risky conditions where they are vulnerable to pesticides, or being attacked by reptiles such as snakes especially in picking, weeding, and spraying. There is a lack of self-protection due to the lack of protective kits such as masks and gloves (Mureithi, 2008). These workers are not insured, and in the cases of farm accidents such as falling and breaking a body part, the employees' welfare is worsened. The ministry of agriculture came up with Coffee Bill 2020 which proposes doing away with the repealing of the Coffee Directorate alongside the other eight directorates into the Agriculture and Food Authority to stand alone as it formerly was the Coffee Board of Kenya. This Bill provides for remuneration of officers in the Coffee Board, at the County level, and Coffee Research Institute but fails to dictate terms of remuneration among the stakeholders they are promoting, regulating, and developing, including coffee estates (GoK, 2020). This bill, therefore, excludes casual or informally employed workers in the coffee industry, including coffee estate workers, and therefore, overlooks ILO Labour standards on such employees.

Kiambu County is among the 32 coffee-growing counties in Kenya and is the leading coffee-producing county amounting to about 22 percent of the total coffee produced in Kenya in the 2018/19 coffee year (Agriculture and Food Authority [AFA], 2020). There are 56, 200 smallholder coffee farmers organized in 22 cooperative societies and 1,000 coffee estate farmers registered by Agriculture and Food Authority-Coffee Directorate (AFA-CD). Kiambu County's Ministry of Agriculture [MoA] (2021) identified challenges in the coffee sector as; low productivity, coffee quality issues arising from inadequate processing capacity and obsolete equipment, and inefficient marketing systems. Poor cooperative governance

structures, lack of access to affordable credit, old debt for cooperatives, and poor prices paid by processors are also identified as some of the problems. The deficit of decent work practices among casual workers in Kiambu County has hardly been addressed, however (APRA, 2020).

1.2. Statement of Problem

Decent work concept as per ILO standards improves the labour working conditions. Even though decent work plays a major role in the performance of Agri-enterprises through the improvement of workers' livelihoods as well as their families. It also contributes to the achievement of vision 2030 by promoting the economic growth and development of the country. There is low compliance with decent work in coffee production and primary processing due to the exclusion of casual workers from labour legislation and social protection. This exclusion leads to challenging working conditions including long working hours, unfair wages and salaries, limited social capacity, and lack of collective bargaining that results in poor living standards and job insecurity. Furthermore, past empirical studies only focus on the deficit of decent work in agriculture and the importance of decent work dimensions in Agri-enterprise, but the literature on decent work compliance and factors that influence its compliance in coffee production and primary processing is still limited. This study aimed to fill that existing shortfall in the literature by providing empirical research about the compliance of decent work and factors that influence that compliance within coffee estates in Kiambu County, as a way of improving coffee casual workers' livelihood through the promotion of productive employment and sustainable economic growth in Kiambu County.

1.3. Objectives

1.3.1. General Objective

The general objective of the study was to assess the factors influencing decent work practices in production and primary processing within coffee estates to initiate appropriate interventions, including informing coffee development initiatives and policies to improve the livelihoods of coffee workers.

1.3.2. Specific Objectives

- i. To determine decent work practices in relation to International Labour Organization (ILO) standards performed by Coffee Estates in Kiambu County.
- ii. To determine compliance of decent work by Coffee Estates in Kiambu County.
- iii. To determine the factors that influence compliance with decent work practices by Coffee Estates in Kiambu County.

1.4. Research Questions

- i. What are decent work practices in relation to International Labour Organization (ILO) standards performed by coffee estates in Kiambu County?
- ii. What is the compliance of decent work within coffee production and primary processing in Kiambu County?
- iii. What are the factors that influence the compliance of decent work practices in coffee production and primary processing in Kiambu County?

1.5. Justification of the Study

The agricultural sector employs nearly one-third of the workforce in the world, but in the past two decades, total employment has reduced from 45 percent to 34 percent, increasing the vulnerability of the marginalized labour who are faced with decent work deficits. Given the critical role of agriculture as the main source of employment in many developing countries, there is a need to study more about the promotion of decent work in agriculture as a key toward the reduction of poverty, stimulation of economic growth, and sustainable food security (ILO,2014). Coffee production and primary processing play an important role in the economic development of Kenya as it creates 30 percent employment opportunities upstream and downstream in the coffee value chain. It also contributes to the increase of foreign currency through its export earnings (ICO, 2019).

In the line of Kiambu, the analysis of decent work practices in coffee production and primary processing was apposite as a way to propose strategies to enhance the achievement of productive employment, social protection, work security, and social dialogue to lead to an improved livelihood of workers in the coffee value chain. The government of Kenya in relation to the Big 4 Agenda plans intends to increase coffee production from 40,000 metric tonnes (MT) of clean coffee in 2016/2017 to about 100,000 MT of clean coffee by 2022 through productivity improvements in its Food Security and Nutrition agenda of the Big 4 Agendas (Hussain *et al.*, 2020). This study aimed to contribute to the achievement of the big four main agendas which are: Food security and nutrition, universal healthcare, affordable housing, and enhancing manufacturing. The study also contributes to the achievements of SDG 1-no poverty, SDG 2-zero hunger, SDG 3-good health and well-being, and SDG 8-Decent work and economic growth.

The results of this research would be extrapolated to other counties or countries with the same background of the problem as Kiambu County and would also act as a reference for researchers who will be interested in decent work practices along the coffee value chain.

1.6. Scope and Limitations

This study was only specific to the casual labourers within coffee estates in Kiambu County with the overall objective of enhancing better and more productive employment terms within the coffee enterprises and sustainable economic growth through the analysis of decent work practices in coffee production and primary processing among coffee estates in Kiambu County. Data about decent work practices in relation to ILO, compliance with decent work, and the factors that influence compliance with decent work were recorded through the well-prepared questionnaire. The study was constrained by the inactivity of some coffee estates beside the known number and this could have minimized the population under study. Some respondents were not willing to participate due to the fear that someone can report them to the management of the estate.

1.7. Operational Definition of Terms

Decent work practices: refers to all activities that promote favourable working conditions for the employees.

Productive employment: this is the situation where employees offer labour efficiently in favourable contexts and are paid fair income on a timely basis.

Right at work: refers to what employees are allowed to have in their job.

Social protection: involves the benefits that employees receive to secure their families and themselves.

Safety at the workplace: refers to the standards and rights of employees at the workplace.

Social dialogue: refers to when employees have the right to collective bargaining and express their thoughts.

A coffee estate: a large-scale coffee farmer with 2.5 hectares (6.178 acres) of land and above as categorized by the Agriculture and Food Authority-Coffee Directorate

Primary processing: involves the removal of the red outer layer of coffee cherries, sorting, washing, and drying coffee to generate parchment coffee

Livelihoods: refers to the level of living standards of all actors that are involved in the production and primary processing of coffee.

Casual workers: These are individuals who provide unskilled labour at the coffee estates and are remunerated as per the owners of the estate's terms.

CHAPTER TWO

LITERATURE REVIEW

This chapter explores previous research in the area of the study. It evaluates critical work done so far on the analysis of decent work practices in coffee production and primary processing. It comprises the main research concepts, theoretical framework, conceptual framework, specific gaps in the literature, and other relevant information related to the research.

2.1. Decent Work

Decent work entails work opportunities that provide productive employment through fair income wages among farm employees, security at the workplace, social protection of family by providing health insurance, and social dialogue which refers to the freedom of employees to express their opinions as well as getting involved in daily decision-making activity and equal treatment of both genders. The four main pillars of decent work are achieved through ten subcomponents which are employment opportunities, adequate earnings and productive work, decent hours, work combination, family and person protection, no child and forced labour, safety at the workplace, equal treatment, and opportunities among men and women, safe environment, social security and social dialogue (Matofari & Muthui, 2016). Decent work is associated with eight main ILO conventions including the Forced Labour Convention, Abolition of Forced convention, Freedom of Association, and Protection of the Right to organise Convention, the Right to organise and Collective Bargaining Convention, Equal Remuneration Convention, Discrimination (Employment and Occupation) Convention, Minimum Age Convention and the Worst Forms of child labour convention (ILO, 2013).

ILO (2019), defines decent work as opportunities for both men and women to get full and productive employment conditions, workplace equality, job security, social protection, and human-social dialogue. This concept ensures the development of human being in the global economy through the rapid transformation of work. It takes into account all categories of employees involved in every value chain in a given economy and it is an important strategy to fight against poverty, and hunger and promotes good health and economic well-being (Ali, 2013).

Decent work is transdisciplinary with different perspectives including philosophical, legal, economic, sociological, and psychological (Di Fabio & Maree, 2016). Physiologically it focuses on dignity and how it is affected by the cultural aspects of a given community. The legal perspective deals with the system of law that governs labour by helping workers to have

access to new job opportunities and achieve policies that strengthen employment conditions. The economic perspective focuses on labour rights ensuring a favourable environment that provides enjoyment of work. The sociological perspective refers to different changes in the decent work concept over time while the psychological perspective looks at decent work in terms of job satisfaction (workers' expectation and quality of work), the intrinsic quality of work (good health and economic wellbeing of workers), and desirability of work that implies the characteristics that improve workers' situation assessment and their contribution (Zammitti *et al.*, 2021).

The decent work concept relates to the sustainability concept of 2030 especially the sustainable development goal (SDG) 8, intending to promote inclusive and sustainable economic growth, full and productive employment, and decent work for all (Magnano *et al.*, 2019; Muthui *et al.*, 2019). In reality, the 2030 agenda aims to achieve decent work practices among labourers through the creation of the link-to-life design approach (Zammitti *et al.*, 2021). When decent work was launched by ILO in 1999, labour market analysts raised their expectations on how the concept would achieve new measurements and theoretical ways of understanding the functioning of the labour market (Burchell *et al.*, 2013). The launch increased the employment quality aspects and aimed at re-establishing the influence of ILO at the time of reformulation of the Washington census. Decent work's goal is to compare and contrast the employment generation with current conditions under which workers' rights and their voices are heard in the community. Its definition formula is based on a broader concept that considers the priorities of ILO's tripartite constituents which are the governments, employers, and unions (Piasna *et al.*, 2020)

2.1.1. Decent Work Country Programmes

Decent work country programmes (DWCPs) are the main ways of delivering ILO support to members of a given country. DWCPs are built on the approach of result-based management, they also specify the work guideline of the medium-term plan under agreements on priorities and objectives among governments, employers and trade unions (ILO,2010; Zammitti *et al.*, 2021). DWCPs focus on two objectives which are to promote decent work as the backbone of development strategies as well as to organize ILO knowledge, instruments, advocacy, and cooperation (ILO,2019). DWCP is a prime tool for ILO cooperation in specific countries within a period of four to six years. It focuses on building an economy with investment opportunities, entrepreneurship, development of workers' skills, job creation, and sustainable livelihoods, it also ensures representation and participation of all workers and laws that work for workers' interests. DWCP ensures safe working conditions by allowing workers

to have adequate free time and rest, it also takes care of family and social values and provisions of adequate compensation for the workers. Finally, DWCP promotes social dialogue through the involvement of all workers in increasing productivity, avoiding disputes at work places, and building cohesive societies where every worker has the right to express his/her concerns and collective bargaining (Deshingkar & Sward, 2012).

DWCP priorities enhance social protection through policies and actions that promote social assistance, social security and health insurance, promotion of employment creation, employability, and strengthening industrial relations (GoK, 2013). All objectives are interrelated, inseparable, and mutually supportive with gender equality and non-discrimination as cross-cutting issues. The review of the country's situation is very critical at the beginning of DWCPs in order to relate to the general economic and political situation. The process of DWCP is operated from design to evaluation by including resource mobilization, engagement with development partners, and relevant government. ILO staff provides consultation on different kinds of improving awareness, capacity building, and policy dialogue during the DWCP process of a given country (ILO,2016).

2.1.2. Decent Work Pillars

According to ILO (2007), the approach to decent work is summarized into four main pillars which are:

- i) Productive employment focuses on the promotion of employment that helps employees to move from poverty. It entails policies that contribute to the productivity and competitiveness of an economy, creating a conducive environment for entrepreneurship, promoting links between trade policies and employment, enhancing workers' education and development, promoting fair labour wages and returns, and addressing youth and women. It also contains the strategies that help both employers and employees cope with a crisis like pandemics, war, or famine. Lastly, it adopts policies that improve the management and governance of labour transfer.
- ii) Social protection refers to the improvement of social justice, cohesion, and protection. The social protection pillar comprises different policies that ensure the safety of employees and their families as well as improve health and well-being. These policies include social security and unemployment benefit, basic health

provision for all workers, and the development of policies that address fairness at work and retirement pensions.

- iii) Security at the workplace relates to the improvement of compliance with the fundamental principles of ILO. It is made up of standards and rights of employees at the workplace that includes the freedom of association, elimination of child and forced labour, and zero discrimination in employment.
- iv) Social dialogue refers to the social dialogue between government, employers, and workers as the main way of having a common understanding of social and economic activities and democratization where everyone is allowed to express his/her concerns. The social dialogue policies include organization building, labour legislation, promotion of collective bargaining, and strengthening the consultation process.

2.1.3. Basic Principles of Decent Work

The major principles of decent work include; (a) overcoming precarious jobs which damage the labour market and economy. They also determine working conditions and safety, health, and social cohesion, (b) better work organization through the creation of environments where workers are fully informed and consulted, able to balance the work and home life demands, and have opportunities for lifelong learning to boost skills and qualifications. (c) Strong employment protection legislation is far from being an obstacle to a dynamic labour market and fosters investment in human capital and innovations. (d) Social welfare systems that offer security to almost all sectors of production to cover public and private sectors and formal and informal sectors, and social dialogue and collective bargaining and full involvement of social partners in decisions on labour market reforms (Sasikumar *et al.*, 2008).

2.1.4. Global Overview of Decent Work

Decent work is a universal concern that is included in major human rights declarations and the UN revolution. It is also included in major world conferences including the world summit outcome document (2005), the high-level segment of ECOSOC (2006), the second united nations decade for eradication of poverty (2008-2017), a conference on sustainable development (2011) and UN's 2030 agenda for sustainable development in 2015 (ILO, 2019) among others. Decent work enables individuals to live and work in freedom, equity and security but the achievement of this remains low. In 2011, 456 million workers over the world were living under the poverty line (below 1.25 USD), around 136 million were still in vulnerable forms of employment and 75 million youths were unemployed. These statistics

show that the government and private sector is required to promote decent and productive employment, encouraging rights at work, social protection, and social dialogue that allow workers and employers to express their concerns that can support compliance with decent work (Ali, 2013).

2.1.5. Tripartite Efforts and Promotion of Decent Work

Decent work needs the commitment of three main parties which are workers, employers, and governments. These parties have a significant role in the achievement of a decent work goal. Government creates policies that promote decent work. The ability of the national government to achieve the policies is weakened by the pressure of globalization on wages and the reduction of macroeconomic flexibility. Multinational enterprises should locate their functions in countries where there are worker's rights to contribute to economic development and trade unions assist employees in advocating for elements of decent work (Ali, 2013).

2.1.6. Kenya Decent Work Profile

The decent work profile in Kenya is determined by factors such as work and wages, compensation, annual leave and holidays, employment security, family responsibility, maternity and work, health and safety, sick leave and employment injury benefit, social security, fair treatment, child and forced labour situation (Ahmad, 2021). The Kenyan government predicts wages according to labour institution act 2007, where worker salaries equal the minimum wage and provide every worker a consistent decent life with human dignity. In the agriculture sector, the minimum wage varies according to knowledge and practices where wage order provides minimum remuneration for a given job and conditions that can deduct or increase (GoK, 2013).

It avoids extra-time work but in case it is unavoidable, extra compensation under the ILO convention which is equivalent to 125 percent of the regular rate is required. According to the general wages order, in Kenya, the normal working duration is 52 hours per week for day workers and 60 hours per night workers. It is obligatory to pay at least 150% of employer's wages. This order also requires that normal working hours and overtime should be of utmost 116 hours in two weeks. This means that a worker must not exceed 6 hours of overtime in one week. However, it is against the law to force workers to work extra hours, employers can set overworking hours to accomplish the work. But they have to agree with employees on a reasonable amount to be paid (GoK, 2007a).

For annual leave and holidays, ILO conventions state that an employee has to get at least 21 consecutive days of paid annual leave without including national and religious holidays. This leave may be given at different intervals during the year and the worker is allowed to receive his full salary for the period of leave. According to the ILO convention, Employment security measures the extent of security flexibility or the precariousness of an employment relationship. There must be a written or oral employment contract before starting work. An employment contract should be provided when the employment duration is more than three months. When a worker is sent to work outside Kenya for more than one month, the contract must mention the remuneration currency, any benefit terms, and conditions for the workers' repatriation to Kenya (GoK, 2007a).

For family responsibility, the parents are allowed parental leave as an option available to their parent to take a long leave of absence without resigning from work. It is often once maternity or paternity leave has been exhausted. The employment act provides 14 days of paid paternity leave. During pregnancy and maternity leave, a worker should get medical care without any additional cost. For health and safety, the employer has to be sure that the work process is safe, and the provision of protective kits includes clothes, gloves, and other precautions for free. Employees must get training about safety and health aspects as well as first aid (GoK, 2007a).

Sick leave and employment injury benefit implies that every worker has the right to work protection in case of illness. The labour law states that sickness benefits may not be paid during the first three days of a worker's absence. During the first six months of illness, a worker should get an income of at least 44 percent of the minimum wage. Every worker has the right to get a sickness benefit for up to 14 days per year after the completion of 2 months of being an employee. In the case of temporal disability, a worker with insurance may receive the temporal benefit of 50 percent of the average daily earning up to 540 Kenyan shillings when the disability takes more than 3 days (GoK, 2007a). In case of fatal injury, the survivors have to get the benefit which is equivalent to the 60-month lump sum of their salaries, an amount ranging from 35,000 to 240,000 Kenyan shillings which should be paid to partially dependent survivors (GoK, 2007b,).

Social security This states that the pensionable age should not go beyond 65 years old. A pension can be set as a percentage of the minimum wage or a percentage of earned wage. The provision of pension is when the insured person attains 60 years old or retired from regular paid employment. A dependent's pension is paid to the dependent individual when a member dies before the pensionable age and this happens within 36 months based on the contributions

that had been made by the member immediately before the day of death (NSSF,2013; ISSA Country profile,2017). Fair treatment requires equal pay for both men and women performing a job of the same value to avoid discrimination in remuneration matters (Gok,2007a). A worker's right in any institution must not be denied because of his religion and beliefs (GoK, 2007b, 2010). The protection which society provides for its members against the economic and social distress that otherwise would be caused by substantial reduction of earnings resulting from sickness, maternity, employment injury, unemployment, invalidity, old age and death (Ahmad, 2021).

Forced labour states that employees are allowed to work everywhere. If a worker is looking for work elsewhere, he should not be delayed to receive his full wages. International Labour Organization states that forced labour is prohibited (GoK, 2007b). The Kenyan constitution also prohibits forced labour. Forced labour is work that is done under conditions of penalty, lack of rights, and privileges (GoK,2007a). In Kenya, employers who violate the law of forced labour should pay a fine of 500,000 Kenyan shillings minimum or imprisonment for a term of at least 2 years or both (GoK, 2007c,2010).

2.1.7. Decent Work and Poverty Reduction

The major contribution of decent work agenda is to reduce poverty by addressing the nature and the number of employment opportunities. This agenda comprises an integrated approach to development and economic growth that considers all the pillars to generate employment opportunities for both men and women, and ensure representation and protection. Employment-centered development strategies should be developed with comprehensive social safety and transfers, institution reform, laws, and practices (ILO,2007). Decent work is an approach to development outcomes, it is also a policy approach concerning labour standards and social dialogue. It implies that respect for international labour standards, as with other fundamental human rights, must be built into the development process from the outset as matter of course rather than assuming that higher labour standards and social equality will naturally grow alongside economic development (Bell & Newitt, 2010).

2.1.8. Decent Work and Sustainable Development

In the past 25 years, the number of workers in extreme poverty has reduced without being affected by the impact of the economic crisis that occurred in 2008/2009. In developing countries, 34% of the total labour force is in the middle class, but the countries are still experiencing slower economic growth, widening inequalities, and employment that is not expanding fast enough per the growing labour force (United Nations Development Programme

[UNDP], 2018). During the United Nations (UN) general meeting in 2015, decent work pillars became fundamental elements of the 2030 agenda for sustainable development, especially in its goal 8 which aims to ensure the promotion of sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work. This goal is an engagement area for ILO and its constituents. However, the aspect of decent work agenda is also found in the remaining 16 goals of the UN sustainable development agenda. The significance of decent work in the 2030 sustainable development agenda has also been confirmed by the leader's statement and action plans of the G20, G7, European Union (EU), and African Union (ILO,2019).

The ILO has pursued a decent work agenda through discussions relating to sustainable development goals (SDGs). SDG8 seeks the realization of higher economic growth per capita and also focuses on increasing innovation and economic productivity. The target of decent work in sustainable development is to encourage sustainable economic growth through achieving high productivity levels and technological innovations, it also seeks to promote policies that improve entrepreneurship and job creation, and effective measures to promote labour rights and a safe environment for migrant employees. All targets will lead to full and productive employment, social protection, security at work, and enhanced social dialogue for all women, men, youth, and disabled individuals by 2030. Decent work could affect the Jubilee Government agenda 4 plan of increasing manufacturing from 9 percent to 15 percent of the GDP (SDGs readiness report, 2020).

2.1.9. Decent Work and International Labour Standards.

Labour standards refer to rules and regulations that restrict how people are treated in the working environment (ILO,2019). These standards are found at both local, national and international levels. Labour standards cover a variety of subjects, that relates to human rights at the workplace, social security, and ensuring decent wages for the work done. These standards also take into account good governance through labour inspections and administrations that lead to an increase in workers' productivity and competitiveness sustainably. Laws and regulations together provide labour standards at the national level. But they may also be found in international conventions and recommendations. The main importance of labour standards is to represent the international consensus on minimum best practices that preside on labour matters, and when they are ratified by the countries, they provide obligations in national and international law. They also contribute to fighting discrimination in employment, fighting against child and forced labour, freedom of association, and collective bargaining (ILO,2010).

2.2. Coffee Production and Primary Processing in Kenya.

Coffee production was introduced in 1897 by British colonists who started planting coffee trees in Thika, Kiambu around 1910, and thereafter coffee became one of the major cash crops and export for the country (Muthoni, 2014). The Coffee Board of Kenya (CBK) was formed in 1932 to carry out the regulation and marketing of coffee. In 1944, coffee farmers started forming cooperatives under the coffee board to reduce the pressure of large estates controlling the board, and later in 1950, the smallholder sector picked up and, for a while, it was dominated by Kenya Planter Cooperative Union (KPCU) and after, in 1978 they started to build wet mills. The smallholder sector surpassed more than 70 percent of the large estates in terms of production (Joakim, 2012).

By 2017, coffee export was 5.5 percent and the coffee industry contribute to Kenya's agriculture growth in terms of generating foreign currency which was equivalent to 23 billion Kenyan shillings per year. It also contributes to employment creation, farm income, and food security (ICO, 2019). Kenya grows over 99 percent of arabica coffee whose main varieties are SL28, SL34, K7, Ruiru11, Batian, and blue mountain in the growing area located within the western, rift valley, central Kenya, and Mount Kenya region in their high potential area ranging from 1400 to 2200 meters above sea level and within temperatures ranging between 15 °C and 24 °C in deep and well-drained volcanic soils. Kenyan coffee production is made under two-man systems which comprise smallholder farmers under the affiliation of cooperative societies and coffee estates which are individually managed coffee plantations. From 2012 to 2018, the coffee plantation was 90415 ha under smallholder farmers and 25155 ha under estates (ICO,2019).

Coffee primary processing is very important in Kenya (Mwangi, 2017). After harvesting the ripened coffee cherries and transporting them to the factory, several processing activities take place. Primary processing activities include pulping which is the removal of the outer layer, fermentation, washing, underwater soaking, final washing, grading, final drying, and conditioning. In Kenya, 90 percent of coffee is processed by the wet method while the remaining 10 percent is processed by the dry method (Chege, 2012; Mwangi, 2017). In Kiambu County, coffee is highly grown in the central region of the county especially Kiambaa, Kiambu, Gatundu north and south, Githunguri, Juja, and Ruiru (ICO,2019). The production is labour intensive and most labour experience the challenge of getting good remuneration; also there is a challenge of erratic weather conditions and a high prevalence of pests and diseases which lead to low production (Maundu & Karugu, 2018).

2.2.1. Employment Situation in Coffee Production and Primary Processing in Kenya

Coffee production is labour-intensive where nearly all work is performed manually. This leads to the inclusion of short-term and casual workers from plantation to harvesting. During the harvesting and processing of ripe coffee beans, workers may be required to work extra hours to maintain the quality. ILO has identified several different health risks involved in coffee production and primary processing including injuries from sharp tools and repetitive movements, exposure to harmful chemicals including pesticides, illness from coffee dust, and consequences caused by human exposure to sun and heat (Verité fair labour, 2019).

In Kenya, the estimated employment rate in coffee production is about 30 percent of the agricultural labour force (ICO, 2019). Women play a major role in the smallholder production of coffee in Kenya but their participation is still limited due to the supply of unpaid labour, low wages, and limited effective involvement in decision-making that increases the deficit in decent work. This has contributed to the decline of Kenyan coffee production from 130000 tons to 40000 tons of coffee per year (Solidaridad, 2021). The deficit in decent work in Kenyan Coffee production and primary processing is recognized in terms of the coffee estates owners who fail to pay their workers a decent wage, workers that work under risky conditions where they get problems that occur due to the use of pesticides, the risks of being attacked by reptiles such as snakes during production practices like picking, weeding and spraying. Workers also lack self-protection due to a lack of protective kits such as masks, gloves, and other first-aid kits (Mureithi, 2008).

Child labour is one of the major problems in larger plantations (estates), where children work alongside their parents to supplement their family's income. They also help their elder family members and parents to achieve their production quotas as per estate requirements. Children are even more vulnerable to the risks faced by adult individuals because they are in most cases involved in picking and sorting cherries, pruning trees, weeding, and fertilizing. The estimates data from Oxfam shows that one-third of coffee harvesters in Kenyan coffee are under 15 years old which accounts for 26 percent of the total coffee labour force. Child labour is mostly increasing in commercial estates that use quota requirements for their workers which has led to the increased inclusion of children to help their parents or other mature family members meet their quotas (Verité fair labour, 2019).

In Kenyan coffee production, migrant labour is also one of the vulnerable groups. Migrant labour accounts for 2.20 percent which is more enhanced by land scarcity, and poor rural regions while others are women who fail to secure their properties due to different factors. The other category of labour in Kenyan coffee production is casual labour in both estates and

smallholder farms. According to ILO, over 20 percent of estates' labour is on a casual basis due to reasons like unpredictability happening during harvesting and means of avoiding labour laws that require benefits for full-time workers. Women in coffee production are concentrated in lower-skilled tasks including fieldwork, harvesting, and primary processing activities yet they work for more hours than their male counterparts (Verité fair labour, 2019).

2.3. Analytical and Empirical Studies on Compliance and the Factors that Influence Compliance of Decent Work

In the practice of measuring the compliance of decent work, the choice of indicators to be used depends on the availability of data and sample size available (Anker *et al.*, 2002; Burchell *et al.*, 2014; Ghai, 2002). According to Habtamu *et al.* (2016), the analysis of decent work depends on the living standards measurement study -integrated survey on agriculture (LSMS-ISA) dataset. This dataset contains individual or household-level data that are derived from the set of questions that refers to the employment for which indicators can be defined.

Job and Mary (2017), in their research about Gender and decent work in cassava production and on-farm processing, the Ordinary Least Squares (OLS) regression model was used to analyze the participation of each gender in cassava production and on-farm processing in the research area. The research found that social-economic factors including experience, number of years, education background, extension contact, access to credit, and farm income influence the participation opportunities of both women and men. On the other side, Muthui (2019), in his research on the comparison of decent work status among smallholder pig farmers in Kenya, the five indices were subjected to principal component analysis (PCA) in the evaluation of decent work status and assessment of the data suitability for factor analysis. The research found that both economic and human development has contributed to decent work. The study used PCA to overcome the issue of multiple levels of simultaneous measurements which refers to a common problem in decent work.

The approach of Duffy *et al.* (2017), was considered by using psychological results of work to develop a decent work scale ranging from a 15-factor scale and 5 sub-sectors that correspond to 5 components of decent work. The study implies that, apart from the decent indicators provided by ILO, the nature of various Agri-enterprises influences the adoption of different indicators' approaches to be used.

2.4. Theoretical Framework

The concept of decent work applies to both the formal and informal sectors of the economy. The term decent work means good work that meets employees' expectations. At the same time, the work has to be not exaggerated and fall within the reasonable aspiration of the

people (Gerry, 2001, Nizami & Prasad, 2017). According to Rodgers (2001), a decent work concept has two main floors which are ILO's core labour standards and universality meaning that all workers should get their right at work. Those floors made the concept of decent work to be multidimensional. In this context, a decent work deficit is as similar to the notion of exclusion which implies the mismatching of socio-economic conditions of the work and international social standards. During the implementation of decent work practices, different trade-offs are faced. The first one is economic growth and development which refers to decent employment and decent income. However, the criticism of this trade-off is caused by the ambitions and demands of all individuals for dignity and respect. The second trade-off lies in different dimensions of the decent work concept including decent work hours, equality in treatment at work, social protection, and social dialogue. All dimensions bring a positive effect on employment and labour productivity. The promotion of decent work refers to the modification of different ways in the performance of the global economy so that the benefits from work reach both employers and workers as well as the community. The approach accelerates social progress and human development within Agri-enterprise.

Four main dimensions are used in measuring decent work including the employment dimension which comprises employment opportunities, employment with fair remuneration, and fair working conditions. Social protection dimension, safety dimension that focuses on the abolition of compulsory and child labour, zero discrimination at work, and freedom of association. The fourth dimension is the social dialogue that refers to collective bargaining and union right (Dharam, 2003). Gary (2003), has presented a simple model of two the components of decent work frontier consisting of quantity which refers to the number of workers, and quality which refers to the number of earnings of employment under social standards. From this empirical research, it is possible to achieve decent work by shifting to the right side of the labour demand curve.

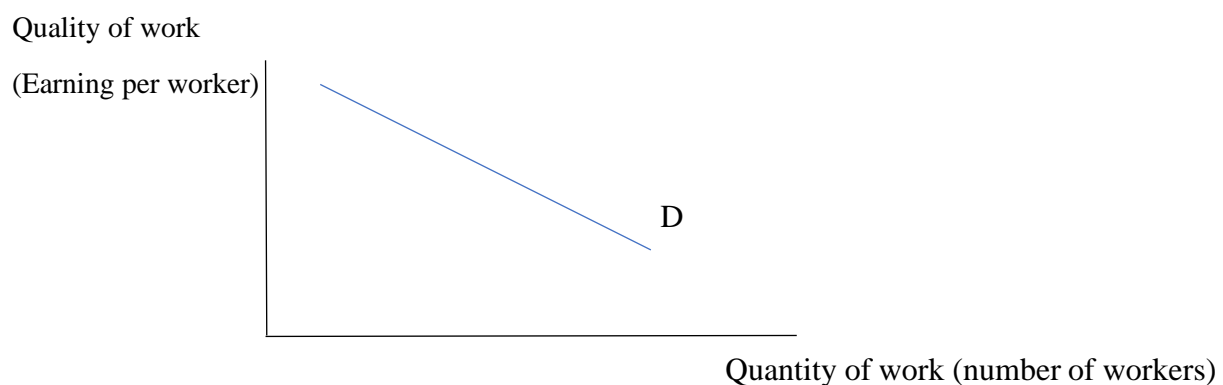


Figure 1:Decent work frontier

Figure 1 shows that the labour demand curve is stationary, this implies that a high quantity of work corresponds to a lower quality of work and vice-versa.

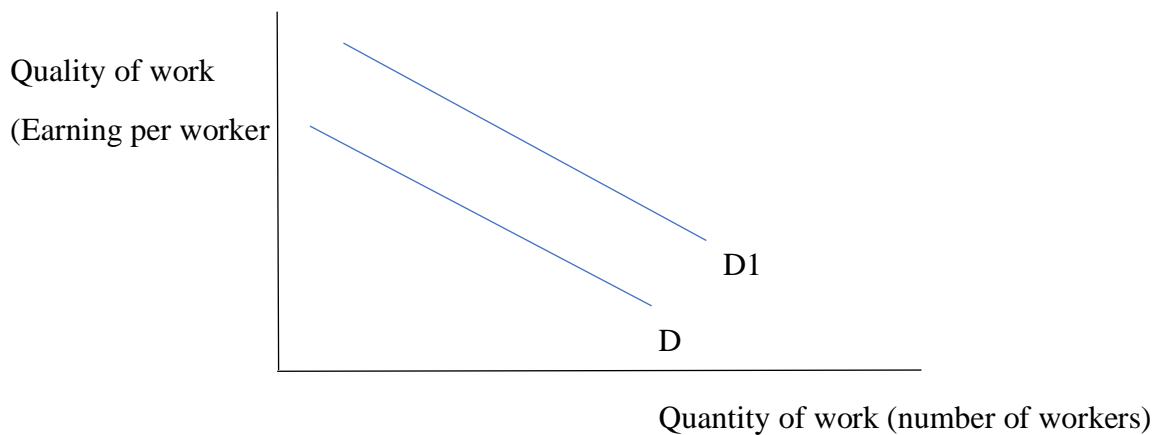


Figure 2: Shifting of decent work frontier

Figure 2 indicates the trade-off between employment quantity and employment quality on the labour demand curve. It implies that decent work can be achieved through the shifting of the labour demand curve rightwards. As the result, more labour will be demanded compared to the previous situation. The linkage between decent work and human development is determined by the analysis of UNDP’s human development index, decent work deficit (DWD) index, and GDP *per capita*. The empirical research shows that countries with high incomes achieve a lower level of decent work deficit (Ahmed, 2003).

2.4.1. Decent Work Indicators and Indices

Decent work is measured with eleven statistical indicators namely, employment opportunities, abolished work, fair remuneration, productive employment, decent work hours, work security, social protection, social dialogue, collective bargaining, and socio-economic context of decent work (Anker *et al.*, 2003). According to Bescond *et al.* (2003), seven statistical indicators were developed to identify decent work deficit (DWD) relating to hourly pay, work duration, unemployment rate, school registration, the unemployment rate among the youth, and the gender gap in labour workers. Those indicators were combined to analyze decent work deficits at the national level. Bonnet (2003) developed decent work indices based on the macro-level which refers to aggregate population, Meso-level which refers to the workplace, and micro-level which refers to the individuals. That research also found that there is a positive correlation between the stated indices, UNDP’s human development index, and GDP *per capita*. Standing (2003), suggested indicators that are related to work security including

security in the labour market, safe employment, job security, security at work, and skills security. This framework is adaptive to local needs and appropriate for getting an overview as well as a horizontal disaggregation of decent work at different measurement levels (Breeta & Amit, 2020).

For each respondent, the index for each decent work dimension has been calculated by taking simple arithmetic mean of the indicator scores under dimensions. Since all decent work indicators may not be applicable for casual workers in coffee estates, only the average of applicable indicators has been taken to avoid negative bias which should be associated to “not applicable” indicator scores. The four sub-indices are normalized using the following formula to nullify the effect of different scales of measurement on each respondent.

$$\text{Normalized DWI} = \left[\frac{\text{Actual Value} - \text{Minimum value within all respondents}}{\text{Maximum value within all respondent} - \text{Minimum value within all respondent}} \right]$$

The formula gives a decent work index (DWI) that ranges between 0 and 1.

Martres and Kelly (2005), highlighted a methodology to formulate country profiles that are based on normative indicators as the tool for measuring methodology to formulate country profiles that are based on the normative indicators. During the achievement of decent work, standards activities play a critical role through the provision of a framework that can be used by different countries to assess the decent work status and progress.

2.5. Conceptual Framework

The compliance of decent work practices in coffee production and primary processing within coffee estates in Kiambu county was assumed to be influenced by social demographic factors, institutional factors, and employment conditions. Social-demographic factors including age, gender, marital status, education background, and working experience were considered. The study also considered the institutional factors including estate ownership, size of the estate, location of the estate, and coffee-selling channels. Employment conditions including training, wage, type of task, type of contract, working hours, gender equality, non-financial rewards, and freedom for participation were taken into account. The intervening variables that include the ILO rules and regulations, Decent work country programme policies, and Employment schemes were taken into account, as the factors that contribute to the acceleration of the compliance of decent work within coffee estates. All factors stated above influenced the compliance of decent work practices in coffee production and primary processing. Compliance was seen under its four main dimensions including protective employment, safety at work, social protection, and social dialogue. The measurement unit of each dimension was the normalized index. The index above 0.5 was considered to be high

compliance while below 0.5 was considered to be low compliance. Compliance with decent work results in favourable employment terms that normally lead to improved livelihoods of workers and the development of coffee estates. This is one of the ways to help in the achievement of sustainable development goal 8.

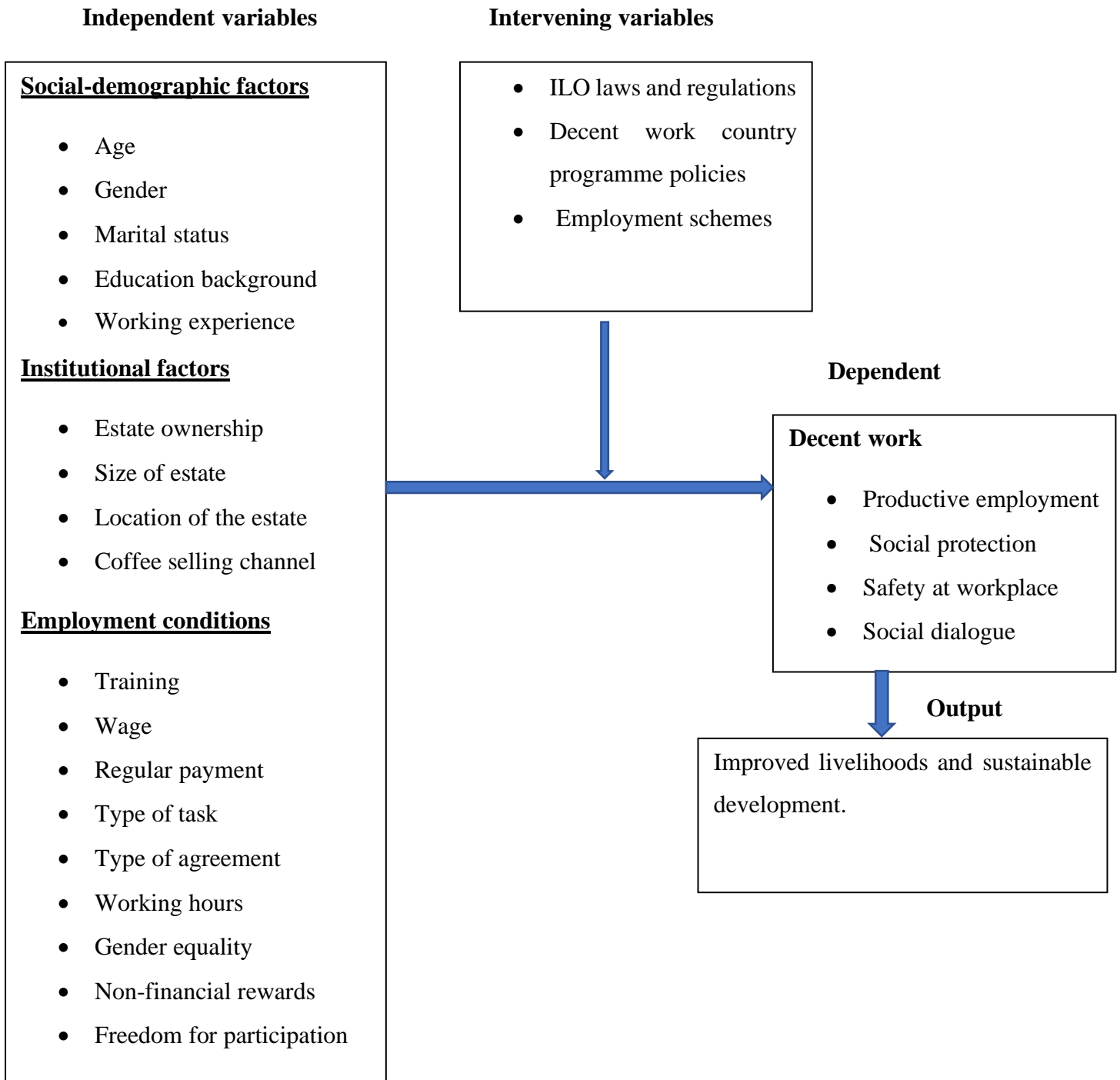


Figure 3: Conceptual framework

CHAPTER THREE

METHODOLOGY

This chapter describes materials and methods. It begins with a description of the study area. It then provides the sampling procedure and method of data collection that has been used. Finally, it details a comprehensive analytical framework for each objective by providing modeling and the econometric models that have been used.

3.1. Study Area

The study was conducted in Kiambu County which is one of the forty-seven counties in the Republic of Kenya. It is located in the central region and covers a total area of 2,543.5 Km² with 476.3 Km² under forest cover (Gok,2019). Kiambu County is subdivided into twelve sub-counties which are Gatundu South, Gatundu North, Juja, Thika town, Ruiru, Githunguri, Kiambu, Kiambaa, Limuru, Kikuyu, Kabete, and Lari. The County borders Nairobi and Kajiado Counties to the South, Machakos to the East, Murang'a to the North and North East, Nyandarua to the North West, and Nakuru to the West. The county lies between latitudes 00 25'and 10 20'South of the Equator and longitudes 360 and 31'and 370 15'East. The major economic activities in Kiambu County include Agriculture, livestock, fish production, and value addition. Agriculture comprises three main sections which are: food crops including maize, beans, and banana. Horticulture crops include French beans, cowpeas, kale, cabbages, garden peas, tomatoes, spinach, and carrots. Cash crops include tea, coffee, and pyrethrum (County Integrated Development Plan [CIDP],2018). Kiambu leads in coffee production and earnings according to the Coffee Board of Kenya 2019/2020 statistics (The County Government of Kiambu,2021).

Kiambu County was purposively selected for this research due to its high rate of growing coffee as the main economic crop which is leading in hiring labour force where each estate employs between 100 and 500 workers. The majority of those workers are not employed permanently and they are supposed to be paid daily (CIDP,2018). Several workers who are involved in coffee production and primary processing in Kenya are faced with decent work challenges including a lack of decent wages, and an unsafe work environment which exposes them to risks like chemical poisoning from pesticides due to lack of protective gear (Mureithi, 2008). The research was carried out in coffee estates located in Kiambu, Ruiru, and Juja sub-counties due to their dominance in coffee-growing and active coffee estates (ICO,2019). The detailed study area is shown by the map in the figure below:

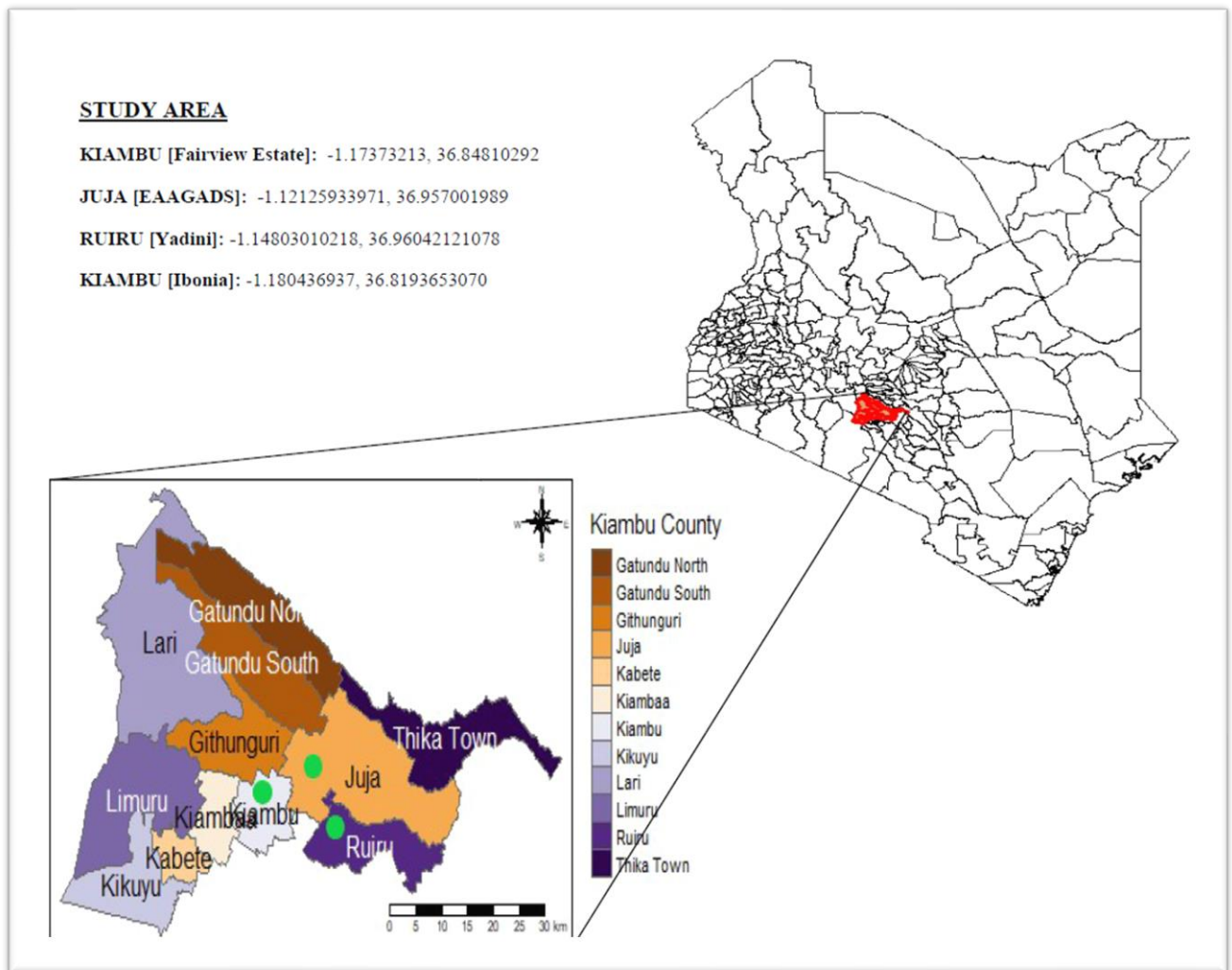


Figure 4: Map of the study area

Source: Egerton University, Department of Geography (2021)

3.2. Research Design

The study used cross-sectional data that was gathered from selected respondents in sampled coffee estates in Kiambu County. This approach was very suitable for survey descriptive design to assess the reality in the study area (William, 2007). This was an appropriate method for collecting information about the employees' conditions in coffee estates. After getting data from the sampled population, the findings were generalized to the whole population.

3.3. Sample Size Selection

The population under study was casual labourers within coffee estates in Kiambu County. The empirical literature on sample size determination provides several different approaches for determining sample size including the use of published tables, samples from

previous research, census when the population is small and formulas (Al-Subaihi, 2003; Israel, 1992; Singh & Masuku, 2014). The required sample size was determined using a proportionate-to-size sampling methodology due to the lack of the exact number of the targeted population in the study area (Kothari, 2004).

$$n = \frac{z^2 pq}{e^2} \quad (2).$$

Where n = sample size, z referred to a z-value of 1.96 on the confidence level of 95% ($\alpha = 0.05$). P equaled the proportion of the targeted population which is equal to 0.5 statistically sufficient and reliable sample size when the population is not specified. Q referred to the proportion in the target population estimated not to have characteristics being measured and it was computed as 1-p (1-0.5=0.5), e was the level of precision that was set at a 5% significance level to eliminate 95% bias in sampling.

Substituting the values above to the formula gives the following:

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{0.05^2} \quad (3).$$

$$n = 385$$

This resulted in a sample population of 385 respondents distributed proportionately to population size within 4 coffee estates as shown in Table 1.

3.4. Sampling Procedure

The population for this study was coffee casual workers who belong to coffee estates in Kiambu County. Multistage sampling was used. First, purposive sampling of three sub-counties namely Kiambu, Ruiru, and Juja was conducted due to their high concentration of coffee growers and availability of active coffee estates. Homogeneous estates were grouped according to the region (clusters) and from each cluster, the researcher selected randomly the estates to be surveyed. Finally, the Snowball sampling method was used to reach the respondents in each selected estate. The Snowball sampling method involves the selection of samples utilizing “insider” knowledge and referral chains among respondents who possess common traits that are of research interest (Kaplan *et al.*, 1987). This sampling method was suitable for this research due to the sensitivity of questions that were to be addressed to casual labourers that should have given biased information due to fear of losing their jobs. The method was also appropriate since it avoided coffee estate managers to control the interviewing process. The interviews were conducted after work at shopping centres or at their homes, where

a respondent connected the researcher to the next respondent until the needed number of respondents was obtained.

Table1: Proportionate sample size distribution in the area of study

Coffee estate	Number of employees	Proportion	Number of respondents
Fairview	400	8/25	123
EAAGADS	450	9/25	138
Yadini	200	4/25	62
Ibonia	200	4/25	62
Total	1250	1	385

Source: Kenya Coffee Board (2019)

3.5. Data Collection

Based on the time and resources that were available, the researcher first carried out the pilot study on 70 casual labourers equivalent to 19.5% of the total sample in the study area to test the validity of the research instrument. Primary data was collected by using personally administered questionnaires to the selected casual workers who work under the selected coffee estates. Questionnaires contained both open and closed questions which allowed the researcher to collect data on decent work practices concerning ILO compliance, the extent of compliance to decent work practices, and factors that influence compliance with decent work practices.

3.6. Data Analysis

Software including STATA and SPSS were used for data management and analysis. The analytical framework of the specific objectives was as follows:

Objective one: To determine decent work practices in relation to International Labour Organization (ILO) standards performed by Coffee Estates in Kiambu County.

The research identified practices that have been adopted by coffee estate owners in comparison to what ILO expects of them. The study used descriptive statistics including frequencies and percentages to show decent work practices performed within selected coffee estates.

Objective two: To determine compliance with decent work practices by Coffee Estates in Kiambu County.

The research used proxy measures of ratified conventions of the International Labour Organization. This method grouped statistical indicators and legal frameworks that are based on major elements of decent work to measure decent work compliance within coffee estates in Kiambu. According to Bescond *et al.* (2003), and ILO (2013), the main indicators that were used were based on four main dimensions (pillars) of decent work. The research considered inductive logic to generate the individual decent work index on each pillar (dimension). Adequate earnings and productive employment dimension were indicated by four main indicators that are Decent Wage which referred to the employees with a monthly salary that is above the minimum basic wages in the agricultural sector of Kenya, professional training which showed the number of employees who get professional training about their work, decent workhour which explained the number of employees who work not more than 48 hours per week and overtime compensation as the indicator of the employees who get payment in case of overwork.

Safety in the workplace dimension was explained by six indicators that were free kits which show the employees who get protective kits while working at zero cost, first aid skills which shows the employees who have first aid skills in case of emergency at the workplace, sexual harassment which indicated the number of employees with sexual harassment problem, forced labour to show the employees who were forced to do some kind of jobs, discrimination was used to indicate the employees who experience the discrimination at workplace based on different factors and equal working opportunities were used to indicate employees who get working opportunities equally. The social protection pillar was determined by three main indicators that are participating in family responsibilities where this indicator was showing the employees whose work schedules allow them to engage in other family responsibilities, non-financial benefits indicating the number who get other work benefits apart from the wage and free medical indicator was considered to show the employees who get free medical care in case of work injuries.

Lastly, the researcher employed three indicators to show the decent work indices based on the social dialogue dimension. The considered indicators are agreement which showed the employees with a formal work agreement, participation in decision making which showed employees who can participate in decision-making about their salaries and other working conditions, and notification before the end of the agreement. A respondent with a positive answer on mentioned indicators as per ILO standards was coded as 1 while employees with negative answers were coded as 0. After grouping all indicators under their dimension, the researcher weighted those indicators equally since there was no superiority assumption

between them. A researcher calculated the index under each decent work dimension by using the arithmetic mean of each indicator score. The process generated individual indices of each employee which were ranging between 1 and 4 and these indices were normalized to get the DWI under each pillar.

$$\text{Normalized DWI} = \left[\frac{\text{Actual Value} - \text{Minimum value within all respondents}}{\text{Maximum value within all respondent} - \text{Minimum value within all respondent}} \right]. (4)$$

Formula 4 was used to determine the index that showed compliance with decent work within coffee estates of Kiambu County. The average DWI was calculated to show the current situation in the study area. According to Oponng (2019), a DWI which is above 0.5 was considered a sign of high decent work compliance while a DWI which was below or equal to 0.5 was considered a sign of low decent work compliance.

Objective 3: To determine the factors that influence compliance with decent work practices by Coffee Estates in Kiambu County.

The research employed Multivariate Probit (MVP) Regression Model to analyze the factors that influence the compliance of decent work in coffee estates in Kiambu county. The alternative models in this research were Multinomial regression models that are suitable for estimating the nominal outcomes of unordered categories (Wosene *et al.*, 2018), but they are used when the individual choices are mutually exclusive as well as collectively exhaustive alternatives (Tarekegn *et al.*, 2017). Multinomial Regression models assume independence across the choices which means that they do not allow the correlation between explanatory variables (Wosene *et al.*, 2018). In this research, the compliance of decent work practices in its 4 main pillars was assumed to depend on the coffee estate owner’s choice which is not mutually exclusive. Therefore, the random technique component of decent work indices may be correlated. This implied that Multivariate Probit Model was an appropriate model in this research due to its allowance of possible contemporaneous correlation between factors for the compliance of decent work based on four main pillars. It also increased the efficiency during the estimation of the simultaneity of compliance.

The specification of the empirical model was as follows:

$$Y_i = \beta_i X_{ij} + \varepsilon_{ij} \dots \dots \dots (5)$$

Where Y_i ($i=1, \dots, 4$) represented the compliance of decent work under 4 main pillars, β_j represents the vectors of parameters to be estimated, X_{ij} refers to the vector of all factors that influence the compliance of decent work and ε_{ij} represents the error terms.

Maximum likelihood estimation (MLE) was essential for estimating parameters in equation 5, therefore the implicit functional form was estimated to determine the factors that influence the compliance of decent work given by:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \epsilon_i \dots \dots \dots (5.1)$$

Y_i ($i=1,2,3,4$) refers the compliance with decent work based on each pillar that was converted into a dummy variable (1 for high compliance when $DWI_i > 0.5$ and 0 for low compliance when $DWI_i \leq 0.5$), β_0 is a constant, β_1 to β_{15} are coefficients and ϵ_i is the error term.

Table 2: Description and measurement of variables in the multivariate Probit regression model

Variable	Description	Unit of measurement	Expect sign
Dependent variable			
Y_j ($i=1, \dots, 4$)	DW compliance based on productive employment		1 if high compliance 0 if low compliance
	DW compliance based on safety at work		1 if high compliance 0 if low compliance
	DW compliance based on the social protection		1 if high compliance 0 if low compliance
	DW compliance based on the social dialogue		1 if high compliance 0 if low compliance
Independent variables			
x_1	Employees age	Years	+/-
x_2	Employees gender	1 if male, 0 if female	+/-
x_3	Employees marital status	1 single, 2 married 3 otherwise	+/-
x_4	Employees working experience	Years	+/-
x_5	Estate ownership	1 Government, 0 otherwise	+/-
x_6	Size of estate	Acres	+/-

X7	Education of the employee	1 no education, 2 primary, 3 secondary, 4 tertiary, 5 other	+/-
X8	Coffee marketing channel	1 if export, 0 local	+/-
X9	Monthly salary	Kenyan shillings	+/-
X10	Training	1 if yes, 0 otherwise	+/-
X11	Working hours	hours/ per week	+/-
X12	Breaktime	1 if yes, 0 otherwise	+/-
X13	Inspection from ILO	1 if yes, 0 otherwise	+
X14	Employee's position 4 picking	1,primary processing, 2 weeding, 3 pruning, +/-	

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents and discusses the empirical results of the study. It begins with descriptive statistics for socio-demographic characteristics of casual workers in coffee production and primary processing within coffee estates in Kiambu County. Secondly, it presents descriptive statistics about decent work practices in relation to International Labour Organization (ILO) standards performed within the study area. It shows the current compliance with decent work among casual workers. Lastly, it presents the results of the Multivariate Probit model on factors influencing compliance with decent work in coffee estates in Kiambu County. Generally, coffee production and primary processing employ a high number of women, at 65.2 %, while men account for 34.8 % of all respondents. There is still low compliance in terms of social dialogue and security in the workplace which is shown by indices of 0.41 and 0.44 respectively.

4.1. Descriptive Statistics

4.1.1. Casual Employees' Characteristics

Table 3 below shows that the mean age of casual workers who are employed in Coffee estates is 36.28 years old. The majority of workers within coffee estates are 32 years old. The results are similar to the Indian coffee sector where 70% were in their 35 years old (Pinedo, 2020). This is because coffee needs energetic workers due to the tiresome practices that are done during coffee production and primary processing. The minimum age is 18 years old because employees who fall below that age are considered child labour, which is prohibited by ILO standards. Contrarily, results show that in Ethiopia, 21.6% of coffee workers were reported to be 14 years or less (Pinedo, 2020). The study done by Breeta and Amit (2020), on the decent work index for informal workers in India shows that the median age of respondents was 39 years old. And the minimum age was 16 years, while the maximum age was 76 years. Both men and women aged between 30 and 50 years play an active part in crop production (Onyemauwa *et al.*, 2007). This justifies the reason why the majority of casual workers in coffee production and primary processing are aged in their 30s.

Table 3: Descriptive statistics of respondents

	N	Minimum	Maximum	Mean	Mode	Std. Deviation
Age (Years)	385	18	68	36.28	32	11.377
Working experience (Years)	385	0.08	37	4.55	1	6.244

The mean working experience of workers within the coffee estates of Kiambu county is 4.5 years but the majority of workers have 1 year of experience because of the nature of seasonal coffee activities. Seasonality implies that estates normally employ workers to perform activities during peak season, and because there is no permanent contract, employees remain there while looking for other jobs. The minimum working experience was one month, while the maximum was 37 years. This is a different scenario compared to the formal working conditions. According to Ali (2013), the working experience was 7 to 10 years for the majority (38%) of workers in the formal employment sector in Tanzania. This high number of years depends on the working conditions that permanent workers get at their workplace due to their inclusion on the payroll of their companies and also being members of collective bargaining agreements (CBAs).

As shown in Table 4, the majority of sampled respondents were female, at a rate of 65.2 percent, while the males accounted for 34.8 percent. The high number of women in coffee production and primary processing could be due to how they are responsible for daily livelihood as well as the types of tasks they perform, such as weeding, picking, sorting, and grading, which are considered jobs for women. On the other hand, women generally have lower access to productive resources, including land, credit, and information, than men. This factor also compels women to participate in more casual employment within coffee production and primary processing compared to men. The results are supported by Farm Africa (2021), in its report about gender and the coffee value chain in Kanungu, Uganda, where the result shows that women contribute 58% of the labour force during fieldwork activities of coffee production, including weeding, pruning, and picking, and also 72% of the labour force in post-harvest handling activities as well as in primary processing. In addition, depending on the region, women provide 70% of the labour in coffee production (ICO, 2018). This is contrary to the

results published by Breeta and Amit (2020), where in rural areas, men occupy the largest percentage of casual employment as well as agricultural activities compared to women in India.

Table 4: Socio-demographic characteristics of respondents

Gender	Proportion (%)	Marital status (%)			Education (%)					Working Position (%)			
		(1=single, 2=married, 3= otherwise)	(1=no education, 2=primary, 3=secondary, 4=tertiary, 5=others)	(1=primary processing, 2=weeding, 3=pruning, 4=picking)	1	2	3	4	5	1	2	3	4
Female	65.2	28.3	60.6	11.1	3.6	60.2	32.3	3.2	0.7	29.1	10.4	13.1	47.4
Male	34.8	35.1	61.2	3.7	0	48.5	43.3	8.2	0	20.1	6.8	11.2	61.9
Total	100	30.6	60.8	8.6	2.3	56.1	36.2	4.9	0.5	25.9	9.1	12.4	52.5

The majority of respondents, 60.8 percent, are married. This is because the majority of workers are in the middle and active ages of their lives, and many individuals are married in this stage. This is a different scenario from the IT Sector Nizami and Prasad (2017) in their research about decent work and safe work within the IT industry in India, found that 62% of respondents were single, and the majority of those single status were male at 38% and women at 29%. The reason for these statistics was that the majority of respondents were aged between 20 and 30 years, which is considered the stage of getting basic needs to enter the marriage stage. The research found that 11.1% of women respondents and 3.7% of men respondents did not specify whether they are single or married.

The study showed that 56.1 percent attended primary school. This could be because, during the recruitment of casual employees, there are no specific requirements based on education level since the activities performed do not necessitate any technical expertise or a degree. The results are supported by Pinedo (2020), showing that the majority of workers within coffee farms do not go to schools beyond early secondary, this causes rare cases of observing university graduates being part of the coffee workforce. The majority of male respondents were more educated compared to female respondents. This inequality in education could be caused by the retrogressive of female genital mutilation, which implies passage from childhood to womanhood at a young age (Lorentzen, 2020; Njiru, 2014; Ondiek, 2010). Secondly, the past cultural aspects within rural areas encouraged female gender to concentrate

on household labour rather than schools. That aspect contributed to a small proportion of resources that parents invested in girls' education (Chege & Sifuna,2006). All these factors contributed to the termination of girls' education at the early education level so that they can engage in household and farm activities. Due to the harvesting season within the estates in the study area, 52.5 % of the casual workers were working as coffee pickers. Men prefer picking sections due to how every worker is paid according to the number of buckets harvested. This means that the more you pick, the more you get a high wage. This is one of the reasons that attract a lot of men to be in the picking sector.

4.1.2. Institutional Characteristics of Respondents

Table 5 is specific to the institutional characteristics of the respondents who participated in this study. The results show that 64.42% of the respondents work under private coffee estates, while the remaining 34.58% carry out their duties under public-private coffee estates. None of the respondents worked under government coffee estates. This high number of private coffee estates is due to the decision of the Government of Kenya to privatise the coffee estates by separating the coffee marketing and regulation roles that are under CBK. The reason for privatization was to allow the producers and the owners of coffee estates to retain part of their income in foreign currency (Nguri,2007). Nguri continued by showing the various challenges that came with the privatization of coffee estates. These challenges include irregular worker payment; low prices and wages; high input costs; disproportionate licensing of coffee millers; a lack of field extension services; and the removal of quotas from the coffee marketing system.

Table 5: Institutional characteristics of respondents

Estate ownership	Estate size (acres)				Coffee marketing channel (1=agent, 2= direct, 3= both)			Estate location (0=far from the main road, 1= near the main road)	
	150acres	220acres	345acres	512.5acres	1	2	3	0	1
Private	25.4%	24.6%	50%	0%	50%	0%	50%	50%	50%
Public-private	0%	0%	0%	100%	0%	0%	100%	0%	100%
Total	16.4%	15.8%	32.2%	35.6%	32.2%	0%	67.8%	32.2%	67.8%

Among the employees who worked under private coffee estates, 25.4% were under 150 acres estate, 24.6% under 220 acres estate, and 50% under 345 acres estate. Also, 50% of these employees responded that their estates marketed the coffee through marketing agents

while the remaining 50% marketed their coffee through both marketing agents and direct selling. This study showed that 50% of employees worked in private coffee estates that were nearby the main road while the remaining 50% were far from the main road.

Results showed that Public-private coffee estates had 512.5 acres. It is near the main road and it also markets its coffee by direct sale at 40 % and agents at 60%. A marketing agent negotiates with the coffee buyer from the foreign country and signs the sale contract which is then registered under the CBK. The board carries out the inspection before the ratification of the contract. During the inspection, CBK analyses the coffee quality and its value as per the sale's contract. There are numerous licensed marketing agents and CBK acts as a regulator. After selling, marketing agents bring sales to the coffee estates' management for them to receive the commission fee within 14 days (Nkonge, 2011).

4.2. Decent Work Practices in Relation to International Labour Organization (ILO) Standards Performed by Coffee Estates in Kiambu County.

Table 6 present the current situation within the study area for the achievement of decent work practices as per ILO standards. On the practices that are related to productive employment, results showed that respondents equivalent to 85% had decent wages, 78% had decent working hours, and 59.5% got work training. But on the other side, there was a low achievement of compensation in the case of overwork where only 37.1% of respondents got compensation for overworked hours. Contrary to the research about decent work compliance in Coté d'Ivoire, where respondents equivalent to 36% had a decent wage, 57.52% had decent working hours and 8.5% got professional training (Kouamé, 2017). Under the safety at work pillar, results showed that 92.7% of respondents did not experience forced labour, 99.2% did not experience sexual harassment, 87.3% did not experience discrimination in the workplace, and 89.9% experienced equal working opportunities between men and women casual workers. The respondents who claimed the deficit of equal working opportunities reported that men get hard and complicated tasks compared to women. There was a low achievement on other safety at workplace practices where only 20% of respondents had access to free protective kits and 43.9% did not have first aid skills in case of emergency. The respondents reported that the discrimination was based on the tribe and local language which was different from the majority of people in Kiambu.

On decent work practices under the social protection pillar, results showed that 61.3% of respondents had work schedules that allowed them to take on other family responsibilities, 60.8% were able to access free medical care in case of work injury or other work sicknesses, and only 27% of respondents were able to get non-financial benefits apart from medical and

other facilities mentioned above. The majority of respondents reported that they got non-financial benefits in terms of free accommodation, cooking woods, day care for respondents' children, Christmas party, and milk for those who work within estates that have livestock sections. Results showed that in terms of social dialogue, 58.7% of respondents get a notification before the end of their work, 53.2% experienced freedom for participating in the decision-making process about their work, and 23.9% had formal work agreements. This low rate of giving formal agreements depends on how coffee is a seasonal crop, which means that coffee estates' managers refuse to give formal agreements to the workers to avoid extra costs in case of low peak season. On the other side, the majority of respondents who had formal agreements were between one to three months agreements. This study showed the achievement of decent work practices more than other studies done in different areas of the planet. According to Oppong (2019), in his study about decent work and working poor in Ghana, 22.97% of respondents were able to get a decent salary, 76.08% got decent working hours, and only 4.14% accessed free medical care. In Coté d'Ivoire, 7.99% of the study respondents had a formal contract and 3.14% of respondents accessed the free medical service (Kouamé, 2017).

Table 6: Decent work practices in relation to ILO Standards.

Practices	Outcomes	Frequency %
Decent wages	Employees with wages above minimum basic wages	85
	Employees with wages below the minimum basic wages	15
Decent working hours	Employees with decent working hours per week	78.2
	Employees who work overtime hours per week	21.8
Overtime compensation	Employees who get compensation in case of overtime work	37.1
	Employees who do not get compensation in case of overtime work	62.9

Training	Employees who get training	59.5
	Employees who do not get training	40.5
Work agreement	Employees with a formal agreement	23.9
	Employees without a formal agreement	76.1
Forced labour rate	Employees under forced labour	7.3
	Employees not under forced labour	92.7
Notification before the end of the agreement	Employees who get a notification before the end of the agreement	58.7
	Employees who do not get the notification before the end of the agreement	41.3
Participation in family responsibilities	Employees whose schedules allow them to take on other family responsibilities	61.3
	Employees whose schedules do not allow them to take on other family responsibilities	38.7
Sexual harassment	Employees who face sexual harassment	0.8
	Employees who do not face sexual harassment	99.2
Discrimination	Employees who experience discrimination at work	12.7
	Employees who do not experience discrimination at work	87.3
Equal working opportunities	Employees who get equal working opportunities	89.9
	Employees who do not get equal working opportunities	10.1
Freedom for participation	Employees who get the freedom to participate in decision-making about their work activities	53.2

	Employees who do not get the freedom to participate in decision-making about their work activities	46.8
Non-financial benefits	Employees who get non-financial benefits	27.0
	Employees who do not get non-financial benefits	73.0
Protective kits	Employees who get free protectives kits while working	20.0
	Employees who do not get free protectives kits while working	80.0
Fast Aids skills	Employees who have fast aids skills in terms of emergency	43.9
	Employees who do not have fast aids skills in terms of emergency	56.1
Medical care	Employees who get free medical care in case of work injury	60.8
	Employees who do not get free medical care in case of work injury	39.2

4.3. The Compliance with Decent Work Practices by Coffee Estates in Kiambu County

Table 7 presents the Decent Work Indices (DWIs) based on four pillars of decent work that are adequate earnings and productive employment, safety at the workplace, social protection, and social dialogue. The mean decent work index based on adequate earnings and productive employment (DWI1) which equals 0.65 shows compliance with the adequate earnings and productive employment dimension. This index proves the high achievement with the productive employment practices as shown by selected indicators in table 6. This index is associated with how the majority of employees within the study area highly experienced decent wages, decent working hours, and work training. On the other hand, the index is not high as it is expected by ILO, because the majority of employees still experience zero compensation in case of overtime as shown by objective one results of this study.

Table 7: Decent work indices based on decent work pillars in Kiambu county

Variable	Observation	Mean	Std. Dev.	Min	Max
DWI1	385	0.65	0.292	0	1
DWI2	385	0.44	0.209	0	1
DWI3	385	0.51	0.314	0	1
DWI4	385	0.41	0.362	0	1

DWI1: decent work index on adequate earnings and productive employment, DWI2: decent work index on safety at workplace, DWI3: decent work index on social protection, DWI4: decent work index on social dialogue

The improvement in compliance with these mentioned productive employment pillars depend on the efforts that were done by the collective bargaining agreement-CBA to ensure the quality of employment among Kenyan coffee sectors, especially in coffee estates. CBA does not only ensure the pay level as the indicator of employment quality but also the working conditions and other benefits that can satisfy the workers' basic needs (Organization for Economic Cooperation and Development [OECD], 2017). CBA states the fixed minimum basic wage for unskilled employees who work within the coffee estate that are considered to be members. CBA also states 48 hours as decent working hours that employees should not exceed per week (FKE,2019). Coffee estates provided training to their employees to reduce the waste of coffee during different activities that are carried out in production and primary processing. Due to inconsistent supervision from CBA and ILO officials, some employees still get a deficit of decent work based on the productive employment pillar.

The decent work index based on safety at workplace dimension (DWI2) which is equal to 0.44 proves the low compliance with the safety indicators. This low index is associated with different factors. One of these factors is that casual workers within studied coffee estates in Kiambu County still get a deficit in terms of safety at workplace indicators. The research found that the majority of employees did not have access to free protective kits including gloves, raincoats, and dust coats when they are at their work. The safety at the workplace in coffee estates is different from other sectors of the economy. According to Nizami and Prasad (2017), compliance with safety in the workplace in the IT sector was very low and was also associated with negative effects due to the work pressure that exists in that sector to meet deadlines. This failure of compliance with safety at the workplace is connected to the low compliance of

productive employment where workers often experience longer working hours. The majority (54%) of the respondents in that research reported that they were admitted to the hospital due to work-related health problems that increased their stress levels. Workers reported that the nature of their work increased the chance of getting diseases including eyestrain, backache, stiff neck, depression, heart disease, and hypertension. Low compliance with safety at the workplace among casual workers was also found in India. Casual workers are always forced to work under unhealthy as well as dangerous conditions. The results showed that 45.9% of respondents reported that their jobs affect their health conditions. Workers also reported harassment at the workplace and the majority of these problems are found in rural areas where agricultural practices take place (Breeta & Amit, 2020). This shows that safety at work is the most sensitive pillar since it directly affects the workers' health.

The results showed that the decent work index based on social protection (DWI3) was equal to 0.51, and this implied medium compliance with social protection. This index is associated with how studied coffee estates partially comply with social protection practices. Based on the decent work indicators based on social protection, the majority of the respondents had work schedules that allowed them to take on other family responsibilities, and also the majority of employees had an access to free medical care in case of work-related injuries or sicknesses. The obtained DWI3 was lowered by the low provision of non-financial benefits to the workers within selected coffee estates. Lack of social protection contributes to the continuation of chronic poverty, stagnating yields, and acute vulnerability in rural parts of Africa (Kibrom *et al.*,2022). Factors that lead to the deficit of social protection in African countries are worsened by the underfunding of social protection systems (ILO,2021). This is because of a big gap in the budget provision of social protection benefits within many countries in Africa. The majority of companies invest more money to comply with other pillars of decent work, especially productive employment but they allocate limited funds to social protection. The inequity among informal economy, migrants, and minority groups also contribute to the deficit of social protection in many Sub-Saharan African countries (Melis & Raphaela, 2020). The statistics show that the informal employment sector in these countries takes up more than 80% of the total employment. The majority of casual workers within that sector do not experience social protection due to their exclusion from labour legislation. This makes them more vulnerable to the loss of their income in case of work injury and this result in poverty and poor working conditions (ILO, 2021).

The fourth decent work index (DWI4) was based on social dialogue. DWI4 which is equal to 0.41 showed low compliance with the social dialogue pillar of decent work. The

majority of casual workers within selected coffee estates of Kiambu County still get a deficit in terms of getting formal work agreements. This is because coffee is a seasonal crop which means that if estates make formal agreements with casual workers, it would increase the cost of operation incurred by the estates. Due to the lack of formal work agreements, employees also do not get the freedom to participate in making decisions about their wages and working conditions. This also results in the termination of jobs without notification, where employees report to the workplace and find that there is no work. The exclusion of casual workers from labour law legislation discourages them from being members of labour unions. This results in zero Trade union density of labour as well as a deficit in terms of collective bargaining. The 2030 Agenda provides an opportunity to strengthen and revitalise social dialogue processes throughout the world and at all levels. At the same time, social dialogue can make a considerable contribution to the implementation of the achievement of Sustainable Development Goals (ILO,2018). In Kenya, the collective negotiations within General Wage Council resulted in the increase of minimum wages to 18% in 2017. This increase had an immediate effect on domestic workers' wages by allowing them to exceed the minimum income required to be above the poverty line. The casual workers' negotiations that were organised within the Kenya Plantation and Agricultural Workers Union (KPAWU) and the Agricultural Employers Association (AEA) allowed tea and flower pickers to secure a 23% pay rise, which was included in their collective bargaining agreement (Otieno,2018). According to ILO (2019), the ratification of the National Tripartite Charter workers' social dialogue showed how organising casual workers allowed their representation in collective bargaining negotiations and resulted in improving the equality level within the informal as well as the formal sector of the economy in Burundi.

4.4 Factors Influencing the Compliance with Decent Work by Coffee Estates in Kiambu County.

Table 8 Shows The correlation matrix implies the weak correlation between dependent variables that are Compliance with productive employment, safety at workplace, social protection and social dialogue. This allows multivariate probit Model to analyze all the simultaneous equations independently.

Table 8: Correlation Matrix between dependent variables

Variables	Y1	Y2	Y3	Y4
Y1	1.0000			
Y2	0.0258	1.0000		
Y3	0.0376	0.2028	1.0000	
Y4	0.0179	0.0415	0.1453	1.0000

Y1: Productive employment, Y2: Safety at work place, Y3: Social protection and Y4: Social dialogue

Table 9 presents the factors influencing compliance with decent work within the studied coffee estates based on a Multivariate Probit Model. The Chi2 statistics which is equal to - 522.19 showed that the likelihood ratio was highly significant ($P < 0.000$). This implies that the Multivariate Probit Model had high explanatory power and also the best fit of the model. The covariance matrix which is denoted by $\rho_{21} = \rho_{31} = \rho_{41} = \rho_{32} = \rho_{42} = \rho_{43} = 0$, Implies that the rho-values are statistically significant at a 95% confidence level. This means rejection of the null hypothesis which assumes that all rho values are mutually equal to zero. This rejection implies the goodness of fit of the multivariate probit model that was used to analyze decent work compliance based on its four main pillars. The results from the model showed that out of 14 hypothesized variables, 13 of them (age, gender, marital status, education, the position of an employee, estate ownership, the estate size, coffee marketing channel, monthly salary, working hours, break time, training and ILO's inspection) significantly influence the compliance with decent work under its four pillars

Table 9: Multivariate probit results for the factors influencing decent work compliance in Kiambu County.

Variables	Productive employment			Safety at workplace			Social protection			Social dialogue		
	Coef.	Std.	P>z	Coef.	Std.	P>z	Coef.	Std.	P>z	Coef.	Std.	P>z
		Err.			Err.			Err.			Err.	
Gender	0.031	0.273	0.911	0.452	0.196	0.021**	0.101	0.166	0.544	0.325	0.208	0.118
Age	-0.002	0.013	0.900	-0.018	0.010	0.078*	0.002	0.008	0.787	0.016	0.011	0.140
Marital status	0.649	0.248	0.009***	0.182	0.164	0.269	0.067	0.138	0.630	-0.134	0.174	0.441
Education	0.290	0.218	0.183	-0.335	0.153	0.029**	-0.422	0.136	0.002***	0.126	0.161	0.435
Employee's position	-0.339	0.138	0.014**	-0.439	0.088	0.000***	0.083	0.080	0.295	-0.440	0.097	0.000***
Working experience	-0.014	0.026	0.582	-0.002	0.016	0.894	-0.023	0.014	0.104	0.006	0.016	0.723
Estate ownership	1.157	1.104	0.295	-0.533	0.873	0.542	2.0831	0.701	0.003***	2.626	0.885	0.003***
Estate size	-0.003	0.006	0.675	0.001	0.005	0.909	-0.010	0.004	0.013**	-0.019	0.005	0.000***
Coffee marketing	0.395	0.536	0.461	0.221	0.420	0.599	0.967	0.349	0.006***	1.302	0.443	0.003***
Monthly salary	0.001	0.001	0.000***	0.001	0.001	0.194	0.001	0.001	0.029**	0.001	0.001	0.214
Working hours	-0.210	0.040	0.000***	-0.006	0.017	0.741	0.003	0.016	0.873	0.040	0.019	0.039**

Breaktime	0.007	0.009	0.402	0.003	0.005	0.599	0.022	0.006	0.000***	0.0003	0.006	0.946
Training	3.048	0.355	0.000***	0.366	0.207	0.077*	0.474	0.160	0.003***	0.721	0.238	0.002***
Inspection from ILO	0.513	0.299	0.086	0.368	0.186	0.048**	0.495	0.160	0.002***	0.250	0.120	0.211
Constant	-1.576	2.725	0.563	1.101	1.813	0.544	-4.968	1.453	0.001***	-6.602	2.028	0.001***

Number of observations = 385, Wald chi2 (56) = 345.91, Log likelihood = -522.18583, Prob> chi2 = 0.0033,
rho21=rho31=rho41=rho32=rho42=rho43=0

The asterisk ***, ** and * Represents 1%, 5%, and 10% significant levels, respectively

The gender of the casual workers in coffee production and primary processing had a positive and significant influence on compliance with safety at the workplace at a 95% confidence level (Table 8). The male casual workers had a probability of 45.2% of complying with decent work based on safety at the workplace while women had a 54.8%. The positive correlation between gender and safety at the workplace pillar implies that male casual workers are tolerant of the harsh working conditions to achieve their target which is getting a salary. On the other hand, female casual workers do not tend to tolerate harsh working conditions thus lowering compliance with safety at the workplace. There is evidence in the literature on gender-based labour segmentation in most rural agricultural sectors. Women tend to be involved in a few sectors more than men. This segmentation implies the difficulty for women to switch to better jobs in new sectors of work. Agricultural rural employees face difficulties and gaps regarding the protection of their basic rights. Women experience the mentioned problems more compared to men, and this makes them quit (ILC,2008). This makes coffee estate owners care for women more than men in terms of safety at the workplace.

The age of the casual employee in the coffee estate had a negative and significant influence on the compliance of safety at the workplace at a 90% confidence level. This implies that a unit increase in the age of the casual worker who is in coffee production and primary processing reduces the likelihood of him experiencing safety at the workplace by 1.82%. This proves that the older the casual worker becomes, the less likelihood of getting safe at the workplace. This was supported by the literature which shows that workers who are in their mid-40s experience discrimination based on their age. The reason for this discrimination depends on how older workers are reduced to age-old physiological systems such as muscle fitness, stature, dexterity, and mobility (Brynes *et al.*, 2019). The findings prove that younger casual employees tend to get many practices concerning safety at the workplace due to their energetic conditions that allow them to work harder at their workplace. The coffee estate owners try their best to offer good working conditions as a way of making them stay since there are no barriers to exit. This is a bit contrary according to the study of Abdul Aziz *et al.* (2021), the worker who is old but who worked in the same institution for a long time tend to have safety compliance with organisation's safety culture due to their contribution to the sustainability within their working institutions. In this scenario, working institutions rely on older workers more than young workers. This reliability depends on different factors including their wide range of expertise, knowledge, skills, and commitment level. When an employee grows older, there is a high likelihood of experiencing an increase in decent work due to his working experience (Oppong,2019).

The worker's marital status had a positive and significant influence on compliance with adequate income and productive employment pillar at a 99% confidence level. This simply means that married casual workers who work in coffee production and primary processing tend to have adequate earnings and productive employment at 64.90%. This positive correlation between marital status and adequate earnings and productive employment means that once a worker is married there is a chance of increasing his/her salary, and compensation in case of overwork. This is because married people have more responsibilities that cannot allow them to stay where there is no decent working hours and income. Also, employers prefer married employees over single employees because they believe that married ones are responsible as well as stable. These reasons cause more payment and also fewer working hours for married employees as a way of making them comfortable and retaining them within their working sector (Banilla & Trejos, 2021; Mustafa, 2002). On the other hand, the majority of work supervisors are older and more likely to be married. This favours the married employees to get better pay because supervisors understand their life responsibilities compared to how they can understand those of single employees (Chun & Lee, 2001). The literature supports these findings by showing the positive correlation between marriage and earnings. This is because of how married individuals especially men increase their commitment to substantial work to achieve higher wage gain. This implies that when people stay in a marriage, the working hours decline while their wages increase. Also, there is a reverse relationship between salary and marriage, where a 10% increase in salary, increases the likelihood of entering marriage by 6% (Avner & Robert, 2005). According to Mustafa (2002), married male employees earned 25 to 50% of the wages higher than single men employees. Chun and Lee (2001) found that married workers earned 12.4% higher than those who never got married.

The education of casual employees had a negative and significant influence on compliance with safety at the workplace and social protection at 95% and 99% confidence levels respectively. A unit increase in the schooling year of the casual worker reduces the likelihood of him experiencing safety at the workplace at 33.5% and less likelihood of experiencing social protection at 42.2%. This is because the working conditions among casual workers who are doing their duties in coffee production and primary processing are almost the same. This is because all casual workers within coffee estates are considered unskilled labour. Research shows that being considered unskilled labour is associated with different risks over time, employment insecurity, sexual harassment, and no chance for upward mobility (Seneduangdeth *et al.*, 2018). This implies that workers who went to school do not get favourable conditions based on their qualifications. This is one of the reasons for the decent

work deficit among these individuals. The findings were supported by Breeta and Amit (2020), who found that the decent work index decreases as per the increase of years of schooling among rural casual workers compared to other categories of employees.

The position of the casual employees had a negative and significant influence on compliance with adequate earnings and productive employment at a 95% confidence level. It was also negatively significant on the compliance with safety in the workplace and social dialogue at a 99% confidence interval. The results prove that casual workers who carry out their duties under primary processing tend to have a probability of 38.8% to getting adequate earning and productive employment, 43.9% to experiencing safety at the workplace, and 43.98% to having a social dialogue. This is because the primary processing department plays a major role in processing quality coffee that will be marketed as per standards. The department also involves uniform activities that require highly experienced and consistent workers. For this reason, estate owners try to comply with decent work among the workers who are under primary processing for the sake of reducing workers' migration to other departments or neighbouring coffee estates.

Estate ownership had a positive and significant influence on compliance with social protection and also with social dialogue at a 99% confidence level. The findings imply that the casual workers who participate in the production and primary processing duties in Public-private coffee estates tend to have a high probability of complying with decent work based on social protection and an 88.55% probability of experiencing social dialogue practices. Similar findings show that employees within the private sector were found to experience a decent work deficit compared to public sector employees (Wan *et al.*, 2018). Also, the decent work deficit was more in the private sector at 81.14 % compared with other sectors of the economy in Ghana. In this country, workers who were performing their duties in Public-private sector complied with decent work at 59.35% (Oppong, 2019). The reason for this inequality between casual workers from private and Public-private coffee estates depends on how government plays a major part in the management of Public-private coffee estates. Government designs and implements the policies that contribute to the high performance of coffee production within coffee estates (Kuguru, 2016). This proves that workers who are under Public-private coffee estates were affected by established policies from the government and this gives them a high chance of complying with social protection and social dialogue compared to those from private coffee estates.

The size of the coffee estate had a negative and significant influence on compliance with social protection at a 95 % confidence level and also on compliance with social dialogue

at a 99% confidence level. This means that the unit increase of one acre in the size of the coffee estate tends to reduce the probability of coffee casual workers complying with social protection at 1.02% and also a low probability of compliance with social dialogue at 1.92%. The reason behind this is that small farms produce higher yields than large farms (Muhammad& Mazhar, 2022). It implies that the farm output declines with farm size in many developing countries (Ali& Deininger, 2015; Foster &Rosenzweig, 2017). This makes farm managers reduce the labour required per unit of land as farm size increases (Barret *et al.*, 2010). This reduction of workers as per the increase in farm size makes casual workers in coffee production and primary processing experience a deficit in compliance with decent work practices related to heavy tasks and also a lack of freedom in giving suggestions about their working conditions.

The coffee marketing channel had a positive and significant influence on the compliance with social protection and social dialogue pillars of decent work at a 99% confidence level. The findings show that the workers under coffee estates that market their coffee through both agents and direct channels tend to have a 96.7% probability of experiencing social protection and a high probability of complying with social dialogue. This is because marketing by using both direct and agent methods reduced marketing challenges that affect the returns on the investments. On the other side, the combination of these two methods contributed to the reduction of marketing transaction costs among coffee estates (Nkonge, 2011). This means that the coffee estates that are using both methods of marketing reduce marketing costs compared to those using agents. This contributed to the promotion of decent work practices as the result of minimized costs. Coffee estates became better off due to high earnings from the sold yield at minimum cost and this influenced them to comply with social protection and social dialogue for their employees.

The monthly salary of the casual employees had a positive and significant influence on compliance with adequate earnings and production employment at a 99% confidence level. It also had a positive and significant influence on compliance with social protection at a 95% confidence level. This simply means an increment of one Kenyan shilling to the monthly salary tends to increase the probability of casual workers experiencing adequate earnings and productive employment at 0.06%. Again, the same increment tends to increase the probability of complying with social protection at 0.01%. The increase in wages is associated with decent wages that are expected by ILO (ILO,2013). This means that as the coffee estates increase the workers' wages, the casual workers approach the level of getting minimum wages as well as above the minimum wages. This is one of the motivations that make employees improve their ways of performing activities under coffee production and primary processing.

Working hours had a negative and significant influence on compliance with adequate earnings and productive employment at a 99% confidence level. It also positively influences compliance with social dialogue at a 95% confidence interval. A unit increase of one working hour per week is associated with a decrease in the probability of complying with productive employment at 21%. Employees do not prefer regular long working hours due to the effect of long working hours on their health. These effects are not limited to individual workers only, they even affect their families and the community at large (Golden, 2015; Spurgeon, 2003, Wong *et al.*, 2019). Long working hours increase occurring chances of work accidents due to workers' body stresses and thus contribute to the loss of enterprises (Carmichael, 2015; Mourre, 2004). The study findings are related to Shepard and Clifton (2000), long working hours affect individual workers' productivity as well as the enterprise at low. Employees working for excessively long hours regularly reported high fatigue, loss of job satisfaction, and low work motivation. This led to a high rate of absenteeism that increased costs within the enterprises. On this, few working hours lead to decent working hours and also attract high-performing employees and reduce costs that are associated with occupational injuries and sicknesses linked with excess working hours (Kossek & Lee, 2008). A one-working hour increase per week increases the probability of complying with social dialogue by 3.95%.

Breaktime had a positive and significant influence on compliance with social protection at the 99% confidence level. A one-minute increase in breaktime tends to increase the probability of coffee casual workers getting social protection by 2.21%. The results imply that as the duration of break time increases, casual workers got time to rest and this has a positive impact on their health. Breaktime favours employees to participate in other family responsibilities after work as well as during break time. The literature shows that work break time positively impacts the physical health of the employee. During break time labourers can take lunch, nape, and walk around which impacts employees' health. The opposite scenario is that short break time increased fatigue at work and this affected negatively the labourer's health (Saifullah *et al.*, 2021). According to Scholz *et al.* (2019), work breaks play an important role by offering workers time to recover from work-related problems of strain after a busy schedule and also to improve their work performance, mental and physical fitness, and safety at the workplace.

Training had a positive and significant influence on compliance with adequate earnings and productive employment, social protection, and social dialogue at a 99% confidence level and safety at the workplace at a 90% confidence level. The findings imply that the offering of training to the casual workers who are performing their duties under coffee production and

primary processing tends to have a high probability of complying with adequate and productive employment pillar and also complying with safety at the workplace, social protection, and social dialogue by 36.83%, 47.44%, and 72.11% respectively. Similarly, effective training contributes to the improved performance of employees. It bridges the gap between current and desired standards of performance. Training allows organisations to make the best use of human resources for gaining a competitive advantage (Jie, 2005). According to David (2006), training sharpens employees' thinking ability and creativity to take better decisions on time and a productive manner.

The ILO inspection had a positive and significant influence on the compliance of safety at the workplace and social protection at 95% and 99% confidence levels respectively. Casual workers who are doing their jobs under coffee estates inspected by ILO tend to have a higher probability of experiencing compliance with safety at the workplace and social protection by 36.83% and 49.50% respectively. The institutions which were subjected to labour inspection exhibited a highly significant level of compliance with safety regulations compared to institutions that were not subjected to labour inspections (Dahl, 2013). The finds supported by Baldock *et al.* (2006), found that labour inspections indicate that public resources used on control and enforcement in a given sector serve one of its intended purposes of improving compliance with health and safety requirements within enterprises.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents conclusions drawn from the findings of the analysis and then gives recommendations on what is proposed to be improved and for further research. The overall objective of this study was to assess the factors influencing decent work practices in production and primary processing within coffee estates with a view to initiating appropriate interventions, including informing coffee development initiatives and policies. The specific objectives of the study included; To determine decent work practices in relation to International Labour Organization (ILO) standards performed by Coffee Estates in Kiambu County, determining compliance with decent work by Coffee Estates in Kiambu County, and determining the factors that influence compliance with decent work practices by Coffee Estates in Kiambu County. For achieving these objectives, the researcher collected data by using questionnaires. Multivariate Probit Model was used to assess the factors that influence compliance with decent work within coffee estates in Kiambu county. Below are the research conclusions in relation to the objectives of the study.

5.2. Conclusions

The first objective of the study was to determine decent work practices in relation to International Labour Organization (ILO) standards performed by Coffee Estates in Kiambu County. The results show that the coffee estates have highly met practices in relation to ILO standards including decent wages, decent working hours, zero forced labour, zero sexual harassment, no discrimination and equal working opportunities between men and women casual workers. On the other hand, coffee estates make medium achievements in practices including workers' training, notification before termination of work agreement, work schedules that allow workers to participate in other family responsibilities, freedom for participation in coffee estates decisions, and free medical care in case of a work injury. Further, the results show the coffee estates' weaknesses in achieving some decent work practices including overtime compensation, provision of formal work agreements, non-financial benefits, provision of free protective kits, and provision of first aid skills.

Concerning the objective two which was about the compliance with decent work by Coffee Estates in Kiambu County, the calculated decent work indices show high compliance with adequate earnings and productive employment pillar. This compliance depends on the majority of casual workers who are performing their duties under coffee estates that are under

Collective Bargaining Agreements (CBA). The results show medium compliance with the social protection pillar of decent work. Contrarily, research findings show low compliance with safety at the workplace and social protection among casual workers who perform their duties under coffee production and primary processing.

Finally, the results on factors influencing decent work compliance show that age, gender, marital status, education, the position of an employee, estate ownership, the estate size, coffee marketing channel, monthly salary, working hours, break time, training, and ILO's inspection significantly influenced the compliance with decent work. Based on the compliance with each pillar, the result indicate that marital status, monthly salary, and training positively influenced compliance with adequate earnings and productive employment while employment position and working hours negatively influenced compliance to this pillar. The compliance with safety in the workplace is positively influenced by gender, training, and inspection from ILO, while it was negatively influenced by age, education, and employee position. Social protection is positively influenced by estate ownership, coffee marketing channels, monthly salary, break time training, and inspection from ILO, while it was negatively influenced by education and estate. Lastly, estate ownership, coffee marketing channels, working hours, and training positively influenced compliance with social dialogue. Compliance with this pillar is also negatively influenced by the position of the employee and the size of the estates.

5.3 Recommendations

- i. Based on the results, coffee estates owners and managers in Kiambu County are recommended to put more tripartite efforts in complying with safety at the workplace and social dialogue practices as per ILO standards instead of only focusing on productive employment and social dialogue.
- ii. Government and ILO officers are recommended to have the consistent supervisions to ensure the compliance with decent work especially safety at workplace and social protection pillars within coffee production and primary processing in Kiambu county.
- iii. Policy makers are recommended to consider all factors that influence the compliance of decent work within coffee production and primary processing when making policy briefs.

5.4. Further Research

Further study should look at the effect of decent work compliance on the livelihoods of casual employees within coffee production and primary processing in Kenya.

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APPENDICES

Appendix A: Research questionnaire

My name is Joseph Mbuta MUNYENTWARI, doing MSc in Agri-enterprise development at Egerton university. I am doing my research on the factors influencing decent practices in coffee production and primary processing. The case of coffee estates in Kiambu county, Kenya for academic purposes. I selected you to be one of the respondents in my research, and I kindly request your attention during this interview which cannot go beyond 30 minutes. The information provided shall be held strictly confidential and the information will used for the academic purpose only.

Do you consent to provide information for this survey?

Yes.....

No.....

If you agree, please make a mark or signature here

.....

Name of employee

.....

Questionnaire numberPhone number.....

Date.....Estate name.....

Section A: Social and demographic characteristics

1. Gender of employee? 1. male 2. female
2. Age of employee?.....years
3. Marital status? 1. Single 2. Married 3. Otherwise
4. Education background? 1. No education 2. Primary 3. Secondary
4. Tertiary 5. others (specify).....
5. Position of employee? 1. Processing 2. Weeding 3. Pruning 4. Picking

6. How many years have you worked in a coffee estate?years

Section B: Institutional characteristics

7. Where is the estate located? 1. Near the main road 2. Far from the main road

Section C: Employment conditions

8. What is your estimated monthly earning (KES)?.....

9. Do you get your pay on regular basis? 1. Yes, 2. No

10. How many hours do you work per day?.....

11. Do you get compensation for overtime work? 1. Yes, 2. No

12. Do you have a formal agreement before you start your job? 1. Yes, 2. No

13. Are you forced to do some kinds of work that are out of your contract agreement? 1. Yes, 2. No

14. Does your employer notify you before ending the employment agreement/contract? 1. Yes, 2. No

15. Does your work schedule allow you to combine work with family responsibilities? 1. Yes, 2. No

16. Are you allowed break time during working hours? 1. Yes, 2. No

16.b) if yes, how many minutes?.....

17. Do you get the same salary as other workers that are doing a similar job as yours? 1. Yes, 2. No

18. Is there sexual harassment at your workplace? 1. Yes, 2. No

18b. If yes, in what terms/consequences (should the employee refuse)?

19. Do you experience discrimination based on the following factors?

- Gender? 1. Yes 2. No

- Tribe? 1. Yes 2. No
- Political party? 1. Yes, 2. No
- Political opinion? 1. Yes, 2. No
- Family status? 1. Yes, 2. No
- Age? 1. Yes, 2. No
- Disability? 1. Yes 2. No
- Language? 1. Yes 2. No
- Marital status? 1. Yes, 2. No
- Physical appearance? 1. Yes, 2. No

20. Is there equal working opportunities between men and women in your estate? 1. Yes, 2. No

21. If no, what are the inequalities?

22. Do the workers have the freedom to participate in estate decision-making about their salary and working other conditions 1. Yes, 2. No

23. Do you get training on coffee production and primary processing? 1. Yes, 2. No

24. Do you get other non-financial benefits from working in a coffee estate? 1. Yes, 2. No

24.b) if yes, what are they?.....

.....

.....

.....

Section D: Health and safety at workplace characteristics

25. Is your workplace safe and healthy? 1. Very unsafe, 2. Unsafe 3. Neutral 4. Safe 5. Very safe

26. Does your employer provide protective kits at free cost? 1. Yes, 2. No

27. Are you equipped by First aid skills that can help you in the case of a work accident?

1. Yes, 2. No

28. Does your estate get an inspection from International Labour Organization (ILO) at least one time a year to assess its compliance with ILO labour standards? 1. Yes, 2.

No

29. Do you access free medical care in case of work injury or sickness? 1. Yes, 2.

No

Check List for Top Management

1. Who is the owner of your working estate? 1. Government 2. Private Co 3. Individual

2. How big is the coffee estate?.....acres

3a. How does the estate market its coffee? 1. Marketing agent....2. Directly...

3b. If directly, Which market is the estate selling the coffee?1. Export 2. Local market

4. Which type of employment agreement do the estate have for its employees? 1. Formal

2. Informal

Appendix B: Multivariate Probit Results

Iteration 0: log likelihood = -531.96239
 Iteration 1: log likelihood = -525.83101
 Iteration 2: log likelihood = -522.36274
 Iteration 3: log likelihood = -522.18623
 Iteration 4: log likelihood = -522.18583
 Iteration 5: log likelihood = -522.18583

Multivariate probit (MSL, # draws = 5) Number of obs = 385
 Wald chi2(56) = 345.91
 Log likelihood = -522.18583 Prob > chi2 = 0.0000

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Y1					
Gender1male0female	.0305074	.2733407	0.11	0.911	-.5052305 .5662454
Ageyears	-.001619	.0129347	-0.13	0.900	-.0269705 .0237325
Maritalstatus1single2marr	.64908	.247591	2.62	0.009	.1638105 1.134349
Education1noeducation2pr	-.2897917	.2175026	-1.33	0.183	-.1365056 -.7160891
Positionofemployee1processi	-.3386804	.1376703	-2.46	0.014	-.6085093 -.0688515
Workingexperienceyears	-.0144257	.0262224	-0.55	0.582	-.0658206 .0369693
Estateownership1Govt2Pr	1.157269	1.104295	1.05	0.295	-1.007109 3.321647
Estate1sizeAcres	-.002696	.0063832	-0.42	0.673	-.0152069 .0098149
CoffeeMarketing1Agent2d	.3951498	.5357988	0.74	0.461	-.6549965 1.445296
Monthlysalary	.0006527	.0001275	5.12	0.000	.0004029 .0009025
workinghourperweek	-.2100405	.0395629	-5.31	0.000	-.2875822 -.1324987
Breaktime1minutes	.0074099	.0088493	0.84	0.402	-.0099343 .0247541
Training1yes0no	3.047482	.354942	8.59	0.000	2.351809 3.743156
InspectionfromILO1yes0no	.5130908	.2990022	1.72	0.086	-.0729427 1.099124
_cons	-1.575475	2.725226	-0.58	0.563	-6.916818 3.765869
Y2					
Gender1male0female	.4520549	.1954686	2.31	0.021	.0689435 .8351662
Ageyears	-.0181766	.0103072	-1.76	0.078	-.0383783 .0020252
Maritalstatus1single2marr	.1815343	.1641776	1.11	0.269	-.1402479 .5033165
Education1noeducation2pr	-.3351267	.1533702	-2.19	0.029	-.6357267 -.0345267
Positionofemployee1processi	-.4389984	.0882662	-4.97	0.000	-.6119969 -.2659998
Workingexperienceyears	-.0021278	.0159101	-0.13	0.894	-.033311 .0290555
Estateownership1Govt2Pr	-.5329545	.8732127	-0.61	0.542	-2.24432 1.178611
Estate1sizeAcres	-.0005808	.0050626	-0.11	0.909	-.0105034 .0093418
CoffeeMarketing1Agent2d	.2208544	.4196688	0.53	0.599	-.6016813 1.04339
Monthlysalary	.0000907	.0000699	1.30	0.194	-.0000463 .0002278
workinghourperweek	-.0055771	.0168396	-0.33	0.741	-.0385822 .027428
Breaktime1minutes	.0030945	.0053017	0.58	0.559	-.0072967 .0134857
Training1yes0no	.3655615	.2064669	1.77	0.077	-.0391061 .7702291
InspectionfromILO1yes0no	.3683163	.1863072	1.98	0.048	-.0031608 7.334718
_cons	1.100502	1.813013	0.61	0.544	-2.452937 4.653942
Y3					
Gender1male0female	.100819	.1660017	0.61	0.544	-.2245382 .4261763
Ageyears	.0022823	.0084475	0.27	0.787	-.0142745 .018939
Maritalstatus1single2marr	.0664812	.1379094	0.48	0.630	-.2038162 .3367785
Education1noeducation2pr	-.4220046	.1360654	-3.10	0.002	-.6886879 -.1553213
Positionofemployee1processi	.0833224	.0795704	1.05	0.295	-.0726327 .2392775
Workingexperienceyears	-.0233399	.0143602	-1.63	0.104	-.0514853 .0048055
Estateownership1Govt2Pr	2.083153	.7012743	2.97	0.003	.7086807 3.457625
Estate1sizeAcres	-.0102139	.0041293	-2.47	0.013	-.0183072 -.0021206
CoffeeMarketing1Agent2d	.966629	.3485157	2.77	0.006	.2835509 1.6497707
Monthlysalary	.0001138	.0000522	2.18	0.029	.0000115 .0002162
workinghourperweek	.0025575	.8159836	0.16	0.873	-.0287698 .0338847
Breaktime1minutes	.0221725	.0055557	3.99	0.000	.0112834 .0330615
Training1yes0no	.4743728	.1598223	2.97	0.003	.1611255 .7876202
InspectionfromILO1yes0no	.4949698	.1607468	3.08	0.002	.1799119 .8100277
_cons	-4.967761	1.452933	-3.42	0.001	-7.815457 -2.120066
Y4					
Gender1male0female	.3254323	.2079021	1.57	0.118	-.0820484 .732913
Ageyears	.0157131	.0106538	1.47	0.140	-.005168 .0365941
Maritalstatus1single2marr	-.1342812	.1743992	-0.77	0.441	-.4760974 .2075351
Education1noeducation2pr	.1258564	.1613596	0.78	0.435	-.1904027 .4421155
Positionofemployee1processi	-.439841	.0969707	-4.54	0.000	-.6299 -.2497919
Workingexperienceyears	.0057723	.0163044	0.35	0.723	-.0261838 .0377284
Estateownership1Govt2Pr	2.626444	.8850706	2.97	0.003	.8917376 4.36115
Estate1sizeAcres	-.0192442	.0051738	-3.72	0.000	-.0293847 -.0091038
CoffeeMarketing1Agent2d	1.302393	.443512	2.94	0.003	.4331257 2.171661
Monthlysalary	.0000967	.0000777	1.24	0.214	-.0000557 .0002491
workinghourperweek	.0394757	.0190845	2.07	0.039	.0020708 .0768806
Breaktime1minutes	.0003818	.0056421	0.07	0.946	-.0106766 .0114401
Training1yes0no	.7211355	.2375249	3.04	0.002	.2555953 1.186676
InspectionfromILO1yes0no	.2500124	.1997246	1.25	0.211	-.1414406 .6414654
_cons	-6.602377	2.027473	-3.26	0.001	-10.576515 -2.628602
/atrho21	.0643442	.1721295	0.37	0.709	-.2730234 .4017118
/atrho31	.1296087	.1236106	1.05	0.294	-.1126637 .3718811
/atrho41	.0038754	.1542148	0.03	0.980	-.2983801 .3061308
/atrho32	.1091512	.1089344	1.00	0.316	-.1043562 .3226586
/atrho42	.5055033	.1271331	3.98	0.000	.256327 .7546795
/atrho43	-.1703122	.1223144	-1.39	0.164	-.4100441 .0694197
rho21	.0642556	.1714188	0.37	0.708	-.2664358 .3814127
rho31	.1288878	.1215572	1.06	0.289	-.1121894 .355636
rho41	.0038753	.1542125	0.03	0.980	-.2898295 .2969131
rho32	.1087198	.1076468	1.01	0.313	-.103979 .3119089
rho42	.4664342	.0994739	4.69	0.000	.2508569 .6379324
rho43	-.1686844	.1188341	-1.42	0.156	-.3885101 .0693084

Likelihood ratio test of rho21 = rho31 = rho41 = rho32 = rho42 = rho43 = 0:
 chi2(6) = 19.5531 Prob > chi2 = 0.0033

Appendix C: Summary Statistics of Decent Work Indices

```
. summarize DWI1 DWI2 DWI3 DWI4
```

Variable	Obs	Mean	Std. Dev.	Min	Max
DWI1	385	.6525974	.2919154	0	1
DWI2	385	.4350649	.2088636	0	1
DWI3	385	.5064935	.3137032	0	1
DWI4	385	.412987	.362051	0	1

Appendix D: Research Permit National Commission for Science Technology and Innovation (NACOSTI) Clearance Certificate


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Appendix E: Publications

Factors Influencing the Compliance with Decent Work in Coffee Production and Primary Processing in Kenya

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Abstract: Coffee is one of the cash crops that contributes more to the Kenya's exports and also provides 30% of agricultural jobs. However, casual workers within coffee estates still get challenging employment conditions including long working hours, unfair wages, limited work security, and lack of collective bargaining that results in poor living standards. Moreover, no research that shows factors influencing compliance with decent work in the Kenyan coffee. This study sought to provide new literature about factors influencing decent work compliance in production and primary processing within Coffee estates in Kiambu county. Snowballing sampling method was used to collect data among 385 respondents from four coffee estates. Multivariate probit model was used to determine the significance of hypothesized factors to the compliance of decent work. Results showed that age, gender, marital status, education, the position of an employee, estate ownership, the estate size, coffee marketing channel, monthly salary, working hours, break time, training, and ILO's inspection were significantly influencing the compliance with decent work. Moreover, there is a need of a collaboration between government of Kenya and International Labour Organisation to put into the place the consistent inspections to ensure the compliance of decent work in coffee production and primary processing.

Keywords: Decent Work, coffee, productive, employment, labour, safety

Abbreviations: AFA- Agriculture and Food Authority, CBA- Collective Bargaining Agreements, CIDP- County Integrated Development Plan, DWCP- Decent Work Country Programme, GoK- Government of Kenya, ICO- International Coffee Organisation, ILO- International Labour Organisation, MLE- Maximum