UNIVERSITY OF CAPE COAST

ENVIRONMENTAL SUSTAINABILITY AND DECENT WORK POTENTIALS AMONG ORGANIC PINEAPPLE FARMERS IN THE EKUMFI DISTRICT IN THE CENTRAL REGION OF GHANA

BY

SHARONROSE ADOM ASIAW

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidates Signature…… Date……..……

Name: Sharonrose Adom Asiaw

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on the supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature……..……..Date……..

Name: Associate Professor Angela Dziedzom Akorsu

ABSTRACT

The agricultural sector is critical to a country's overall economy because it employs more people than any other sector in many nations around the world. The introduction of neoliberal policies which concentrated much on the economic aspect of agriculture took away the interest in environmental and social concerns. Yet, for agriculture to be sustainable, there is the need to pay attention to all three dimensions of sustainability. Even though neoliberal policies have been argued to contribute to economic improvement, sustainability is weak if it does not improve the social and environmental dimensions. The study sought to explore environmental sustainability and decent work potentials among organic pineapple farmers in the Ekumfi District. An interpretivist approach which uses a qualitative research design was adopted. The target population was organic pineapple farmers, farmworkers, and stakeholders/ key informants in the Ekumfi District. It adopted the purposive sampling procedure, and data was collected using interviews and focus group discussions. The study concludes that organic pineapple farming promotes environmental sustainability. This is because farmers adopt the best organic practices based on organic principles, which present their activities as very safe since they do not engage in the use of harmful chemicals and burning. Also, the decent work indicators give organic pineapple farmers good work conditions, better access to training, credit, safety and increase in income. The study recommends that government policies need to focus on areas with the greatest potential for organic farming and set policies to favour the work conditions of farmers.

KEY WORDS

Decent work

Environmental sustainability

Organic farmers and farmworkers

Organic pineapple

Sustainable agriculture

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DEDICATION

To my mum, confidant, and counsellor, Mrs. Grace Hammond Asiaw.

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LIST OF ACRONYMS

ACCOPPS	Adwendaho Organic Pineapple Producers and Suppliers
AMOPPA	Adwumadzen ma Mpontu Organic Pineapple Producers Association
EDA	Ekumfi District Assembly
EMT	Ecological Modernisation Theory
EPA	Environmental Protection Agency
FAGE	Federation of Association of Ghanaian Exporters
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussion
GDWPP	Ghana Decent Work Pilot Project
GSS	Ghana Statistical Service
HPW	Hans Peter Werder fresh and dry
IFOAM	International Federation of Organic Agriculture Movements
ILO	International Labour Organisation
MoFA	Ministry of Food and Agriculture
NGO	Non-Governmental Organisation
SDG	Sustainable Development Goal
SPEG	Sea-Freight Pineapple Exporters of Ghana
SSA	Sub-Saharan Africa
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

CHAPTER ONE

INTRODUCTION

This chapter serves as an introduction to the thesis. The background, problem statement, research objectives, research questions, significance and organisation of the study are all discussed here. The overall aim is to provide a discussion on how the neoliberal policies have paid so much attention to the economic dimension of sustainability, at the detriment of the environmental and social dimensions. It explains environmental sustainability and decent work potentials in achieving sustainability among organic pineapple farmers in the Ekumfi district.

Background to the study

Sustaining the agricultural sector is an essential tool for development because it is projected to feed more than nine billion people by 2050 globally (Food and Agriculture Organisation, 2017). It employs more people than any other sector in many developing countries (Abbas, 2022). The agricultural sector accounts for about seventy-two percent of employment in Sub-Saharan Africa (SSA), thereby making it crucial within the context of sustainable development and poverty reduction (Omodero, 2021).

In Ghana, the agricultural sector is primarily traditional, small holder, rain-fed, and employs about fifty-two percent of the labour force (Assan, Suvedi, Schmitt & Allen, 2018). This necessitates the promotion of agriculture and its sustainability, amidst the growing population globally. Sustaining the sector will mean the integration of environmental health, economic profitability, and social equity, which corresponds to the three dimensions of sustainable development (environmental, social and economic).

The introduction of neoliberal policies have contributed to economic development (Delibasic, 2019) however, its sustainability cannot be guaranteed if it does not improve the social and environmental dimensions of sustainable agriculture (Evans & Sewell, 2013). It is important to pay attention to the social and environmental dimensions of sustainable agriculture because they are essential components of a sustainable future. The social dimension ensures that development activities are equitable, just and inclusive. This means promoting social cohesion, diversity and empowerment of marginalised communities.

The environmental dimension of sustainability also ensures reducing waste, pollution, and promoting sustainable use of resources. It focuses on the preservation of capital and linked to both the social and economic dimensions. The integration of the three dimensions of sustainable development is not merely an aspiration, but critical for the survival of societies, ecosystems, and economies (Purvis, Mao & Robinson, 2019). By paying attention to both social and environmental dimensions which has been neglected due to neoliberal policies, it can be ensured that the needs of the present generation are met, without compromising the ability of the future generations to meet their own needs.

The economic concerns of agriculture which are mainly driven by neoliberal theories, emanating from the structural adjustment programmes as identified by Connell & Dados (2014) are the dominant ideology shaping the world today. The neoliberal theory postulates that the elimination of state intervention in economic activities, the deregulation of labour and financial markets, as well as trade and investments, have released capitalism's great potential to usher in an unprecedented period of social well-being. This has placed so much emphasis on capital creation (wealth making, productivity,

efficiency, profit making). Policy experts are still in disagreement over whether economic growth is necessary for sustainable development on its own (Ncube, Shimeles & Verdier-Chouchane, 2013). This debate is motivated by the reality that, despite the strong economic growth statistics, improved living standards and environmental sustainability are not occurring across the continent. To achieve sustainability, the three dimensions of sustainable development must be critically looked at. Organic farming can therefore serve as the connecting element in addressing the issue of environmental and social sustainability.

Organic farming is a component of a strategic plan for transforming to a green economy which is low in carbon, sustains the economy, improves social fairness and human well-being, while dramatically lowering environmental hazards and ecological scarcities (United Nations Environment Programme, 2011). As an environmentally sustainable practice, organic farming encompasses various sustainability goals such as Good health and wellbeing, Decent work and economic growth, and Climate action (Goals 3, 8 and 13 respectively)

Consumers growing interest in organic food products is motivated by health and safety concerns (Chassy et al. 2014), environmental benefits, and equity concerns (Baker et al. 2002). As a result, some consumers spend 5-25% or even higher (Chassy et al. 2014) for organic food. While the environmental and economic benefits of organic agriculture are widely recognized in most countries such as Ghana, there are concerns about its ability to meet other societal needs, particularly food security. The Commission on Sustainable Development (CSD)'s examination of the agricultural sector expressed policymakers' worries about organic farming processes and outcomes. Hence, recent developments in organic

farming focuses on improving indigenous and traditional practices to support sustainable agriculture.

Organic farming has its roots in traditional farming practices utilised in rural areas around the world (Morgera, Caro, & Durán, 2012). Farmers passed down knowledge of effective practices on to subsequent generations. Organic farming is an important way to adapt to climate change since it makes use of indigenous knowledge (Niggli, Schmid & Flieβbach, 2008). This knowledge is important for manipulating complex agro-ecosystems, for breeding locally adjusted seeds and livestock (Niggli et al., 2008), and for producing on-farm fertilisers (compost, manure, green manure) and inexpensive nature-derived pesticides. The knowledge has also been described as a reservoir of adaptations (Food and Agricultural Organisation, 2007). The inclusion of indigenous knowledge as a characteristic of organic farming is important in terms of adaptation and crop development (Muller & Davis 2009).

Generally, organic farming is thought to be environmentally friendly since insecticides, herbicides, and chemical fertilisers are entirely avoided (Lorenz & Lal, 2016). According to Nandwani & Nwosisi (2016), the use of pesticides in organic systems is reduced, making it one of the most important reasons why consumers patronise organic produce. The farming systems consume less energy as compared to conventional systems of production due to their less reliance on energy-intensive fertilisers, chemicals, and concentrated feed (Ziesemer, 2007). This presents organic farming as safe to both the environment, and decent for humans working within the system.

In order to realise the potential of organic farming towards sustainability, decent work is key (International Labour Organisation, 2013). According to the

ILO criteria, decent work is defined as jobs that respect fundamental rights, provide access to jobs and living salaries, provide social protection, and promote ongoing social dialogue. This concept shows a clear link between decent work and sustainability. That is, moving towards environmentally sustainable methods such as organic farming will mean that sustainability is economically viable, ecologically balanced, and socially equitable.

The objective of creating more decent jobs to improve the quality of jobs for those employed is clearly in line with the transition to a more sustainable economy, currently being advocated under the ILO's ―Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All‖. As organic farming prohibits the use of chemical pesticides, it positively contributes to attaining Sustainable Development Goal (SDG) 3 and 8 and improving the working conditions of farmers and farm workers. Promoting decent work objectives such as right to work, provision of social protection, employment, and social dialogue for farmers is not only essential for addressing the constraints of work deficits. However, it is important in improving the livelihoods of workers (Saagbul, 2019), thereby satisfying the social dimension of sustainable agriculture.

Although the industry has the potential to provide millions of jobs in the 21st century, literature analysis reveals that there is no guarantee that these opportunities will lead to equitable working conditions for majority of the people who work in the sector (Scheyvens & Russell, 2012: Beuchelt & Badstue, 2013). The working conditions of farmers then become crucial to the greening of economies since they are a key component and essential prerequisite for attaining sustainable development and reducing poverty. SDG 8 clearly stipulates decent

work, as a tool for increasing social justice and people's standard of living. SDG 8 also makes a direct reference to decent work and mentions social dialogue as key to realising the Sustainable Development Goals and reducing inequality.

In addressing agricultural challenges, strengthening social dialogue, which is a component of decent work, is noted as key since it is often used to perform key functions of building consensus, promoting fairness, and maintaining social cohesion. This promotes inclusiveness in the agricultural sector, making sure that no one is left behind in the attempt to achieve sustainability. This is associated with the Social Justice Theory, which focuses on the concept of fairness in interpersonal relationships as well as equitable access to income, opportunity, and social privileges in society. As explained by the social justice theory, farmers and farmworkers then get involved in shaping the decisions that affect their operations and help to address the issue of equity and fairness in the sector.

In most pineapple growing regions in Ghana, the Ekumfi district in the Central region is home to many organic pineapple producers and has the greatest share of organic certified pineapple farmers in the country (Ghana Statistical Service, 2014). However, the realisation of decent work potentials of these farmers and farmworkers is deficient in terms of provision of social security, opportunities for social dialogue, employment opportunities and right to work (Ekumfi District Agricultural Office, 2022). Focusing on organic pineapple and decent work in the Ekumfi district can tackle both the social and environmental dimensions of sustainable agriculture, as well as the economic dimension, which together, promote a strong sustainable development.

Problem statement

In 2019, Ghana placed 12th in overall pineapple output, accounting for 2.41% of global production, with majority of the production coming from the Central Region (FAO, 2019). In 2013, a GH¢1.2 million organic sugar-loaf pineapple growing project was then established at Essarkyir in the Ekumfi District to develop and improve sugar-loaf pineapple and reduce poverty in the district. The two-year project was supposed to help 277 smallholder farmers in the district, but to date, the area is faced with challenges such as poor working conditions, pest infestation, and a lack of market for product, making the district one of the poorest in the region (Aidoo, 2021). Although organic practices are noted to promote environmental sustainability, farm practices in the Ekumfi district do not present their activities as safe and lowly or moderately sustainable (Yeboah et al., 2021).

The future of work is dependent on achieving environmental sustainability and decent work opportunities. These two ideas are not mutually exclusive; rather, they reinforce one another. Promoting environmental sustainability and decent work potentials, can create a more resilient, inclusive and prosperous society for all.

The economic dimension of sustainability has been the focal point in extant literature looking at the relationship between economic development and organic farming in Ghana (Aidoo, 2021; Gbedemah Swatson-Oppong, & Adanu, 2021; Boakye, 2020). Kleemann (2011) also showed the relationship between organic farming and how it creates opportunities for price premiums and contractual relations with exporters, which also increase income in Ghana‘s

economy. Boateng (2018) notes that organic farming, which incorporates local inputs and practices that are readily accessible to farmers and farmworkers, increases production efficiency, leading to a higher production and large market potential. Boateng (2018), Kleemann (2011), and other scholars have focused on the economic impacts of organic farming and paid little attention to the environmental and social dimensions of organic farming.

Scholars have also discussed diverse issues concerning environmental sustainability using different environmental indicators (Agyekum, Botchway, Adinyira, & Opoku, 2022; Aboagye, 2017), but the extent to which it is reflected in organic farming is inconclusive. The evidence as to whether organic farming is environmentally friendly is also scarce (Armanda, Guinée, & Tukker, 2019; Kolade, Egbetokun, Rae & Hussain, 2020). Authors such as Muller & Davis, (2009) and Seufert, (2012) note that given the current consumption pattern, organic farming cannot be environmentally sustainable because more lands and forests will be converted to grow food crops to feed the growing population. Others also note that some benefits of organic farming such as preventing erosion and restoring soil quality can be done more expeditiously with conventional agricultural methods than through organic practices (Tal, 2018 and Katra et al., 2016).

Contrary to these, Gomiero, Pimentel & Paoletti, (2011), Rahmann et al., (2017) and Reganold & Wachter (2016) indicate that organic farming provides greater ecological benefits, that can restore depleted soils and prevent erosion.

Few of these studies have also used the decent work framework to measure the social dimension of sustainable agriculture especially in the Ekumfi district. Organic farming in the district is noted to create employment, which is a social

dimension of sustainable development (Gbedemah et al, 2021). Nonetheless, the mere creation of employment is not enough since employment alone does not paint the true picture of the living conditions of people in the sector. Studies conducted by Dumont, & Baret, (2017), and Sharma (2011) have looked at the prevailing working conditions of farmers and farmworkers in organic agriculture and noted that, employment conditions of workers are poor.

Ghana Statistical Service, (2021) also estimates that 80.1% of workers in Ghana do not have subsidised health care at their workplaces, the most of whom are engaged in the informal economy. Against this backdrop, it is paradoxical when advocates of organic farming refer to mere employment creation as a robust tool to improve decent work conditions. This research seeks to use the decent work framework, which is all encompassing, as a necessary and sufficient tool in addressing social problems and promoting social sustainability.

It is in the light of these that the research seeks to focus on environmental sustainability and decent work potentials among organic farmers, as means to achieving sustainable agriculture. This is particularly needful because concentrating on the economic dimension alone does not give a holistic view of what sustainable agriculture entails. Hence, the incorporation of both the social and environmental dimensions in the present study.

Research objectives

The overall objective is to explore environmental sustainability and decent work potentials of organic pineapple farming in the Ekumfi District in the Central Region of Ghana. Specifically, the study seeks to:

1. Explore organic farming practices in relation to best environmental sustainability practices in the Ekumfi district in the Central region of Ghana.
2. Examine decent work conditions among organic pineapple farmers in the Ekumfi district in the Central region of Ghana.
3. Assess how practicing organic pineapple farming promotes environmental sustainability and decent work in the Ekumfi district in the Central region of Ghana.

Research questions

The overall objective seeks to answer the following research questions.

1. What are the environmentally sustainable characteristics of organic pineapple farming in the Ekumfi district in the Central Region of Ghana?
2. What are the decent work conditions in organic pineapple farming in the Ekumfi district in the Central region of Ghana?
3. How does practicing organic pineapple farming promote environmental sustainability and decent work in the Ekumfi district in the Central Region of Ghana?

Significance of the study

The significance of this study is to influence existing knowledge, policy, and practice. It is expected that the outcome of the study will guide efforts by policymakers and organisations in achieving sustainability. To the state, the findings and results of the study will offer an understanding of the importance of integrating the three dimensions of sustainable development in organic farming implementation since focusing on one will be at the detriment of the other. To farmers, the outcome of the study will enlighten them in ways that that will help

them develop appropriate strategies to integrate all the three dimensions of sustainable development in organic farming production. To researchers, the results of the study will serve as useful literature that provides insight into the environmental and social dimensions of sustainability in terms of organic farming.

Delimitation

Geographically, the study was conducted in the Central Region's Ekumfi district. Four communities were selected for this study. Although there are pineapple farms in several parts of Ghana, the Ekumfi district in the Central Region was chosen because it contributes a substantial amount to the country's pineapple production. Additionally, the purpose was to investigate the many ideas, customs, practices, and decent work conditions of farmers and farmworkers engaged in organic farming.

Limitation

This study contains limitations, just like any other study. It is critical to remember that the geographical setting of this study and the fact that participants' responses were based on their subjective points of view mean that the study's conclusions cannot be generalised. This type of study should have been longitudinal, but due to time restrictions, it is unable to observe and record the changes in variables over an extended period

Definition of terms

Organic farming

Organic farming is a farming technique that entails raising crops and caring for them without using synthetic fertilisers and pesticides to preserve soil fertility and ecological balance.

Decent work

Decent work is productive work for women and men in conditions of freedom, equity, security and human dignity. It encapsulates what people hope to achieve in their careers. For this study, decent work and decent work potentials will be used interchangeably.

Sustainable agriculture

Sustainable agriculture is an agricultural system that seeks to sustain farmers, resources and communities by promoting farming practices and methods that are profitable, environmentally sound and good for communities.

Environmental sustainability

Environmental sustainability is a responsible interaction with the environment that will allow for long-term environmental quality and prevent the depletion or destruction of natural resources.

Organisation of study

This study is divided into five chapters. Chapter One consists of the background of the study, the statement of problem, research questions underlying the study, the significance and purpose of the study, and lastly the general structure of the thesis. Chapter Two also presents a review of relevant literature on theories, concepts, and empirical evidence. The chapter concludes with a conceptual framework which underscores the key concepts at the basis of the study, which will later inform the data gathered and its analysis.

Chapter Three explains the research methods employed for the study. It discusses the research design, study area and the study population. It also captures the data collection methods, the instruments used and the processing procedures and its analysis. Chapter four presents the study results and findings per the

objectives outlined in the study. The final chapter summarises, concludes, and gives recommendations based on the findings. The chapter also identifies areas which need further research.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In explaining the extent to which Organic farming and decent work helps to achieve sustainability, this chapter reviews various related literature on theories and concepts, empirical evidence of studies, and proposes a conceptual framework. The two theoretical foundations that have bearings on this subject matter and have been discussed are the Ecological Modernisation Theory and the Social Justice Theory. The Ecological Modernisation Theory helps in understanding ways to achieve a sustainable environment by adopting environmentally friendly practices while the Social Justice Theory helps in explaining fairness between individuals in society and equal access to wealth, opportunities, and social privileges. Concepts such as sustainability, environmental sustainability, organic farming, as well as decent Work (job opportunities, social dialogue, safe work environment, adequate pay and equal treatment and opportunity) are discussed here.

Theoretical Review

This section of the study reviewed the theoretical underpinnings of the study which were the ecological modernization theory and the social justice theory. The social justice theory compliments the ecological modernization theory in addressing the social issues of sustainability, hence the need for two theories for this study.

Ecological Modernisation Theory

Ecological Modernisation Theory's origins can be traced back to German theorists Martin Jänicke and Josef Huber (Mol & Spaargaren, 2000; Spaargaren & Mol, 1992). Ecological Modernisation Theory (EMT) believes that environmental sustainability is viable and can be achieved through the existing framework of economic and political systems. The theory deals with institutional changes that are required to deal with the problem of environmental development. It is both a social theory and political programme. EMT as a social theory discusses changes required in central institutions, and as a political programme, it attempts to bring strategic policies to address environmental problems.

The concept of ecological modernisation implies that it is possible, through the development of new and integrated technologies, to reduce the consumption of raw materials, as well as the emissions of various pollutants, while at the same time creating innovative and competitive products (Zhu et al., 2012). Hence, it is an optimistic message; a message that has an impact on the existing institutions, and as such, should be expected to bring about structural adjustments and changes in production and consumption. The main tools in this process are science and technological innovation (Andersen & Massa 2000). While science is used to detect possible dangers, technological innovation is the tool to develop alternative paths of development (Mol & Spaargaren 2000, 2005). Ecological modernisation theory requires that there is government regulation and strict policy (structural transformation) in agricultural activities. In Ghana, the Biosafety Act, 2011 (Act 831) and the Biosafety Framework are the recent national agricultural policies on crops and innovative crop technology (Hardcastle, 2015). The Plants and Fertiliser Act, 2010 (Act 803) is also a

strategic approach to regulate plant protection, seeds, and fertiliser control and related matters, in order to preserve the environment.

According to the theory, there will be cultural ecological enlightenment where people are educated to see the value of green technology. The culture of advanced societies will become ecologically enlightened in the sense that they begin to see the limits of unregulated economic activity, contamination, pollution and then demand safe and clean environmental conditions (York, Rosa, & Dietz, 2010). Producers in this system also adopt production processes that are greener as well.

Buttel (2020) also explains EMT as a transfer of responsibilities, incentives, and tasks from the state to the market. This will advance and accelerate the ecological transformation process, mainly because the market is considered to be a more efficient and effective mechanism for coordinating the tackling of environmental problems than the state (Mol & Carter, 2006). The central idea is not a withering away of the state in environmental management, but rather a transformation in the relation between state and society.

The idea of Buttel (2020) seems to be in favour of the neoliberal agenda because maximising the role of the market and minimising the role of the state will eventually lead to competition, which is the main driver of human affairs. Concentration will then be shifted from care for the environment to wealth and capital accumulation. Minimising the role of the state will also mean reduced environmental regulation. However, Cavagnaro, & Curiel (2022); Purvis, Mao & Robinson (2019); Wu & Sardo (2010) emphasises that in order to achieve sustainability, concentration should be given to all aspects of sustainability.

In summary, the discussion on Ecological Modernisation Theory makes a case for the need to adopt government regulations, innovation and cultural enlightenment, as a means to achieving sustainable environment. Thus, when there is innovation and people are enlightened on the benefits of organic farming, they will act in ways to protect the environment. It further explains that government intervention will bring about structural transformation. However, the ecological modernisation theory does not focus on the issues of social justice. Even though people will be enlightened and concerned about the environment, they will not behave in ways that protect it because humans are concerned about situational and work conditions (Blackett, 2011). This makes it necessary to adopt another theory, hence the social justice theory.

Social Justice Theory

Generally, social justice refers to the idea of building a society or an institution based on the ideals of equality and solidarity, and appreciates human rights, and values each and every person's inherent worth (Bates, 2006). Social justice is the way human rights are represented in the everyday lives of persons of every level of society (Scanlon, 1972). The principles of social justice are listed as human rights, equality, and respect for life and human dignity. Justice is the central concept according to Rawls.

Fraser (2008) also defines justice as parity of participation. Fraser is of the view that under this radical–democratic understanding of the idea of equal moral worth, justice calls for social structures that enable everyone to engage in social life as peers. Fraser (2008) refers to mechanisms that prevent people from accessing chances they need to interact with others as peers as institutionalised obstacles. Therefore, addressing injustice entails removing institutionalised

obstacles that inhibit certain people from taking part equally as full partners in social interaction with others.

All societies, according to the social justice theory, have a fundamental framework of formal and informal social, economic, and political institutions. Justice is ensured by these institutions. Justice prevails when there is agreement by the persons who are subject to the social structure of a society. Social justice encourages rationality; a rationality that does not invalidate the ideas of others especially subordinates who are the historically underprivileged groups in the African setting which includes for example, women, orphans, and children. Thus, social justice demands a deep commitment to rationality, autonomy, democracy, fairness, and equity (Corning, 2011; Fraser, 2008; Polat, 2011; Sen, 2012).

Social justice has a recognised component that addresses issues that are more cultural than economic or political. Social justice theory further emphasises that communication between individuals in a society becomes significant only when there is a positive horizontal relationship as against vertical relationship. Since organic farming makes use of cultural methods, and mostly practiced by people in rural communities, it promotes a positive horizontal relationship between farmers and their workers. Horizontal in a sense that everyone is seen to be at the same level in society, and not vertically where communication between individuals is ranked. Thus, the top- down approach in communication. This approach sometimes deprives people of some rights in society (Wessells et al., 2015). At workplaces, Adair, (2022) asserts that fair and inclusive workplace factors generate a large return on investments. She explains that in order to eliminate poverty and improve the lives of workers, employer engagement is

essential. Inclusive workplace factors are also a right as noted in the ILO Decent work agenda.

The rights claimed by social justice theory are backed by the United Nations (UN) Declaration of Human Rights, which declared, _All human beings are born free and equal in dignity and right‘ (UN, 1948). The social justice theory can be connected to the ILO's Declarations on Fundamental Principles and Rights at Work (Croucher, Kelly & Miles, 2011). Accordingly, the ILO Declaration on Social Justice for Fair Globalisation advised member states to consider the creation of suitable indicators in order to track and assess development (ILO, 2002).

Ten substantive elements, which correspond to the four strategic pillars of the Decent Work Agenda (full and productive employment, rights at work, social protection and the promotion of social dialogue), are covered by the ILO Framework Work Indicators. These indicators include job possibilities, adequate pay and productive work, reasonable working hours, balancing work, family, and personal obligations, work that should be abolished, stability and security of employment, equal opportunity and treatment in the workplace, safe workplace environment, social security, and participation in social dialogue. These indicators, when applied to the organic pineapple sector, could promote decent work.

This study is focused on environmental sustainability and decent work potentials in organic pineapple farming, for which the concentration will be on four elements of the decent work indicators. For the purpose of the study, decent work will be limited mainly to the four ILO indicators (employment, rights at work, social protection and social dialogue).

Conceptual Review

Sustainable agriculture

The term sustainable agriculture, in its contemporary sense, was first used in the United States in the early 1980s to describe a farming strategy that should resemble natural ecosystems. Sustainable agriculture, as defined by Jayaratne (2001), is an agricultural system that is economically lucrative, environmentally sound, and socially responsible. It focuses on strategies and processes that increase soil productivity while minimising negative impacts on the climate, soil, water, air, biodiversity, and human health (Shah & Wu 2019). Besides this, sustainable agriculture ensures that current and future generations' basic nutritional needs are met in both quantity and quality.

Diao & Lu, (2022) mentions that culture-oriented things can be considered sustainable. According to them, when the western agricultural model is applied to other continents, it frequently ignores or disregards many different types of indigenous resources, such as insects and other arthropods, earthworms, small vertebrates, and wild plants, which is considered as food in some parts of the world. Due to the Western belief that they are not real food, these local resources are frequently overlooked but then, they can significantly contribute to ensuring food security in underdeveloped rural areas (Ochatt & Jain, 2007; Paoletti, 2005). Mockshell & Kamanda (2018) also emphasise that sustainable agriculture should focus on maintaining the natural resource base, particularly soil and water, and relying on a minimal amount of artificial inputs from outside the farm system. It should also focus on recovering from the disturbances caused by cultivation and harvesting while being financially and socially viable.

This suggests that an adequate representation of a sustainable system necessitates a multidimensional, or multi-criteria, approach, in which numerous dimensions (such as the economic, environmental, and social dimensions) and numerous levels of analysis (such as farmers, consumers, governments, and international agreements) must be taken into consideration at the same time (Asiedu-Ayeh, 2022). It is commonly acknowledged that evaluating agricultural sustainability needs embracing a variety of different scales, criteria, and sets of indicators due to its complex, multidimensional character.

Environmental sustainability and organic farming

The term sustainability has generally been used to refer to environmental issues since the 1970s through the 1990s (Giovannoni, & Fabietti, 2013), with interests spanning from global ecological issues to the goal of greatly lowering industrial pollution (Kidd, 1992). The natural environment is significant from the standpoint of environmental sustainability since it is characterised as a source of priceless resources and a repository for waste. The natural environment, which comprises the air, soil, water, and plants (biodiversity), preserves key environmental functions and forms the cornerstone of sustainable agriculture. For instance, high soil fertility is an essential component of sustainable agricultural systems.

Supporters of organic farming have hailed it as a system that can protect the environment, mitigate the consequences of climate change, and be more robust in the face of an uncertain future. This is not to imply that organic farming is automatically more environmentally friendly, but rather that organic farming's guiding principles and values support and reinforce the necessity of reclaiming what has been taken from the environment and of developing harmonious

systems that support and safeguard the very sources from which we obtain our food. Some key divers of organic farming include environmental sustainability, soil health, animal welfare, avoidance of synthetic input, and consumer demand.

For many years, experts have investigated and debated whether organic farming enhances biodiversity (Chamberlain et al., 2010; Dhiman 2020; Leifeld 2012; Tuomisto et al., 2012). Numerous studies have suggested that organic farming is typically associated with higher levels of biodiversity, including those by Hodgson et al. (2010), Clough et al. (2007), and Hawes et al. (2010). It is possible that this resulted from the prohibition of artificial fertilisers and pesticides. Information is somewhat scarce only in respect to soil erosion (Lynch, Halberg & Bhatta, 2012). The results from Lynch, Halberg & Bhatta (2012) shows that organic farming tends to sustain soil fertility better than conventional agricultural practices. This is mostly due to the increased amounts of biological activity and organic matter found in soils used for organic farming, and the use of indigenous knowledge. Additionally, there is great potential for erosion reduction with organic farming.

Organic farming and economic benefits

The idea of economic sustainability takes into account how resources are used so that they benefit future generations as well as the present. From the standpoint of sustainability, which is largely economic, the capacity of an economy to maintain a particular level of economic output over the long term is crucial (De-Pablos-Heredero et al., 2018). The profitability of organic farming for farmers, especially small- holder farmers, depends on organic yields, the price premium associated with organic products, and the cost of producing them. These elements can all change significantly between systems and over time. On one

hand, organic farmers frequently obtain better and more consistent prices for their produce (Bacon 2005; Bolwig et al. 2009; Valkila 2009), while organic inputs are frequently less expensive, resulting in reduced total production costs (Eyhorn et al. 2007; Valkila 2009).

Inversely, organic production has high entry costs, including higher labour demands that are frequently incompatible with household resources, the requirement for greater skill and training, high certification costs, and occasionally the need to buy expensive organic inputs (Bray et al. 2002; Calo & Wise 2005; Chongtham et al. 2010). These expenses are made worse during the transitional phase when conventional agriculture is converted in accordance with organic standards. During this time, organic practices are adopted, but the products cannot yet be sold at a premium price since they are not yet certified organic. This makes organic farming very expensive.

Organic farming and social benefits

Social sustainability is committed to addressing society's welfare needs, such as advancing gender equality, preserving indigenous knowledge, and ending child labour (Magni, 2017). According to Lebacq et al. (2013), social sustainability connects to issues of the farming community, the welfare of farmers and their families, and the level of societal expectations, including values and concerns.

Kleemann et al. (2014) also assert that the conditions in which organic farmers operate may have an impact on how Ghana's organic industry develops and how agriculture is sustained. This includes the information systems that are available, farmer networks, the tenure and security of the land, the community's or region's institutional structure, and the cultural proximity to traditional

agriculture. On the other hand, Dumont and Baret (2017) believe that these socioeconomic and political elements do not provide better experiences for farmers and may not be able to sustain agriculture. This is due to the bad working conditions that exist in all agricultural systems, except for the agroecological MGM system. They contend that the context and trade-offs farmers must make between social, ecological, and economic aspects of sustainable agriculture are the fundamental causes of the job and employment conditions. These trade-offs depend on the sort of agricultural system, which in turn depends on the producers' professional backgrounds, ancestry, work habits, sociocultural heritage, beliefs, and values.

Decent work concept

ILO defines a decent work as opportunities for men and women to obtain decent work and productive work under the conditions of freedom, security, equity, and human dignity. The decent work concept of the ILO has become pertinent in current conceptual debates in labour market analysis and is also shaping the global development agenda called Sustainable Development Goal until 2030 (UNDP, 2015). The concept highlights the importance of labour standards in ensuring improvement in the lives of humans. It is necessary to pay attention to decent work in order to attain progress in human development (ILO, 2013). All types of workers and employers in both the formal and the informal labour markets are expected to benefit from the ILO_s goal of promoting opportunities for women and men to obtain decent and productive work (ILO, 2010).

Decent Work has become an internationally accepted reference point and is recognised not only as an end but as an essential means of achieving global

development goals (ILO, 2015). All the four broad pillars of decent work such as employment, social dialogue, social protection, and workers‘ rights are closely linked with activities in the agricultural sector.

Employment as an element of decent work

The decent work agenda can increase chances for people to find productive job and make a decent living (ILO, 2002). By providing farmers and farm workers with resources that improve their ability to identify possibilities for productive employment, decent wages can be attained. These inputs include financial services, market knowledge, skill development, and legislation that enable the poor to engage in economic activity, make use of their resources, and grow their markets (Ghai, 2003). Employment growth is crucial to sustainability and is directly related to economic expansion and development.

Organic farming is generally understood to require additional labour in comparison to conventional practices, including greater human labour needs to weed crops and manage rotation cycles because of the (sometimes) greater use of the underlying complexities of agroecosystems (Jansen, 2000; Vandermeer & Perfecto, 2017). The use and cultivation of mixed farming and labour- intensive crops like fruits and vegetables creates the need for additional on-site employment (Jansen, 2000; Morrison et al., 2005). Organic research institutes and trade and policy advocacy organisations have steadily issued reports stating that organic farming uses more labour.

While the organic system required 35 percent more labour than the conventional system, this hired labour is spread out over the growing season, meaning that on an annual basis, the hired labour costs per ha are about equal between the two systems (Pimentel, 2006). Organic production is therefore

associated with greater opportunities for permanent employment (Strochlic et al., 2009). Greater durations of employment raise the possibility that organic farms provide better quality jobs, at least in terms of short-term job security. The ability of farm workers to organise and agitate for their own interests could be increased by this greater duration and classification as fulltime/regular rather than seasonal workers, although there are numerous other barriers, including a lack of interest in supporting workers‘ rights on the part of many farm owners (Akorsu & Odoi, 2017).

Workers right as an element of decent work

Workers' rights assess adherence to the core values and rights at work protected by ILO conventions that have been adopted by various jurisdictions. These are reflected in the core labour standards of the ILO as freedom from child labour, freedom from forced labour, and freedom from discrimination. The ILO demands that the environments in which people work be improved. That is, whether work is done at home, in the community, the formal or informal economy, or in the nonprofit sector (ILO, 2015).

The equal overall access to employment for women is a key component of the work rights issue. However, gender biases are reflected in all dimensions. In the social realm, where it affects family structure specifically, gender disparity is represented in an even more severe way. The lack of rights typically makes it more difficult for women to access equality. The ability of women to look for work outside the home exposes social inequalities that are present in agriculture clearly. Their lack of independence has a variety of negative impacts on their ability to participate in society and determine the family's top objectives for welfare.

Child labour is a further sign of workers' rights, and it falls under both the umbrella of workplace rights and unique human rights concerns. Children who are employed frequently miss out on educational opportunities and are unable to develop the skills they will need as adults. Additionally, they may be required to perform tasks that directly endanger their health. Ultimately, children ought not to be working unless that work is non-damaging and demonstrably a part of their education itself.

The right to a safe workplace or one that is not dangerous are additional crucial markers of workers' rights. It is both the obligation of the employer and what inevitably becomes the right of the employee. Thus, in order to ensure their safety, the employer is required to provide protective apparel and both workers and employers also mandated to use. It is widely acknowledged that if rights are upheld, poverty may be dramatically decreased. Thus, fundamental labour rights are crucial for both the development of the human capital needed for long-term progress and the economies of individual nations.

Social protection and safety as an element of decent work

The goals of social protection are to lessen socioeconomic hazards, vulnerability, extreme poverty, and deprivation in agriculture (Tirivayi, Knowles, & Davis, 2016). According to literature, a person's decision to participate in a social protection scheme depends on a variety of circumstances. These variables include the socioeconomic characteristics of the individual, institutional variables, and pension product characteristics (Mensah, 2016). According to Karamcheva & Sanzenbacher (2014), married and educated farmers are more likely to take part in pension plans, whereas younger farmers and women are less likely to do so. Most likely, educated farmers are considered knowledgeable and aware of the

advantages of pension packages, which influences their decision to participate in such acts or programmes.

In terms of safety, farming exposes workers to weather and environmental factors as they carry out their work. Ambient air temperature, humidity, wind, dust storms, precipitation and solar radiation are important potential hazards. While some agricultural enterprises in the developed world control such factors by using greenhouses, tunnels and conditioned caves, most agricultural activities in places like Ghana occur out of doors and is subject to ambient thermal, environmental, and lighting conditions. The principal hazards to workers result from prolonged exposure to hot or cold working environments. Long hours of work, particularly intense manual labour, contribute to workers fatigue and lead to accidents on the job.

Improvement in occupational safety and health enhances productivity by lessening the number of interruptions by reducing absence, by decreasing the number of accidents and by improving work efficiency (Sorensen et al., 2019). It is to the benefit of the workers because they then run less risk of injury or illness. Improvement in safety also contributes to job security and well-being. Safety practices go hand in hand with the improvement of workplace conditions (Eklöf, Törner & Pousette, 2014), implying that when there is improvement in safety, it translates to improvement in working conditions.

It is also important to also note that, through elimination of synthetic inputs in farms, organic farming reduces the risk of farmers being exposed to chemical pesticides (Seufert, 2012). Jouzi et al., (2017) reveal that 99% of pesticide fatalities in the world occur in developing countries where illiteracy and poverty among rural population are widespread and farmers are usually poor and

have very little knowledge of the safety protocols of chemical pesticide usage. Soto Mas et al., (2018) states that there are relevant safety/health-related factors which may be unique to the organic farmer such as being more health-conscious, paying more attention to their own health, and reporting health concerns more readily.

Social dialogue as an element of decent work

The advantages of social dialogue in achieving sustainable development cannot be overstated because it is a core feature of decent work and provides a form of governance in workplaces (Hermans, Huyse, & Van Ongevalle, 2016). Yet, the idea of social dialogue has been defined differently across space over the years (Asafu-Adjaye, 2016; ILO, 2014; Ishikawa, 2003). Based on the recognition by the ILO that the definition and concept of social dialogue vary from country to country over the years, social dialogue now presents three different notions; negotiation, consultation and exchange of information and the relationship between these different forms is based on the intensity of dialogue (Ishikawa, 2003).

The practice of social dialogue carries the potential of promoting better living and working conditions, and greater social justice, through promoting consensus- building and democratic involvement of the major stakeholders (Dragoshi & Pappa, 2015). It requires social partners that have the capacity, and will to engage responsibly, and the strength and flexibility to adjust to contemporary conditions and exploit new prospects (ILO, 2014). Social dialogue allows workers to exercise their rights, to present their views, protect their interests and welfare as well as to engage in discussions to negotiate work-related matters with employers and authorities (ILO, 2007). It is a means of achieving

wider input into and understanding and acceptance of social and economic policies as well as greater democratisation.

Social dialogue can lead to variations in the status of workers from social and economic exclusion to acknowledgement of their voice and giving them broader representation. It is clear that social dialogue as decent work element can be an essential conduit for promoting the conditions of workers. It also serves as a tool for mobilising and addressing workplace pitfalls. Additionally, social dialogue promotes the goal of decent work of the ILO, which strives for economic development, and social justice, including respect for freedom of association and collective bargaining, social safety nets and eradication of discrimination (Ahn, 2008; Akorsu & Britwum 2018).

Empirical Review

In several regions of the world, there is evidence of numerous research that have been done on environmental sustainability, organic pineapple farming, and decent work (Kleeman 2011; Kleeman, Abdulai & Buss 2014; Montt, Fraga & Harsdorff 2018; Moller, Davila & Esim 2019). This section reviews some research that describes organic pineapple farming and its potential for environmental sustainability and decent work.

Organic farming is often perceived as environmentally sustainable because it is noted to be less polluting. Meemken & Qaim (2018) in their research investigated whether organic farming is the solution to reducing environmental footprint and increasing production at the same time. They addressed this issue by reviewing extensive literature on various aspects of certified organic farming, including economic, social, environmental, and health effects. They addressed the issue by adopting a quantitative approach. Their findings revealed that organic

farming is environmentally friendly per unit of land and not per unit of output. This is because of the lower average yield obtained with organic agriculture. They state that the bans of synthetic fertilisers, and pesticides, in organic farming make plant nutrition and pest control more difficult and often less effective. Due to the higher knowledge requirements in organic farming currently, they observed that yield gaps between organic and conventional methods might increase if a larger number of farmers would switch to organic practices.

Meemken & Qaim (2018) expressed that, the conclusion that organic farming is not the global blueprint for sustainable agriculture does not mean that organic methods cannot be useful in specific situations. Under certain conditions, organic farming could be clearly positive for the environment, even when the effects are measured per unit of output. Experience showed that farmers could benefit as well when they are linked to certified markets in which consumers are able and willing to pay a significant price premium for organically produced foods. However, the environmental footprint of agricultural production needs to be reduced for mass markets as well. This will require new technologies and production methods that conserve natural resources and make farming more resilient and less dependent on chemical inputs.

Meemken & Qaim (2018) suggest that solutions have to be locally adapted, taking into account all promising areas of science. Neither conventional nor organic methods currently have perfect answers to these challenges. Sustainable production systems will likely require smart integration of both types of agriculture. Organic methods are well suited to reduce land degradation and improve soil quality, but in many situations, crop productivity and environmental efficiency could be further improved if these methods were combined with

moderate levels of synthetic fertilisers and the newest insights into plant genetic improvement.

In a similar study on organic farming, Kleemann (2011) tries to shed light on the feasibility and profitability of organic small-scale production, by using value chain analysis for the case of the pineapple sector in Ghana, and extensive data from the European market, analysed quantitatively. The study noted that though smallholders tend to have quality problems with their fruit and large farms benefit from economies of scale, production for the export market is a realistic option. The results indicate that organic production is more profitable for smallholders and farmers collect a fair share of the price premium on the retail level. Even more, from a theoretical perspective, organic farmers should also be more likely to get into contractual relations with exporters. The results are set into perspective with relation to the debates on small versus large farms and environmental impact.

Kleemann (2011) concluded that evidence is so far scarce on the question if organic small-scale farming is environmentally sustainable in a developing country-small farm context. The study stated that if farmers do not maintain soil fertility using organic production techniques, then organic production might be more environmentally friendly in terms of chemical use but less sustainable in terms of soil fertility levels. This is reinforced if there is a selection bias where small-scale farmers that are already producing in a low input organic way by default are more likely to apply for certification.

Finley et al., (2018) also investigated whether organic farming present greater opportunities for employment and community development than conventional farming. The authors examined countywide averages of contracted

farm labour from the USDA's 2007 Agriculture Census with data from a mirrored survey of organic farms in the same counties in Washington and California. They quantitatively tested the basic proposition that organic farming employs more labour than the average (usually conventional) farm, as a contribution to the determination of whether organic farming can be part of a viable job- creation strategy. The results found that organic farms hire more workers/acre and employ a greater proportion of full-time employees than their conventional counterparts. It supported the hypothesis that in general, organic farms employ more labour per acre than an average farm; and that a greater portion of this labour is full-time.

The results also match the results of Strochlic et al. (2009), who found that organic production is also associated with greater opportunities for permanent employment. Greater durations of employment raise the possibility that organic farms provide better quality jobs, at least in terms of short-term job security. The ability of farm workers to organise and agitate for their own interests could be increased by this greater duration and classification as fulltime/regular rather than seasonal workers, although there are numerous other barriers, including a lack of interest in supporting workers‘ rights on the part of many farm owners.

In terms of profitability and job opportunities, Kleeman, Abdulai & Buss (2013), analysed the adoption and profitability of organic certified farming, using 386 Ghanaian pineapple farmers. They employed an endogenous switching regression model to examine the adoption and impact of organic certification on the return on investment. The approach was also used to account for selectivity bias based on both observable and unobservable factors.

Kleeman, Abdulai & Buss (2013), concluded that organic farming is a more profitable option. The reason lies in the higher prices for organic fruit,

which compensates for lower yields on organic farms. Employment effects are also likely to be higher for organic production because this method is more labour intensive. The results from the determinants of adoption of organic farming also revealed that relatively poorer, less educated households are more likely to produce organically. The paper showed that this group benefit from doing so. Hence, organic farming and certification has the potential to reduce poverty and improve household welfare. This is a twofold positive result, because at the same time the demand for organic products is increasing faster than the demand for conventional food.

The study draws important lessons from the empirical review with respect to organic farming, environmental sustainability, and decent work.

The empirical review discussed so far supports the conclusion that the movement towards organic farming is increasing and this is due to global climatic changes. The review indicates that organic farming can be environmentally friendly per unit of land. Organic farming can be demonstrably beneficial to the environment under certain situations, even when assessed per unit of output. In terms of the social aspect, farmers can benefit as well when they are linked to certified markets where consumers are able and willing to pay price premiums for organically produced commodities. Organic farms also hire more workers per acre thereby employing a greater proportion of full-time employees.

From the various empirical studies, it emerged that quantitative research approach was mostly used in studying organic farming and its potential for environmental sustainability and decent work. Most authors (Kleemann 2011; Finley et al., 2018; Meemken & Qaim, 2018) concentrated on the economic aspect of sustainability. This study sets out to address the knowledge gap in

understanding how organic farming promotes sustainability by focusing on the environmental and social dimensions on sustainability. Unlike the reviewed literature, this study adopts a qualitative research approach in order to ask questions which could not be put into numbers to understand human experience.

Conceptual framework

To explain how organic farming and decent work helps to achieve sustainable agriculture, the study adopts concepts from two reviewed theories. The Ecological Modernisation Theory (EMT) and Social Justice Theory. EMT helps in understanding ways to achieve a sustainable environment by adopting environmentally friendly practices while the social justice theory helps in explaining fairness in relations between individuals in society and equal access to wealth, opportunities, and social privileges.

The study examines organic farming as an environmentally sustainable practice in achieving sustainable agriculture. It sets out to propose the adoption of innovation, government regulations and cultural enlightenment/ indigenous knowledge as ways to sustain the environment and agriculture. The development of new and integrated technologies, as a result of innovation, reduces the consumption of raw materials, as well as the emissions of various pollutants, while creating innovative and competitive products at the same time. These methods when adopted avoid the use of insecticides, herbicides, and chemical fertilisers which in turn reduces degradation.

As a social dimension, the study examines decent work through the extent to which organic farmers can achieve four objectives of ILO Decent work agenda (job opportunities, workers right, safe work environment, and social dialogue). To this end, the framework sets out to assess the decent work situation of organic

farmers by examining the opportunities available to work, their right at work, safe working environment and the various avenues that promote social dialogue. The study however minimises the economic dimension and its effect on sustainability. Though it is important in influencing the outcome of sustainability, this study minimises it because of the over emphasis on mainly capital creation (efficiency, productivity, profitmaking, wealth making) propagated by neoliberal policies.

The framework outlined creates a synergy among the three dimensions of sustainability. It depicts that organic farming and decent work can promote sustainable agriculture, which is influenced by the ecological modernisation and social justice theories respectively. When the social issues are adhered to, farmers and their workers can achieve decent work conditions, thereby achieving the social dimension of sustainability. When organic farming is adopted and safe environmental practices are increased, farmer activities will both protect the environment and contribute to decent work outcomes. This is expected to improve working conditions, increase income, restore the ecosystem, and enhance the livelihoods of farmers and farmworkers together with their families. This in the long run will promote sustainable sustainability.

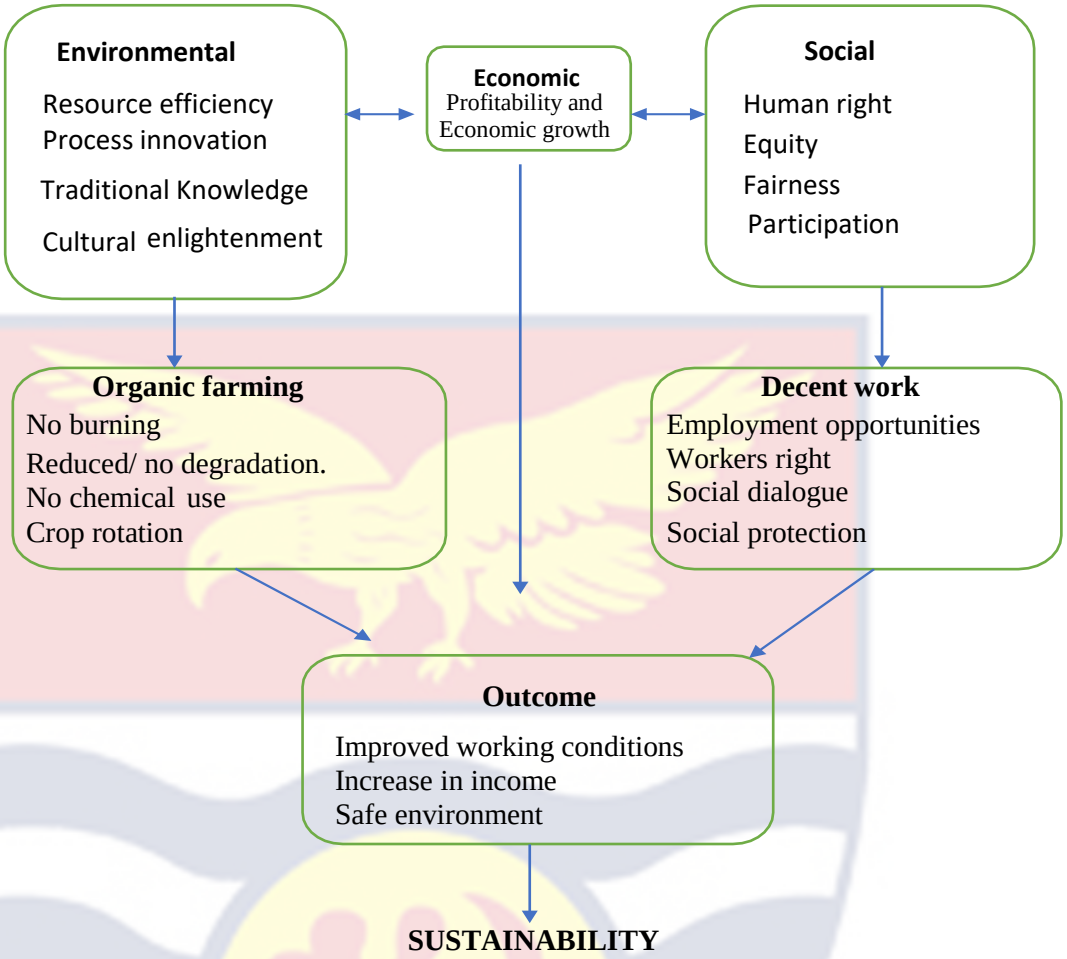

Figure 1: Conceptual framework
Source: Authors construct, 2023 based on reviewed literature

Chapter summary

This chapter reviewed the literature guiding the study. The study uses egalitarianism as the philosophy guiding the study. Two theoretical foundations that were discussed are the ecological modernisation and social justice theories. The section also considers some empirical evidence related to the study. Concepts such as sustainability, environmental sustainability, organic farming, as well as decent work (job opportunities, social dialogue, safe work environment, adequate pay and equal treatment and opportunity) were discussed in the section. These concepts were used to explain the conceptual framework, whose outcome is to achieve sustainability.

CHAPTER THREE

RESEARCH METHODS

According to Burdess (2010), research methodologies assist researchers in collecting data and solving problems by providing explanations based on facts, measurements, and observations rather than reasoning alone. Research methodology is underpinned by the research philosophies which guides a study process through either inductive and or deductive study approaches as suggested by Saunders, Lewis & Thornhill (2009). The research methods for this work will focus on the processes used to analyse Environmental Sustainability and Decent Work potentials in Organic pineapple farming in the Ekumfi District.

Research Design

This study adopts the qualitative research design from the interpretive paradigm due to the need to understand sustainability and decent work potentials among organic pineapple farmers from their perspective or from their world. This study also adopts the qualitative approach in order to understand how organic farming is undertaken by pineapple farmers and how it relates to decent working conditions within ILO's decent work framework. The choice of a qualitative research approach is because it provides flexibility to follow unexpected ideas during research and explore processes effectively, sensitivity to contextual factors, ability to understand symbolic dimensions and social meaning, and increased opportunities to develop empirically supported new ideas and theories (Ospina, 2004)

The exploratory qualitative design was specifically used. The choice for exploratory design is to identify and understand salient behavior pattern, beliefs, opinion, attitudes as well as to explore organic pineapple farming and decent

work issues that are held deeply by farmers that could not be studied very well from the quantitative perspective. It is also aimed at collecting data that will enable the study to explore specific experiences of farmers and farmworkers, and how they are able to achieve decent work. According to Merriam (2009), exploratory research design focuses on collecting either secondary or primary data or both using unstructured format. Exploratory research design uses techniques such as focus group interviews and pilot studies.

Study area

The research was carried out in selected areas in the Ekumfi District, in the Central Region of Ghana. The Central Region is one of the regions noted for pineapple production in Ghana. The selected areas in Figure 2 (Essarkyir, Eyisam, Nanaben and Otuam) are noted as the largest producers of organic pineapple in the district. Smallholder pineapple cultivation is the primary export cash crop in the district (GSS, 2021). The cultivation is mainly rain-fed and the region provides a good and conducive environment for its growth.

In terms of Decent Work, it represents the first region in Ghana to host the piloted Ghana Decent Work Pilot Project (GDWPP) in 2002 (Abebrese, 2014). The rationale for selecting the district is because organic pineapple growing is identified as one of the major sources of income for the people of Ekumfi District. The practice of organic farming in the district is expected to promote environmental sustainability in the district and in turn promote decent work due to the GDWPP.

Ekumfi District is one of the twenty-two administrative districts in the Central Region. It was carved out of the erstwhile Mfantseman Municipality because of its rapidly growing population that hampered its administration. As a

means of ensuring effective administration and holistic development, Ekumfi became a district in June 2012 with Essarkyir as its capital. The Ekumfi District is located along the Atlantic Coastline of the Central Region of Ghana. The district is bounded to the west by the Mfantseman Municipality, to the north by the Ajumako-Enyan Essiam District, to the east by the Gomoa West District and to the south by the Gulf of Guinea. It occupies a total land area of 276.65 square kilometres or 0.12 percent of Ghana‘s land area and is the fifth smallest among the 20 districts in the Central Region.

The district has a projected total population of 56,741 made up of 26,384 males and 30,357 females (GSS, 2021). The annual population growth rate of the district is 3.5%. There are 55 communities in the district with Narkwa being the most densely populated. The soil is sandy loam in nature, which is agronomically suitable for vegetable production. It has temperatures between 22ºC and 34ºC, and a coastal savanna related binomial rainfall pattern due to its closeness to the Atlantic Ocean (Dickson & Benneh, 1988; Markwei et al., 2010). The main economic activities include fishing, salt production, clay mining, crop production, and small-scale trading. A pictorial view of the Ekumfi district is shown in figure 2 below:

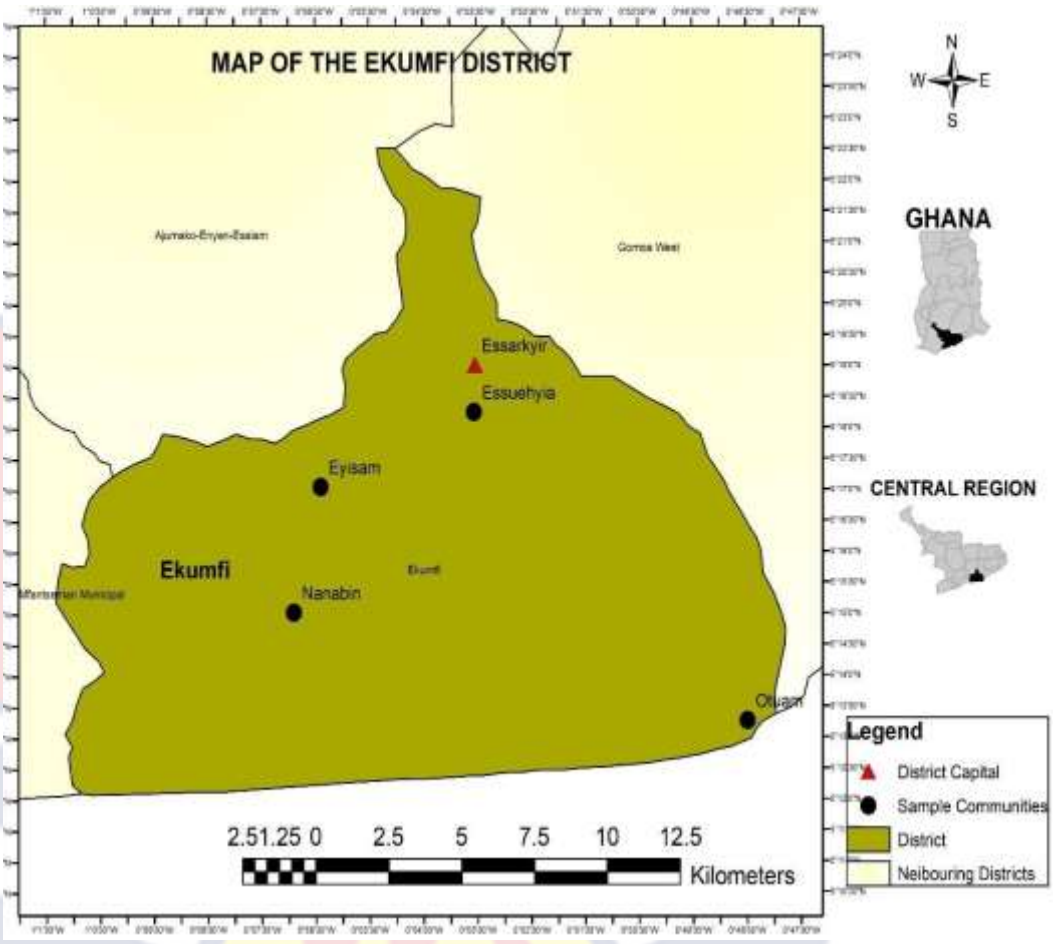

Figure 2: Map of Ekumfi District

Population

Nackaerts et al., (2000), define the study population as the aggregation of elements from which a sample is selected. The population for this study comprised of organic farmers and farmworkers in the Ekumfi District. Key respondents from the Ministry of Food and Agriculture (MoFA), Hans Peter Werder fresh and dry (HPW), and Adwendaho Organic Pineapple Producers and Suppliers and Adwumadzen ma Mpontu Organic Pineapple Producers Association (ACCOPPS & AMOPPA) were also included in the population. The rationale for selecting these three groups as key informants is because of their knowledge and experiences in pineapple production.

Sampling and Sampling Procedures

The study adopted the purposive sampling procedure which is a nonprobability sampling technique based on the characteristics of the population. As noted in Sarantakos (2012), purposive sampling allows the researcher to purposively select subjects that are considered relevant to the study based on their judgment and opinion. The study purposively sampled twenty-nine participants from four communities (Eyisam, Nanaben, Otuam and Essarkyir). Although the Ekumfi district is noted to be one of the largest producers of pineapple in the country, these four communities are the leading producers of organic pineapples in the district (EDA, 2019).

The criterion sampling technique was specifically used to sample farmers and farmworkers. This technique allows the researcher to search for specific cases or individuals that satisfy a certain condition (Neuman, 2011). The criteria for sample selection was smallholder organic pineapple farmers within the Ekumfi district. Thus, any community engaged in organic pineapple farming outside of the district would be excluded.

The expert sampling technique was used for key informants since they were experts and had a high degree of knowledge about the phenomenon. According to Etikan & Bala (2017) this sampling technique involves persons with demonstrable experience and expertise in an area. Key informants for this study were made up of participants from ACCOPS and AMOPA (a cooperative that assist farmers in producing and selling organic pineapples), Ministry of food and agriculture, and HPW.

Data Sources

Leedy and Ormrod (2005) identify primary and secondary sources of information as the two main sources of data in research. The reality of the primary source is authentic and enlightening because it comes from the original source, whiles the secondary source of data is reality that comes from the primary source rather than reality itself. Data for this study was collected solely from primary sources. The primary data was collected from interviews with farmers, farmworkers, and stakeholders within the Ekumfi district.

Data Collection Methods and Instruments

The data type was exclusively qualitative due to the qualitative research design used. The study collected data using focus group discussions (FGD) and interviews. Participants were selected for FGD based on the kind of work engaged in. The number of participants used for the FGD was between 6-10, and was held in an open space at the participants‘ convenience. Separate FGDs were organised for male and female farm workers who are engaged in organic pineapple farming. The duration of the discussion was between 30-45 minutes. This use of FGD allowed the probing of a particular topic of interest, and a large volume of critical data to be collected within a short time (Barrows, 2000). The choice of FGD was informed by its aptness for exploring the experiences of the target population. It is expected that it will allow respondents to disclose to a greater extent, their perspectives on organic farming and decent work potential in the district.

Interviews were used in collecting data from key informants/ stakeholders and farmers in organic pineapple farming. The type of interviews adopted was the semi-structured. The choice of this method is because it can increase the

reliability and credibility of data gathered (Lindlof & Taylor, 2017). Semi-structured interviews allow the interviewers and researchers to get more information, since they can ask follow up queries or clarifications to the questions they have prepared.

The data collection instruments used were the focus group guides and interview guides. The interview guide was administered to key informants/ stakeholders and farmers while the focus group discussion guide was used for farmworkers. Both instruments were semi-structured because it allows for open-ended questions, explore participants' thoughts, and delve deeply into the phenomenon. The data collection instruments were based on themes that covered the characteristics of organic farming, the decent work conditions in organic farming, and lastly the extent to which organic farming promotes environmental sustainability and decent work

A total of all interviews is presented in Table 1 below.

Table 1: Distribution of interviews

Interviews	Females	Males	Total
Key informant	1	2	3
Farmers	1	19	20
Farm workers	3	3	6
Total	**5**	**24**	**29**

Source: Field interviews, September 2023

Data Collection Procedures

Data was collected between 3rd to 7th of May 2023 after an initial engagement with some farmers in the district. The head extension officer for the Ekumfi District was contacted to identify the study participants. The extension officer served as a guide in locating the organic pineapple farmers in the district.

Interviews with key informants/stakeholders was mainly conducted in English. However, the language was changed upon the participants' requests. Since the research is adopting a qualitative approach, interviews were conducted from the respective communities until saturation is reached. The duration for interviews with farmers was between 15- 20 minutes at their places of residence and the farm.

For the focus group discussion, which were done with the farmers and farmworkers separately, Fanti was the main mode of communication. Based on the kind of work engaged in, 6-10 participants were grouped to take part in FGDs. The focus group discussions took place in an open space suggested by participants and lasted for about 30-45 minutes. The data from the FGD was gathered through note taking and with the consent of respondents, an electronic device was used for recording. Two to four interviews were conducted each day. Highlights of the various interviews were transcribed at the end of each day in order to capture the details of FGDs accurately. Notes taken were grouped in the context of the research objectives so as to make analysis easier.

Data Analysis

In any qualitative study, the data collection and analysis occur concurrently. Data analysis involves collecting data from asking general questions and developing an analysis from the information supplied by participants. The units of analysis for the study include farmers, farmworkers, and stakeholders/ key informants. The data for this study (qualitative data) was analysed by employing several steps, the first of which is organising and preparing the data for analysis. This specifically dealt with transcribing the interview data gathered and sorting the data into different types according to

sources of information. Transcripts were read through to obtain a general impression and overall meaning. Notes and general impressions were also written in the margins of the transcripts.

The transcribed data was then coded using the NVivo software. The software is efficient and provides an organised approach to analysis (Welsh 2002). Specifically, the coding involved taking the text data gathered, segmenting sentences and labelling those categories with terms. Codes were based on what was identified in the literature, addressing broader theoretical perspective (predetermined) and other codes emerging from data collected from participants. The next step that was taken after coding was the description of the objectives and making meanings from the data. Some key responses by respondents were then included as quotes to support the analysis.

The data collected unto the electronic device was secured with a password to which only the researcher had access to. An external drive or pen drive was relied upon as backup storage for recorded interviews for the safety and security of data throughout the entire process. The interview guide and information recorded from respondents will be kept till the approval of the thesis. After approval, the interview guide will then be shredded and disposed of by burning as well as deleting the recordings from the electronic device.

Ethical consideration

The Institutional Review Board (IRB) of University of Cape Coast (UCC) approved the commencement of this study. The consent of respondents was sought before engaging them. This was done two weeks before the actual data collection began. During data collection, the information gathered from respondents was kept confidential and anonymous as well. Participants were

assured that the information provided would be for only academic purposes and would not pose any potential risk whatsoever. Participants also had the right to withdraw at any point if they felt uncomfortable. In situations where the target group was unavailable, an appointment was booked for a later time based on the respondents‘ preference and convenience. Covid protocols were strictly adhered to during the data collection process. It was also ensured that both parties (researcher and respondent) were always in a face mask before commencing the interview. Respondents however, had the choice not to give out information if the researcher was without a face mask.

Chapter summary

The study's methodology was covered in this chapter. The study used a qualitative research design to explore the potential of organic farming and decent work in promoting sustainable agriculture. FGDs, interviews, and the examination of pertinent documents and reports were used to acquire data for the study from both primary and secondary sources. The chapter also covers the methods used to conduct, record, transcribe, and code interviews and FGDs. The processes and analysis of data collected and how themes emerged have also been presented. Additionally, a discussion of the study's ethical considerations was addressed.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents findings and discussions that explain the connection between organic pineapple farming and decent work conditions, and their potential to promote sustainable agriculture in the Ekumfi District. There are four themes in the discussion of the findings which is presented in line with the specific objectives of the study. The first thematic area explains the compositional and contextual characteristics of organic pineapple farmers in the district. The second explores the perception of farmers about organic farming, against the best organic practices. The third describes the decent work situation of farmers engaged in organic farming while the final section examines the how organic farming promotes environmental sustainability and decent work potentials in the Ekumfi District.

Compositional Characteristics of Organic Farmers and Farmworkers

In a study of this kind, knowing the compositional characteristics helps to better understand the responses given and shows how much the data may be trusted. A person's perspective on the world may be influenced by a variety of personal, and societal background variables that have their roots in their beliefs, experiences, and interactions, according to Mohajan (2018). The compositional characteristics considered for the study included both bio-social and sociocultural factors. Bio-social factors include sex, age, and ethnicity while the sociocultural factors include religion, household size, household structure, farm type, farm size, and educational attainment. The years of experience in practicing organic pineapple farming, and the reason for practicing organic farming are also

discussed. A summary of the biosocial characteristics is presented in Table 2 below:

Table 2: Bio-social characteristics of study participants

Attribute	Frequency (n=26)	Percentage (%)
Sex		
Male	22	85
Female	4	15
Age 16-25		
	2	8
26-35	12	46
36-45	9	35
46 and above	3	11
Ethnicity Akan		
	24	92
Mamprusi	1	4
Dagomba	1	4

Source: Field work (2023)

The total number of participants engaged in the study was twenty-nine, which comprised twenty-four males and the five females. It categorically comprises of one female and nineteen male farmers, one female and two male key informants, and three farm workers each for both sexes. Farmers are the owners of the farms while farmworkers are those employed to work on these farms. Some farmers however, played the role as farmer workers as well. Majority of the responses were from men, with just five responses from women.

In Ghana, like other South Sahara African countries, women make up the majority of the agricultural workforce with about 52% of women working in agriculture (Njobe & Kaaria, 2015). However, in most parts of Ghana, where organic farming takes place, Gbedemah et al., (2021) mentions that there is the male dominance, and this is not a modern phenomenon. This evident in the case of the Ekumfi district which has men contributing to about 85% of the sampled population. The fundamental reason is that, women are discriminated against in terms of their land rights (Britwum et al., 2014) which prevents them from

accessing land in Ghana's southern regions (Bugri 2008). This type of discrimination is frequently firmly rooted in institutionalised rules, rights in terms of religion, politics, and cultural norms. The study highlights that the type of crops grown, and the tedious nature of pineapple cultivation and management also contributes to the dominance of men over women in organic farming. Ghanaian men are mostly known for growing cash crops, while women predominate when it pertains to private backyard gardens, which do not help them to make income.

Organic pineapple farmers are relatively younger because younger farmers are more likely to learn and adopt innovative farming methods. This goes to buttress the ideas of FAO (2014) which emphasise that older farmers are less likely to adopt the new technologies required to sustainably increase agricultural productivity and, ultimately, feed the world's growing population while protecting the environment.

In terms of ethnicity, majority of the participants were Akans with just one Dagomba and Mamprusi participants. The Dagomaba and Mamprusi participants were mainly farm workers because of the difficulty in accessing agricultural land in the district. Farm workers were basically hired to work on the farms. Most of the farmers were married except two males who were divorced and single parenting. The participants were with both Christian and Islamic religious groups and had household sizes between one to eight. All these households are mainly male headed. It was noted that most of the participants grow food crops only, with few of them engaging in both crop farming and rearing of domestic animals like poultry and goat for sale.

In terms of education, most of the farmers and farm workers engaged in organic pineapple farming, had at least a basic form of education with the highest form being the National Vocational Training Institute (NVTI) certificate. This was held by one farmer and key respondent out of the twenty- nine-sample size. All farmers who were interviewed for this study had more than four years of experience in growing organic pineapple. Majority of the farmers have been involved in organic pineapple production for a long time because, the primary agricultural activity in the district is the production of pineapples. Some farmers had experience in the production of conventional crops as well but had to put an end to the cultivation of those after they adopted organic pineapple farming. Their reason was that organic farming was difficult and practicing both organic and conventional farming at the same time could compromise the quality of organic fruits.

The study revealed a similar situation to the ideas by Kleeman, Abdulai and Buss (2013) who mentioned that less educated households were more likely to produce organically. The findings also suggest that the majority of farmers will find it simple to learn new concepts, techniques, and certification requirements because of their basic form of education. This research dispels the stereotypes of farmers as hillbillies wearing overalls and a large straw hat, having missing teeth, and even being unhygienic.

Contextual Characteristics of Organic Farmers and Farmworkers

Contextual characteristics of the study include religion, household size, household structure, farm type, and farm size. Organic farm sizes were reported to be between half to two acres. This was because of the difficulty in accessing farmland in the district. Access to land was an issue of concern to farmers in terms of its acquisition and preparation. The available lands were either far from

their homes or had a conventional activity (using synthetic materials and unsafe practices) taking place nearby. Farmers who had access to land also had issues related to the land's fertility because most of the land had been excessively used to the point that it had become infertile. As a result, organic pineapple farming in the district was done on a small to medium scale and mainly for export.

For some time now, developed markets, and even Ghanaian markets are creating opportunities for organic farmers to market their produce easily. To take advantage of the export market, farmers mentioned that they formed cooperatives to help sell the products. Sea-Freight Pineapple Exporters of Ghana (SPEG), Federation of Association of Ghanaian Exporters (FAGE), Golden Exotics Ltd., and Yayra Glover are a few of the pineapple exporters in the district. The farmers either market their produce to the consumers directly by selling the produce by the road or in the market. Unlike those for export, this option does not have a high premium price making it the reason why most participants produce organic pineapple mainly for export.

All the farmers sampled for this study mentioned that they had undergone various trainings and been certified to produce organic pineapples. To them, certification was both a significant export option and a solution to environmental and health issues. The certification procedure was led by the organisations to which they are linked, as it is these groups that purchase organic pineapples from the farmers. Farmers who did not belong to any farmer organisation also noted how difficult and pricey it may be to obtain organic certification. From the standpoint of the farmers, certification is essentially an export marketing tool (UNCTAD, 2008) and can be viewed as a form of product upgrading (Kleeman, 2016). They mentioned that going through the hassle of acquiring certification is only worthwhile if the price gained for the certified goods surpasses the local

market price. This has the ability to increase farm income and help reduce poverty.

The participants also disclosed that they grow the local variety of pineapple because it was more resistant to diseases. The Ekumfi pineapple is loved by all fruit enthusiasts because, as some participants noted, it has a peculiar taste compared to other organic pineapples in Ghana. Although many farmers grow organic pineapples, each one did so for a different reason. Indigenous knowledge was a common factor among most farmers. They viewed organic pineapple cultivation as a type of indigenous farming technique used by their ancestors, which they have also adopted. Other participants also mentioned the climate of the district as their rationale for growing organic crops. The district is characterised by generally warm temperatures (GSS, 2021) which allows the pineapple to thrive well. Due to the good weather conditions, they can produce organic fruits within different seasons to supply the local market and for export.

Apart from the indigenous and climate reasons, financial, health and environmental reasons were also reasons why some preferred to grow organic crops. Some shared their worry of how polluted the environment had become due to some unacceptable human activities. They saw their farm activities as best practices in protecting the environment for themselves and the future generation. A farmer mentioned that since their activities did not emit harmful substances, they were assured of good health conditions.

The contextual characteristics of the study emphasised the financial and non-financial motivations for farmers to practice organic farming. Non- financial concerns include lifestyle, ideas, and ambitions as argued by Karlsson et al., 2012. As suggested by Diao & Lu (2022) the reports by participants of this study also revealed that innovation and indigenous knowledge, help to sustain the

environment. This is evident in the concept of ecological modernisation theory which implies that it is possible, through the development of new and integrated technologies, to reduce the consumption of raw materials, as well as various pollutants, while at the same time creating innovative and competitive products for a sustainable environment.

Organic Practices in the district in Relation to the Best Practices

This section discusses the various organic practices adopted by farmers in the Ekumfi District. Literature highlights that organic practices should be free from components that may harm human and nature. They include activities such as crop rotation, green manuring, cover cropping, pest control, weed control, no bush burning, no cutting of trees and no chemical application. These practices accord with the basic principles of organic farming.

From the in-depth interviews, it was found that, soil preparation was an important practice adopted by organic farmers in the district. Most individuals prepared the soil by using a manual method to assess the condition of the soil. They use their fingers to check the moisture level in the soil. A sign that the soil was dry and bad was when it felt brittle or hard. Other farmers who can afford, take their soil samples to the laboratory to get it tested because it gives complete details about all the minerals in the soil and their quantities. These laboratories are owned by private bodies, which mean some farmers incur cost in getting their soils tested. The participants reported that these private laboratories charge about 500 GHC (50 USD) to get the soils tested. Respondents revealed that some non-governmental organisations and researchers from the University of Cape Coast also help to test the soil for farmers. They communicated that assessing the soil at the laboratory was usually done by large scale farmers in other parts of Ghana.

Figure 3: A prepared organic soil

After the soil has been assessed, they mentioned that they prepare the soil by cutting off trees and weeds and removing the stamps from the soil. The hoe is then used to plough the land. Some farmers also rent tractors to clear and plough the land as it saves time and energy. The cleared weeds are left on the land after ploughing to serve as manure. This, according to them, has several advantages including adequate drainage, air expulsion, and root movement to access necessary nutrients and water.

In addition, participants mentioned that one of the primary goals of organic farming is to raise soil quality by employing sustainable practices. They do this by relying on bacteria found in animal droppings that help raise the soil's nutrients and boost its fertility. According to the farmers, the decomposing plants and animals produce organic soil, which is rich in nutrients and minerals, and a medium for microorganisms that feed and sustain the soil's life. The nutrients in the compost get washed into the soil to nourish the plant roots when it rains. They disclosed that the rich nutrients in the plants produce strong cell walls that

increase their resistance to pests and diseases. According to them, the practice greatly improves the health of the soil.

With regards to weed control, farmers and farmworkers revealed that they do not engage in any form of burning. All the participants were aware of the implications of burning and how it affects the environment. In a focus group discussion comprising farmers, one participant mentioned that burning kills the organisms which could serve as nutrients to the soil. This knowledge about the implication of burning was a result of the training they had received from external bodies like HPW and MoFA. Even farm workers had a fair idea of the disadvantages of burning on the soil. This is because farmers uphold the core values of organic farming, to the extent of transferring that knowledge to their workers.

It was also noted that farmers weed and leave the weeds on the land to help keep the soil moist during land preparation. This, according to them, was an environmentally sound agricultural technique that sustains the Soil. Others mentioned that they used plastic mulch since organic pineapple farming permits its usage provided, they are not incorporated into the soil, and are lifted off and disposed of in an environmentally responsible manner after the process. The only environmentally responsible manner was to recycle plastic waste. The plastic mulch was mostly left on the farm till the next planting season. This meant that farmers in the district do not dispose of plastic mulch until it is worn out and cannot be used anymore.

Farm workers mentioned that they fold the mulch with gloves on their hands and dispose them at refuse dumps. Some participants also mentioned that people from recycle centers come for these plastic wastes at a fee of 10ghs. Very few farmers dispose their plastic waste through these recycle centers because of

the cost involved. They resorted to burying or storing their plastic waste as a cheap alternative to the pricey disposal issue. This practice cannot be considered as an environmentally responsible way of handling plastic mulch since it causes the mulch to disintegrate and further contaminate the soil with microplastics.

Participants explained that the use of mulch reduces weeds that grow on the farm, reduces the growing session, and traps enough energy for the fruits to grow well. However, not all farmers were able to use plastic mulch because of the cost involved. It was mentioned that the price of plastic mulch ranges between 1,000 to 1,500 Ghana cedis. A farmer explained that:

> *I cannot do the mulching, so I just weed with cutlass and plant. We weed till the fruit is ready for harvesting. Because we did not apply the mulch, it will take two years before I can harvest. I planted the suckers in 2020 and I am now harvesting. Those who use the mulch can harvest within one to one and half years (OF5 at Eyisam, 4th May 2023)*

Figure 4: An organic pineapple farm that uses plastic mulch

Apart from the use of mulch, it was noted that simple tools like cutlass and hoe were used in farming, because it is cheaper and easy to use. It was also discovered that there was no form of agriculture mechanisation such as the use of

tractor to increase farm worker productivity. This was mainly because of the cost involved in hiring, purchasing and managing these farm tools, as well as the sophisticated nature of operating them. All participants expressed interest in environmentally friendly mechanised technologies such as wheel hoes, and drip irrigation farm equipment‘s. According to them, this will improve their production, and protect them from minor injuries like cuts and insect bites.

The interviews also revealed that, none of the farmers and their workers used any form of artificial or chemical boosters to control pests and diseases. Good pest control was reported to relate to healthy soils because they promote plant health and resilience, or the plant's capacity to rebound from pest harm. Beyond that, participants mentioned that it was critical to understand the pest lifecycles. Farmers can receive an early warning by understanding the lifecycles of significant pests. Both farmers and a few farmworkers reported that they had an idea of the lifecycle of some pests, and this knowledge served as a guide to managing and controlling pests in organic pineapple farms. Knowing the life cycle of pest allowed farmers to control it at the most vulnerable point in the cycle, or possibly avoids it all together. Others also used the technique of planting other food crops along the pineapple rows as a means to manage the effect of pests. These food crops like cassava and corn serve as food to the pests and insects that come to feed on the pineapple, thereby protecting the pineapple in the process.

Participants also reported that when the fruits are infected by pest, a solution from soaked neem leaves was sprinkled on the fruits to kill pests and cure the diseases. Although this method was not the complete solution to the issue of pests and diseases, they mentioned that it reduces the rate at which the fruits get infested and helps to maintain their yield. Extension officers in the district

also play their role by providing farmers with free locally made solutions, provided by the state to help reduce pests. This solution was made from neem leaves, lemon, and cloves which was mentioned as safe for both plants and the environment. A participant in explaining how he prevents insects said this:

> *We have been taught to apply the root of the pineapple to some medicine brought by the organic people, so insects hardly affect them. Those that get affected too are removed from the farm to prevent others from getting infected. We dig the ground and bury them there (OF8 at Nanaben, 7th May 2023)*

In terms of how protective of the ecosystem their activities are, participants mentioned that they protect water bodies and animals in the environment. During a focus discussion with farmworkers, some stated they protected animals to the point that when they encountered them on their fields ruining their crops, they just draw them away rather than killing them. The farmers also revealed that most of their farms were located not so close to water bodies. This is because nutrients used to promote growth or boost plant health are present in the manure used in organic farms. The nutrients may wash into water bodies when these are applied right before it starts to rain, and they can kill fish by depleting the water's oxygen and give the water a bad smell. However, participants who plant close to water bodies made sure their activities did not pollute the water. They created buffer zones with a distance of at least eight meters between their farms and the water bodies. They pointed out that this activity was very effective and sustains the environment by sustaining the natural resource base. A farmer narrated to that effect:

When farming, there should be a buffer between your land and the land of another person nearby. So, when preparing the land, we make sure that we leave the buffer so that whoever is close to us that is practicing conventional farming might not affect our crops with chemicals. We also leave buffer zones between water bodies and our farms so that we do not pollute them because this same water bodies serve as our source of water for irrigation (OF11 in Akwakrom, 3rd May 2023)

A summary of the best organic practices and what is practiced in the Ekumfi District is presented in Table 3 below

Table 3: Best organic practices and practices of organic farming in Ekumfi District

Best organic practices	Organic practices performed by Sampled farmers & workers(n=26)	Percentage (%)
Crop rotation	0	0
Green manuring	26	100
No tree cutting	0	0
Organic mulch	0	0
Cover cropping	2	7
Pest control	26	100
No bush burning	26	100
No synthetic fertiliser application	26	100
Weed control	26	100

Source: Field work (2023)

From the table above, all the sampled farmers disclosed that for them to be able to undertake their farming activities, they have to cut down trees to prepare their land for pineapple cultivation. Again, due to the rising demand for land in the district, farmers cannot leave their lands for to fallow for soil nutrients as required for crop growth. Hence, they cut down trees and do not practice crop

rotation. Crop rotation and resistant varieties are also two preventative measures used to manage insects and diseases (van Bruggen, Gamliel & Finckh, 2016). However, this study notes that farmers engaged in organic pineapple farming did not practice crop rotation although majority adopt most of the best organic practices.

All farmers used plastic mulch instead of organic mulch which is biodegradable or decomposable. The most adaptable and often utilised organic mulches include hay, straw, and freshly cut forage or cover crops. However, organic farmers in Ekumfi district rather used animal droppings. Interactions with them revealed that some were not aware of the use of organic mulches in pineapple cultivation hence, the use of plastic mulch. The few who knew about organic mulch emphasised that they could not afford the cost of transporting hay and straw from the northern part of Ghana to prepare organic mulch.

Again, out of the total sampled farmers, only 2 (7%) practiced cover cropping to increase soil moisture capacity and improve nutrient cycling. All (100%) the sampled respondents alluded to the fact that they practice green manuring, pest control, no synthetic fertiliser application, and weed control in their pineapple cultivation activities. It can be inferred that most of the farmers and farmworkers in the district adopt safe agrological practices which is beneficial to environmental sustainability. The findings lend credence to the views of Lorenz & Lal, (2016) as well as Mockshell & Kamanda (2018) who argue that organic farming should focus on maintaining the natural resource base, particularly soil and water and relying on a minimal amount of artificial inputs from outside the farm system. This finding is however at variance with the report by Meemken & Qaim (2018) who state that the absence of synthetic fertilisers

and pesticides in organic farming makes plant nutrition and pest control more difficult and often less effective. These diverging ideas could be because of the size of land cultivated since this study focused on small-scale farmers.

Out of the nine indicators measuring best organic practices in the Ekumfi district, it can be inferred that farmers are sustainability oriented. Farmers in going about their farming activities care about the environment and the need to sustain it for the future generations by adopting best organic practices. Just as the ecological modernization theory, when farmers adopt these practices, the environment benefits in the move towards environmentalism. These practices ensure ecosystem balance and spares natural resources. It echoes with sustainable agriculture. Therefore, to achieve environmental sustainability, good organic management practices need to be applied in order to achieve high yields and organic practices need to be adapted to local conditions.

Decent Work Conditions of Organic Pineapple Farmers

This section reviews decent work conditions of organic pineapple farmers in the Ekumfi district. Workers' rights, and employment opportunities, for both men and women in organic farms are covered in this section. Again, social protection mechanisms in terms of social security and health insurance schemes are also discussed as well as avenues for social dialogue for both farmers and farmworkers.

Employment opportunities

Employment in the decent work framework refers to all types of labour, including self-employment, paid employment, work from home, as well as work done by men, women, and children. Some prerequisites must be met in order to secure decent work. Employment should produce sufficient remuneration (in cash

or kind) that covers the worker's and family members' basic necessities. Employment should be freely selected, and no workers should be discriminated against in any way.

The study found that the dominant type of labour was hired labour. This is mainly because of how farmers have been enlightened in the district. Farmers have now become conscious of the need to educate their children so children and relatives who used to serve as unpaid labourers on farms are now enrolled in schools. The enlightenment of farmers can be traced to both the ecological modernization theory and social justice theory, which highlights that when people are enlightened, they behave in ways that promote sustainability. The change in their behavior also provide people with equal opportunities in terms of education, thereby promoting the social justice theory. A farmer expressed this by saying;

> *My late father used to make me follow him to the farm everyday so it prevented me from going to school. Although farming serves as my source of income now, it prevented me from having a formal education. I do not want that for my kids that is why I prefer to hire workers on my farm. I make sure not to hire children because I do not want any child to experience the loss of formal education (OF12, 3rd May 2023)*

Some wives also help their husbands on the farm as non-wage workers. Farm workers were involved in weeding, forcing, mulching, manually irrigating, and harvesting. Men and women were hired to carry out these activities on the same farm. Noticeable, unlike the men, women were exempted from the weeding and mulching process. The women were exempted because it was considered difficult and challenging for them who may already have other household and caregiving responsibilities. All the sampled farmers expressed that they preferred

hiring young men and older women because young ladies perceive farming as outmoded and unprofitable. A farmer, in explaining this said:

> *We rely on both women and young men as labourers, but we do not make use of children and the aged. The aged do not have the strength to work, and the young females do not like to be seen doing such jobs.*
>
> *The few who come end up being unproductive (OF15, 6th May 2023)*

Another participant also said that:

> *The women are not able to engage in organic pineapple farming because it is difficult. All the women engaged in organic are supported by their husbands. During harvesting, we employ the women and young men who are not working to carry and harvest respectively. We train some of the young men to weed the farms when the weeds begin to compete with the pineapple. We have specific people we employ because organic pineapple is quite technical (OF5, 3rd May 2023)*

From the quotes, it is evident that sexual division of labour is present in organic pineapple farms, with women performing much of the unpaid and less visible work such as pruning, and harvesting, while men are often responsible for marketing and selling the produce. Women's unpaid labour is often undervalued and overlooked, leading to a lack of recognition and support for their contributions to agriculture. This is highlighted in the work of Jiggins et al., (2014) and Moser, (2018) who show that women play a significant role in the production of food crops, but often have limited access to land, inputs, and resources.

Some participants also mentioned that it is burdensome to combine work, family, and social life especially for women in organic pineapple farming. In this

study, the women combine pineapple cultivation with household chores and other income generating activities and are compelled to perform extra labour. This was evidently seen particularly among women who perform unpaid work on family farms but are perceived as being economically unproductive. Female hired labourers in organic pineapple farming were classified as helpers while their male colleagues were classified as farm workers. This kept women from being recognised as workers who make substantial contributions to their families and the community, and often prevents them from recognising themselves as farmers. Participants considered for this study stated that they spend a maximum of eight hours a day, and four days in a week on the farms. These farmers and farmworkers travel between thirty to sixty minutes before reaching the farmland. This occasionally reduces the hours used in working because they get less productive when the sun is at its peak. They also noted that, the nature of their work permits them to undertake other essential activities after work on the farm is completed. Some farm workers stated that they engage in other jobs like petty trading to supplement their family‘s income.

Despite being compensated for tasks completed, farmworkers do not have the option of determining the maximum or minimum quantity of work to be performed on the farm. Farmworkers stated that they encourage themselves with the fact that they are able to cater for themselves and their families with the little they earn. A farmworker narrated that:

> *I work from 6 am to around noon on the farm, then rush to my house to get ready for my fruits business in the evening. Working as a farmworker is just temporary, and I cannot depend on it always, so I sell fruits at the*

junction at night. That is what I use to take care of other family needs (OFW1, 2nd May 2023)

Farm workers reported that wages are based on the kind of work they engaged in. Male farm workers are paid 60ghs a day however, this varied depending on the hours they work. The wage for workers who are hired to weed the farms is also dependent on the number of acres they work on. The fixed wage for weeding an acre of land is 400ghs. This amount is shared among the number of workers hired. Women are also paid depending on the number of pineapples they carry, and the distance from the farm to the barns. Female farmworkers mentioned that a pan filled with pineapples is between 35ghs implying that, the wage for the day is multiplied by the number of pans they carry.

It was noted that organic pineapples in the district are usually ready for harvest after about twelve to sixteen months after planting. The harvesting period can also last for about a month depending on the yield. This is dependent on the available labour and the farm size. Most farmers mentioned that they earn about 60,000ghs whenever they harvest their fruits. This amount is dependent on the number of acres of farmland.

Figure 5: An organic pineapple farm after harvesting

Farmers belonging to groups and associations affirmed that they are paid by their association/group leaders after selling their produce to their buyers. They also mentioned that the period of waiting between planting and harvesting where no earnings are made causes financial insecurities. Farm workers also have their share of these insecurities since they are hired only when needed and therefore have irregular earnings.

In terms of how the duration of work on organic farms has impacted their lives, it was noted that organic farming came with an increase in labour cost and farm hands. Participants stated that organic farming requires regular monitoring and tiling of the soil, pruning, and weeding out wild grass hampering the growth of the produce. To prevent this, labour needed to be constantly engaged and this comes with additional cost which affects the total earnings of farmers. Few mentioned that there had been instances where the costs involved in production outweighed the benefits.

Most of the participants affirmed that working on organic farms is profitable. Farmers expressed a high level of content due to their engagement in organic pineapple farming. Most of the participants have ready markets for their goods and have high price value than conventional market prices. The farmers claim that this raises their revenue levels and raises their standard of living. However, some farmworkers mentioned that a rise in farmers' revenue or earnings did not translate to an improvement in their earnings. This is due to the fixed wages of farmworkers across the district. Wages of farmworkers is subject to change only when farmers expand their farms. This means that, the volume of work will increase, which will demand that extra money is paid as wage.

Workers' right

The goal of workers right, as a pillar of decent work is to ensure that all employees have the right to work with dignity, fairness, freedom, adequate remuneration, a voice, representation, and participation. Farmers indicated that due to the informality of their work, they do not take any kind of leave. They take Fridays off work since it is a sacred day when farmers are not permitted to farm. Farmworkers are also not entitled to any sort of leave because of the informality of their engagements. Farmworkers are hired by farmers only when their services are needed. None of the farmers confirmed hiring pregnant women. The reason being that their condition makes them lazy and less productive. Farmworkers also stated that the district does not offer them any opportunity to an association, and they believe it is due to the sporadic nature of their labour.

Farmworkers mostly relied on informal cooperatives as a source of labour support for themselves. Formal associations are seen by some farmworkers as a waste of time and money. This is due to the fact that once these associations are

established, members are obliged to gather for meetings and pay dues. They reported that although there are no forms of associations for farmworkers, they were able to negotiate the conditions of their work through the informal cooperatives. Farmers on the other hand have the freedom to belong to any association of their choice as well as the power to bargain on farm produce with their buyers.

Sampled participants reported that, there is no form of discrimination or forced labour in their field of work. Workers were hired based on their experiences and paid according to how productive they are on the farms.

Some female farm workers during a focus group discussion, mentioned that women experience discrimination in terms of the type of activities they engage in. Women are hired only at the early stages of planting and later carry the fruits to the barns during harvesting. According to them, this is a form of discrimination because women also have the ability to prepare the soil for planting, apply mulches, and engage in other organic activities on the farm.

The study also found that children are not engaged in farm labour activities during school hours. Participants are of the view that children under the age of eighteen should be in school and not seen on farms. However, farmers engage their children on weekends, vacations, or public holidays. They stressed that children are not made to take part in farm activities like weeding and harvesting since they are likely to get injured with cutlasses and spikes from the pineapple. The frequent farm activities children are made to partake in planting, irrigating, and carrying harvested fruits just as the female farmworkers. Participants also mentioned that they do not involve children in the financial

aspect of organic pineapple farming since its profitability can cause them to forgo their education and concentrate on money making.

Participants discussed some physical risks associated with organic pineapple farming. They expressed their worry about the physical demands of working hours, and the requirement to carry out several tasks that causes stress. These tasks involve a lot of physical and strenuous activities such as weeding, lifting, and bending the knees which are detrimental to their health. Some of the health problems include waist and body pains, cuts, eye discomfort, and skin bruising. According to some farmworkers, spikes from the pineapple can potentially lead to eye injury or loss. They stressed that although their work is associated with some minor injuries, no fatal accidents or major health issues has ever been recorded.

For all sampled farmers in the district, exposure to heat and sunlight is arguably the biggest environmental risk. Participants expressed concern about the weather, and many spoke of staying away from work in conditions of extreme heat or cold as well as taking additional safety precautions including wearing gloves, safety goggles, and protective clothes. Some farm workers stated that they are at the greatest risk of environmental hazards and skin diseases because of the direct exposure to sunlight.

Both farmers and farmworkers mentioned that external officers come around often to make sure they work in good conditions. These external bodies sometimes provide them with protective equipment like boots and gloves which protects them from potential hazards. Some farmers mentioned that they make sure their workers are protectively covered before taking them to their farms to work. According to them, this reduces the injury rate in organic pineapple farms.

Social protection

The goal of social protection, as the third pillar of the decent work framework is to safeguard people from a variety of risks and vulnerabilities. This section assessed social protection by concentrating on the various state- owned and private schemes in the district, and the extent to which organic pineapple farmers and farmworkers access them. This was based on the availability of healthcare and social security, which were the two key factors.

Participants listed the National Health Insurance Scheme (NHIS), Free Uniforms, School Feeding Programmes (SFP), and Fertiliser Subsidies as the main state-led social protection programmes available in their district. Beneficiaries of the NHIS pay premiums that give them access to fundamental medical care. Children, the elderly, and pregnant women are however exempted from paying these subscription fees. Though this scheme is in place, the participants shared their concerns about how ineffective the scheme has been. They described situations where they were denied access to certain medications because, they have been informed that not all medications and ailments are covered by the NHIS. Others also mentioned that they occasionally use private healthcare facilities since the quality of care is guaranteed at a higher fee. Through the Ministry of Food and Agriculture (MOFA), the government offers farmers various seeds and suckers at discounted rates for crop production as part of the fertiliser subsidy programme.

Additionally, some elementary school students are given one hot meal a day at school through the school feeding programme. However, some participants detailed some of their difficulties in getting access to these governments‘ social protection programmes. Others believed that government programs solely

benefited members of the political party in power, and some claimed to be unaware of the existence of these programmes.

Although SSNIT has an informal pension scheme that aims at providing security for self-employed people in their old age, the study reveals that none of the farmers and farmworkers took part in the scheme though they had heard of it. The key reasons influencing farmers' decision not to participate is their income, household size, age, and their membership in other farmer associations. Some farm workers expressed that they are only interested in taking care of their families. Other participants mentioned that they have savings in credit unions, banks, and some informal non-farmer groups which are purposely for emergencies and unforeseen circumstances. A farmer shared his opinion by saying:

> *I do not have any pension scheme because there are groups that are willing to give out loans in times of need. I am planting more so that in case of unforeseen circumstances, I can fall unto my farm as collateral. I have also created an account at the bank, but I have used the money there for something important. When I get more money, I will take it to the bank so that I can also borrow from them when I need money (OF2, 4th May 2023).*

Few of the participants mentioned that they have a form of non- financial security. According to them, their retirement package is the investment they make in their children_s education. They explained that quality education for their children will guarantee that they get better jobs after school, which will in turn, mean better salaries. The participants are very hopeful that all things being equal, their children will live longer, and take care of them in their old age. This

indicates that both farmers and farmworkers are aware of the need for social security during their old age, however, their inability to provide a financial form of security resulted in informal security.

Farmers also mentioned some activities and interventions they adopt to support each other in times of need. This favored those in farmer groups because they often support each other on their farms as labourers. Since they all have a fair idea of the best practices of organic farming, they can give advice and on-farm help to other farmers in times of need. Other off-farm support they give to themselves include attending funerals, weddings, and outdooring of babies. A farmer who did not belong to any farmer group mentioned this as his reason for not joining a group:

> *I do not see the essence of joining a group when they cannot help me financially. Most of these groups organise just to seek help from higher authorities and not to give out financial assistance. I prefer to stay on my own and produce in little quantities to sell in the local market (OF12, 4th May 2023)*

Social dialogue

This is the fourth pillar of the decent work framework which ILO, 2006 explains as the pillar which allows workers to exercise their rights in terms of sharing their views, protecting their interests and welfare, as well as being able to negotiate work-related issues. The dialogue was usually between employers and workers, in an attempt to satisfy the needs of both parties involved. The study explored the diverse forms of social dialogue through which organic pineapple farmers channel their grievances and concerns.

Participants mentioned that within their communities, some farmers form groups in order to protect their interest and welfare. These groups are usually affiliated to an external body that usually comes around to train and engage in activities that promote the welfare of its members. Participants stated that they usually engage group leaders, community heads, personnels from the Ministry of Food and Agriculture (MoFA), private institutions, the district assembly, and sometimes financial institutions. The concerns of participants are brought to the attention of the group leaders first, then upon deliberation, it is later sent to the appropriate body for discussion and solutions. In instances where the leaders of these apex bodies or affiliates visit, they (farmers and farmworkers), seize the opportunity to have meetings and discuss their concerns.

Participants who belonged to farmer organisations often engaged with state and private agencies, as well as NGOs on issues relating to access to credit, training, and farm supplies. The benefits associated with belonging to a farmer organisation have caused an increase in the number of farmers found in a group. On the other hand, farmers who do not belong to any farming organisation mentioned, they have challenges in terms of having their issues addressed. This is because these organisations and bodies that assist in solving their issues usually deal with farmer organisations instead of individual farmers. A farmer who belonged to a farmer organisation narrated that:

> *Initially, I was not part of any farmer group or organisation and that really caused me a lot. I had an issue on my farm and needed assistance, but I could not get it because I did not belong to any group. Even banks and some people who were willing to help wanted backing from a group. I decided to join a group right after that experience (OF1, 7th May 2023)*

Some organic farmers would want to organise themselves but, the demands associated with organising prevents them from doing so. This is to say that all farmers have a motive for wanting to join farmer groups. Those interested in financial benefits shy away from these groups because their needs will not be met. It is not surprising that the number of these farmer organisations has increased over the past years because most farmers have seen the non-financial benefits associated with organising. On the other hand, the inability of farm workers not being able to organise can be traced to why their needs are not met. Farmworkers ability to organise themselves and agitate for their interests could begin from them being employed as full- time/regular rather than seasonal workers.

Ready market was noted to be a major benefit that farmers enjoyed from organising. Participants mentioned that since they were organised, they did not have to worry about how to sell their produce, especially during periods where the fruit was in abundance. Prior to joining these groups, some shared that they had challenges with selling, which made them end up in losses and debts. Notably, the ready market was not available to just farmers who belonged to associations or groups. They explained that organic produce has been promoted recently and that accounted for the reason for its high demand. Because of this, all farmers engaged in organic pineapple in the district had their goods sold at the right time.

Farmers had no control over the pricing of the fruits however, the external bodies determine the price at which every farmer sells his/her pineapple produce. The surety in the pricing was better off than those quoted by market women. They mentioned that though they did not have control over pricing, the revenue

they get from selling organic fruits is enough to take care of their needs and debts. Despite the fact that organic product commands a higher price, there was no minimum price that farmers had to receive for their commodities, leaving them vulnerable to market supply and demand forces. A farmer in explaining his concern stated that:

> *Since we started, I can say it has helped us. When you take a critical look at this town, you realise that we have been practicing organic for a long time. What really disturbed us was the marketing of the produce. Thanks to the agric extension officer here, we were introduced to HPW about 4 years ago and it has improved our finances (OF14, 6th May 2023)*

Unlike farmers affiliated to groups, the regular organic farmers had control over the pricing of their fruits. They mentioned that the difference between them and those in groups and associations was the regularity of buying and how fast they earn their income. Farmers who belonged to groups and associations were paid through their leaders right after exchanging the goods whiles those without groups had to deal with buyers directly for their money. This, according to them, makes the work of those who do not belong to farmer groups challenging.

Generally, the findings related to decent work conditions of organic pineapple farmers and workers reveals, that organic pineapple farming offers some opportunities for work and income generation. Strochlic et al. (2009), mentions that although avenues for employment is created, the ILO demands that the conditions in which people are employed be improved. The working conditions should be safe, free from infringement of rights, major harm and discrimination. As per the ideas of the social justice theory, this study reveals that

the rights of farmers and their workers are not infringed upon in terms of decision-making at work, neither are they discriminated against in any form.

Productivity is increased because workers can work in conducive environments which are free from infringements. As they work in safe and productive environments, the economic dimension of sustainability is also achieved. This implies that farmers in their effort to sustain the environment and promote their working conditions also sustain the economy through profitability and hence, economic growth. Although productivity is increased, farmworkers are not allowed to re-negotiate their wages. Wages of farmworkers and hired labourers are fixed within the district. The wage of farmers is above the 14.88ghs minimum wage in Ghana. Farmers earn about 60,000ghs per acre of land after every harvest, which is usually between 1216 months. This amount earned by farmers is equivalent to about 110ghs every day and 3,300ghs a month.

Results from the study shows that for one acre of pineapple farm, a farmer engages two farm workers for a period of 20 days throughout the production or cultivation process. The farmer pays them an amount of 60ghs for the number of engagements on the farm so 20 days multiplied by the 60ghs pay rate is equivalent to 1,200ghs. Out of this amount the farmer earns, s/he also pays 2,400ghs for the two farm workers engaged on the farm. Though farmworkers perform most of the work on the farm, they earn relatively low wage which is comparatively higher than the minimum wage rate in Ghana. However, the sporadic nature of their work explains their lower earnings. This contradicts the concept of fairness as defined by social justice theory because farmworkers are overutilised in comparison to farmers but receive less wage (Soper, 2021).

Equal access to employment opportunities is a crucial aspect of the work rights issue. However, women felt discriminated against in terms of the kinds of farm activities they were involved in. These disparities are frequently rooted in institutionalised rules, and rights in terms of religion, politics, and society, as well as cultural norms (Gidron & Hall, 2017). The ILO's fundamental labour standards in terms of discrimination are therefore not adhered to in organic pineapple farms in the district. As advocated by the ILO (2010), this does not increase the chances for women to find decent employment opportunities that are productive.

Although farmers and farmworkers have some minor challenges regarding occupational safety and health, the study revealed that organic pineapple farms have no fatal occupational injuries due to the absence of chemicals and improvement in work conditions. Farm workers do not have to be absent from work because improved work conditions, translates to an increase productivity in the long run. This supports the ideas of Sorensen et al., (2019) who argued that improvement in occupational safety and health enhances productivity by reducing absenteeism, decreasing the number of accidents, and improving work efficiency. Regarding social protection concerns, it was reported that farmers did not have social security (pension), and neither did they provide security for their workers. Employers are required to offer medical care, sickness benefits, unemployment benefits and old-age benefits under the Social Security (Minimum Standards) Convention 1952 (No. 102) of the ILO. However, the casualisation of organic pineapple farms in the district resulted in the indecent nature of social protection issues. This deviates from Karamcheva and Sanzenbacher's (2014) work, which states that married and educated farmers are more likely to take part in social protection issues like pension plans. The finding on social protection is

comparable to that of ILO (2014), which asserts that most informal workers lack access to social security. Therefore, the expectations of Ghana's social security policies to provide inclusive social protection for the population, particularly the labour force in the agrarian sector, have not been met.

How organic pineapple farming promotes Environmental Sustainability and Decent Work

The final objective of the study was to examine how organic pineapple farming promotes environmental sustainability and decent work in the Ekumfi district. Understanding how organic pineapple farming promotes environmental sustainability and decent work can help promote better practices and facilitate more equitable and sustainable outcomes for both workers and the environment. This objective is sub sectioned into two parts. The first covers how organic farming promotes environmental sustainability, whiles the second covers how organic farming promotes decent work.

Organic farming and environmental sustainability

All participants mentioned that organic pineapple farming provides clean air by avoiding the use of synthetic chemicals that are commonly used in conventional pineapple farming. These synthetic chemicals, such as pesticides and herbicides, can contribute to air pollution by releasing harmful substances into the atmosphere. Some participants stated that these harmful substances have been in connection to a range of health-related problems, including respiratory issues. Avoiding these harmful chemicals in organic pineapple farms promotes environmental sustainability.

Participants mentioned that organic pineapple farming promotes soil health through practices such as the use of indigenous knowledge, tillage and

composting. The indepth interview revealed that adopting indigenous knowledge in organic pineapple farming increases the health of soils in several ways. According to the farmers, one of the important aspects of indigenous knowledge in organic pineapple farming is the use of organic and natural inputs to improve soil health. The use of indigenous methods for pest and disease control in organic pineapple farming improves soil health and prevents pest and disease infestation.

According to the participants, reduced tillage in organic pineapple farming increases soil health in several ways. Improvement in soil matter content emerged as one of the benefits of reduced tillage, which enhances water-holding capacity and improved nutrient availability. Participants mentioned that reduced tillage allows the soil to remain undisturbed, allowing natural processes to occur. It also reduces soil erosion, by protecting the soil surface and allowing water to infiltrate instead of running off.

Again, participants claimed that the use of compost is an important practice in organic pineapple farming that can help improve the health of soils. According to them, composting involves the decomposition of organic matter such as plant debris, manure, and other natural materials, which are then applied to the soil as organic fertiliser. From the indepth interview, it was disclosed that composting helps to increase soil fertility, improve soil structure, and enhance microbial activities which are important for maintaining healthy soils in organic farming systems.

Responsible water management practice was noted to promote environmental sustainability. Participants mentioned that organic pineapple production is water-intensive, and that it provides a sustainable and responsible approach to water management. According to them, they primarily use rainwater

and supplement it with irrigated water during the nursery stage of the pineapple cultivation, to meet the required water input. The participant revealed that the reliance on rainwater reduce water depletion from other water sources such as rivers and lakes and safeguard the long-term availability of water resources.

Aside responsible water management practices, participants stated that organic pineapple farming has the potential to mitigate climate change impacts. According to the participants, organic farming practices abhors the use of synthetic fertilisers and pesticides, which can lessen climate change impact. Farmers clarified that they only plant some trees to serve as boundaries and shade for the fruit. According to them, tree planting plays a significant role in reducing the negative effects of harsh weather conditions. Trees provide shelter for beneficial insects and birds that help control pests. The shade helps to regulate temperatures and humidity, creating an optimal environment for the growth of pineapples.

From the forgoing findings, it can be deduced that, organic pineapple farmers and workers in their quest to ensure environmental sustainability have resorted to practices such as non-application of fertilisers, composting, tillage, indigenous knowledge, rainwater usage, and tree planting around the boundaries of the farm. For instance, the non-application of fertiliser has led to clean and unpolluted air within the district and its environs. As alluded to by Sekercioglu (2010), clean air is a necessity to survival of humans and plants since plants provide oxygen, and humans in return provide carbon dioxide for the survival of plants within the ecosystem.

In ensuring the health of the soil, farmers employ indigenous knowledge, reduced tillage and composting. By promoting soil health, organic pineapple

farming contributes to the long-term sustainability of agricultural lands. Indigenous knowledge, such as neem trees and other cover crops is used to manage pests and diseases without causing harm to beneficial organisms and the environment (Lokuruka et al., 2017). This ensures that soils remain safe, productive, and resilient for future generations. This adds validity to the notions of the ecological modernization theory, which holds that when people use indigenous and innovative farming practices, the environment benefits.

The use of composting as a means to improve soil health in organic pineapple farming also improve soil organic matter content, increase soil microbial organisms, and enhance soil structure. This is in line with Lasmini et al., (2018) who allude that composting improve soil health by increasing its water retention, aeration, structure, and fertility. Composting is a sustainable and beneficial practice for both the environment and agriculture. Reduced tillage also minimises the demand for external inputs such as fertilisers since soil organic matter provides essential nutrients to the pineapple, thereby reducing the cost of production. This lends credence to Bambara and Lenné, (2016) who highlights that reduced tillage improves organic matter, soil structure and a more diverse and active soil microbial community, which leads to healthier plants.

Water management practices such as rain and the use of plastic mulch in organic pineapple farming retains a lot of water throughout the planting season, which keeps the pineapple healthy. This approach also helps in reducing the over reliance on other water bodies such as lakes, rivers or streams, hence allowing respective households to meet their water usage within the district. Albrecht et al., (2019) states that responsible water management practices reduce the need for energy-intensive irrigation systems.

The use of natural fertilisers and other pest control methods by organic pineapple farmers and farmworkers lessens the impact of climate change on the environment. This is also helps to mitigate climate change impacts since the use of natural pest control methods such as the application of organic fertiliser in organic pineapple farming is environmentally safe, energy efficient, cost-effective and sustainable. This finding corresponds to FAO (2017) which says that the application of natural fertilisers and pest control methods, in organic farming promotes biodiversity, and mitigate to climate impacts.

Organic farming and decent work

In responding to how organic pineapple farming promotes decent work, respondents noted that engaging in organic pineapple farming promotes employment opportunities in several ways. From the interviews, it was discovered that organic pineapple farming practices are more labour intensive, requiring activities such as manual weeding, tilling, pruning, composting among others. This creates additional employment opportunities compared to conventional pineapple farming practices which relies heavily on chemical inputs and machinery. Participants disclosed that organic pineapple required skilled labour in areas such as pest and disease control, soil fertility management, and harvesting techniques. This implies that workers in this field gain some skills on the job. Employment opportunities in the district resulting from organic pineapple farming promotes economic growth due to the income generated, and skills acquired. This type of employment is sustained once farmers continue to grow organically.

The participants hinted that organic pineapple farming attracts premium prices which give them an opportunity to maximise gains from pineapple trade. In

most cases, these farmers certify under organic fair trade certification which guarantees the farmers higher farm prices and consequently high incomes. Participants also mentioned that, through organic pineapple farming, they have access to remunerative markets such as the processors and the export market. According to the key informant, organic pineapple farming offers producers a higher return on their investments compared to the conventional pineapple production. A key informant had this to say regarding the profitability of organic pineapple farming business.

> *The attempt to bring to light the importance and health benefits of consuming organic products is what explains its profitability in recent times. Consumers now see how beneficial it is to their health, so they prefer to purchase that even at higher prices than to buy unsafe pineapples at the expense of their health. As consumers purchase more of organic pineapples, the farmers and producers also make profits for themselves. It's a win-win situation (Key Informant2, 5th September 2022).*

Comparatively, organic pineapple farming is more lucrative. An acre of organic pineapple farm averagely hoovers around 60,000ghs while the conventional approach is expected to give something around 70,000ghs. However, due to the excessive synthetic fertilisers used in conventional pineapple farming, the pineapple fruits get spoilt in the long run, thereby attracting poor prices and reducing the total amount of earnings to about 40,000ghs. Participants also mentioned that the consciousness of consumers on how safe organic pineapples are, have increased its demand, thereby making it more lucrative. Farmers disclosed that the lucrative nature of the business provides them with higher incomes for themselves and their workers. This, according to the farmers,

does not only provide employment but good renumeration for themselves and their workers.

Specifically, female respondents claimed that organic pineapple farming serve as a means of economic empowerment. According to this category of farmworkers, they are often engaged in various stages of the production process, from planting and harvesting to post-harvest processing and marketing. Unlike conventional pineapple farming, organic pineapple farming typically relies on manual labour and traditional farming practices, which provides employment opportunities for women. Economic empowerment through organic pineapple farming challenges traditional gender roles and norms, as women gain economic agency and become active participants in decision-making processes within their households and communities. A female farm worker in explaining said:

> *Since I started working in organic pineapple farms, I no longer disturb my husband to get me basic things in the house especially things related to feminine hygiene. I am able to get all these for myself and even support my husband in taking care of our children. Because I am able to support him financially, he considers my views when making certain decisions (OFW3, 4th May 2023).*

The female participants emphasised that organic pineapple farming promotes gender equality and social inclusion. For instance, women in the district can participate in fieldwork and engage in traditionally maledominated activities, such as planting. According to them, this promotes gender equality since women are able to showcase their capabilities and contributions in the agricultural sector.

Some participants also expressed how engaging in organic pineapple farming reduces the vulnerability of some farmers in the district. Vulnerability in

the district has to do with the susceptibility of farmers and farm workers to economic, social, and environmental risks and shocks that can negatively impact their livelihoods. Participants explained that vulnerability arises from factors such as climate change, market fluctuations, pests and diseases, education, and limited access to resources such as credit, information, and technology. They stated that engaging in organic pineapple farming reduces the dependence on chemical inputs, which is expensive and harmful to the environment and human health. This lowers production costs and improves the quality of the pineapples, leading to higher profits and better market access.

Participants averred that organic practices often involve communitybased approaches such as participatory decision-making and knowledgesharing, which can improve social cohesion and reduce the risk of social exclusion and marginalisation. Participants disclosed that growing organic pineapples comes with frequent visitation from external bodies and government agencies, so community members perceive them as big and well to do. This, according to some participants, has reduced how vulnerable they felt within the community though they are indigens. Some farmers commented that previously they felt excluded before transitioning to organic pineapple farming, but now they feel valued because they are able to interact with influential members of the community. A farmer narrated saying:

> *Since I started producing organic pineapples, I have been able to buy a motor for myself, completed my building, and enrolled my children in school. I can see an improvement in my life and that of my family. I also have the right to talk when others are talking. My views are also considered during decision making (OF11, 5th May 2023)*

The issue of right was mentioned by all respondents in the study. In terms of organisational health and safety which is a right, respondents stated that their rights are promoted by providing a secure and wholesome workplace. Since organic practices avoid the use of synthetic fertilisers and pesticides, workers are less exposed to harmful chemicals, reducing the risk of occupational hazards. Organic pineapple farming practices usually focus on enhancing soil health, biodiversity, and ecosystem conservation, which contributes to a safer and healthier work environment for workers.

Participants also stated that organic pineapple farming promotes workers' rights through fair labour practices. This was attributed to organic certification programmes which often require compliance with social standards, such as fair wages, safe working conditions, and workers' rights to organise and bargain collectively. These standards, according to the participants help in protecting the rights of pineapple farm workers and promote fair labour practices, which are important components of decent work. These organic certification programmes often require farmers to implement social programmes that benefit their communities, such as providing access to education, healthcare, and clean water. These social programmes contribute to the social protection of farmers and workers, promoting their well-being and improving their quality of life.

Again, participants mentioned that organic pineapple farming contributes to social protection by promoting sustainable livelihoods for farmers and workers. Organic practices often focus on building healthy soils, conserving water, and preserving biodiversity, which can enhance the resilience of pineapple farms to climate change impacts and market fluctuations. This helps farmers and workers

to maintain stable and sustainable incomes, reducing their vulnerability to economic and environmental shocks.

Participants noted that organic pineapple farming promotes social dialogue by encouraging participatory decision-making processes and fostering communication between farmers, workers, and other stakeholders. A key informant stated that organic practices often involve farming approaches that prioritise farmer knowledge, local expertise, and traditional practices. This, according to the key informant promotes social dialogue by empowering farmers and farmworkers to take part in decisions affecting their work, such as choosing appropriate pest control strategies or deciding on work strategies.

Furthermore, participants mentioned that organic certification programmes often require farmers to engage in regular inspections, consultations, and audits, which provide opportunities for social dialogue between farmers, certifiers, and other stakeholders. These dialogues help build trust, transparency, and accountability in the organic pineapple farming sector, fostering collaboration and cooperation among different actors.

Organic pineapple farming promotes decent work by providing employment opportunities, safe working conditions, gender equality and fostering respect for workers‘ right. It contributes to the creation of more jobs, the revitalisation of rural economies, and attracting younger, and more optimistic people into agriculture. Green & Maynard (2006) and Poschen (2017) buttresses that, organic farming not only increases agricultural employment, but it is also economically productive, socially and environmentally sustainable.

This suggests that organic pineapple farming is more socially inclusive and promotes decent work. This confirms that engaging in organic farming

frequently develop social networks and offer training and extension services (Méndez et al. 2010; Valkila 2009), which promotes decent work conditions in the district. Just as the social justice theory, when the rights of people are not infringed upon, when there is equity, equality, assess and equal participation, the working conditions of workers will be improved. This offers a more sustainable and socially responsible approach to agriculture, which is key to the sustainable development of pineapple growing communities.

Despite the essential ways in which organic pineapple farming promotes decent work, it is important to consider its impacts on the social and economic aspects of decent work. Due to higher labour costs and lower economies of scale, organic pineapple farming is more expensive than conventional farming. As a result, organic farmers face challenges in maintaining competitive wages for their workers. This could potentially lead to lower wages or reduced benefits for workers, impeding their ability to earn a decent income and support themselves and their families.

Overall, organic pineapple farming has the potential to promote environmental sustainability through its impacts on soil health, water resources, clean air, and climate change. EPA, (2021) affirms that avoidance of synthetic chemical usage reduces air pollution, thereby providing clean air. By prioritising sustainable and environmentally friendly practices, organic pineapple farming can contribute to the long-term resilience and sustainability of agricultural systems (NRC, 2010; Manna et al, 2021).

Chapter Summary

The first section of the chapter examined the compositional and contextual characteristics of organic farmers, and the best organic practices in the district.

For compositional characteristics, it found that most farmers engaged in organic pineapple were men. They played specific farm roles which women are not engaged in because of its difficult nature. Farm sizes were small to medium scale and not highly mechanised.

The results on organic best practices were analysed based on practices such as crop rotation, green manuring, no cutting of trees, cover cropping, pest control, no bush burning, no chemical application, and weed control. Organic pineapple farming was found to be genuinely indigenous to the study population, which made it simple for communities to practice.

The second section assessed the decent work condition of farmers and farmworkers engaged in organic pineapple farming, using the four ILO decent work indicators. For issues relating to workers‘ rights, the study analysed freedom of association and bargaining, discrimination, and child labour. The type of employment, the kind of labour engaged, and the duration of work was also assessed as components of employment opportunities. Social protection mechanisms in terms of social security and health insurance schemes were also discussed as well as avenues for social dialogue.

In assessing how organic pineapple farming promotes environmental sustainability and decent work, the study highlighted how organic pineapple promotes environmental sustainability by providing clean air due to its avoidance of synthetic chemicals. It brings to light how organic pineapple farming promotes soil health through practices such as the use of indigenous knowledge, reduced tillage and composting. The study also revealed that responsible water management practices, as well as having the potential to mitigate climate change impacts are ways in which organic pineapple farming promotes the environment.

Organic pineapple farming also promotes decent work by reducing the vulnerability of some farmers in the district, providing opportunities for social dialogue between farmers, certifiers, and other stakeholders. This act is seen to promote participatory decision-making processes and foster communication between farmers and workers. Organic pineapple farming was also noted to contribute to social protection by promoting sustainable livelihoods for farmers and workers, workers' rights through fair labour practices.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATION

Introduction

This chapter contains a summary of the study, key findings, and recommendations on environmental sustainability and decent work potentials among organic pineapple farmers in the Ekumfi district. The summary recaps the methodology, and results from the study's findings. The chapter's concluding section offers recommendations for different stakeholders as well as some suggestions for further research.

Summary of the study

The study highlighted that the concentration of neoliberal policies on the economic dimension of sustainability is at the detriment of the social and environmental dimensions. However, sustainable agriculture must be economically viable, ecologically sound and socially just. The study then placed organic pineapple farming and decent work within the broader discourse of sustainability and examined its potential to promote sustainable agriculture. Organic farming and decent work conditions represented the environmental and social dimensions of sustainable agriculture respectively.

Informed by reviewed literature and the identified research gaps, the study explored environmental sustainability and decent work potentials among organic pineapple farmers in the Ekumfi district in the Central region of Ghana. To assess this, three objectives were set out. First, the study examined organic farming practices in relation to the best environmental practices. The second objective examined decent work conditions among organic pineapple farmers. The final objective assessed how practicing organic pineapple farming promotes environmental sustainability and decent work.

The study employed a qualitative research design and an exploratory study design. Primary data was purposively collected from farmers engaged in organic pineapple farming in the district, using interviews and focus group discussions. Other participants include farm workers, and key informants who were into training and purchasing organic pineapples. Based on the study's objectives, the findings were discussed.

Summary of key findings

This section presents major findings based on the discussions and analysis of the study. It is presented based on the objectives of the study

Organic practices in relation to best practices

1. The farming practices performed by organic farmers include cover cropping, manure and compost application, terracing and crop rotation. Farmers and their workers did not engage in any form of burning during land preparation, neither did they use fertilisers and synthetic chemicals to boost yield or reduce weeds. Plastic mulch was used to reduce weeds, trap energy for plant growth and reduce the farming season.

2. Farmers rely on indigenous methods in controlling pest and fighting diseases. They rely on bacteria found in animal droppings and decomposed plants and animals to fertilise the soil. A highlight of this study was that most farmers understood the lifecycle of pests which helps to reduce the rate of pest infection. The basic equipment's used for land preparation is the cutlass and hoe.
3. The activities of farmers are protective of the environment due to the regulations that prohibits them to destroy the environment. This was as a result of series of trainings they had undergone. All farmers for the study had undergone series of training and had been certified to produce organic pineapples.

Decent work conditions of farmers and farmworkers

1. The study found that farmworkers were not entitled to maternity or leave since their job was mainly casual and mostly informal. There was no form of association for farmworkers as well.
2. Farmers had the freedom to belong to any association of their choice, as well as having the power to bargain on farm produce with their suppliers.
3. Children were not engaged in farm activities because the parents wanted them to enjoy childhood and schooling. Children were, however, engaged in farm activities on weekends and during holidays.
4. The dominant type of labour was hired labour however, some wives help their husbands on the farm as non-wage workers. Both male and female farm workers were involved in weeding, mulching, forcing, irrigation, and harvesting. The maximum hours spent on the farm was eight hours a day and usually four days a week.

5. Despite being compensated for tasks completed, farm workers were never given the choice of setting the maximum or minimum amount and hours of work.
6. Farmers expressed a high level of content due to their engagements in organic pineapple since it is associated with an improvement in their income levels and standard of living. Male employees benefit more from the financial improvement of their employers because of the multiple roles they are engaged in.
7. Except for the stakeholders who stated that they save for retirement, none of the farmers or farmworkers had any formal financial security. Their inability to provide a financial form of security gave rise to a non-financial form of security which was investing in their children's education. Though they may not have financial security, they support each other on the farm when the need be.

How organic pineapple farming promotes environmental sustainability and decent work

1. Organic pineapple farming promotes environmental sustainability through the safe practices of organic farming. Farmers avoid the use synthetic chemicals, thereby providing the environment with clean air. By providing clean air, the activities of organic pineapple farming help to mitigate climate change impacts.
2. The activities of organic pineapple farming also promote the health of soils through practices such as adopting indigenous knowledge, reduced tillage, and composting. These practices, together with responsible water management sustain the environment.

3. The study also found that organic pineapple farming promotes decent work through the provision of employment for local farmers and workers, contributing to social and economic development. Farmers attract premium prices which gives them an opportunity to maximise gains from organic pineapple trade. This serves as a means of economic empowerment for them.
4. It was also revealed that community-based approaches such as participatory decision-making and knowledge-sharing, improves social cohesion and reduce the risk of social exclusion and marginalisation in the district. The rights of workers were also promoted through fair labour practices. These addresses the four pillars of ILOs decent work framework, which corresponds to promoting the social dimension of sustainability.

Conclusion

Based on the main findings of the study, the environmental sustainability and decent work potentials of organic pineapple farming are summarised in the following sentences.

The majority of farmers in the district follow the principles of organic farming and employ the most effective organic techniques. These principles adopted by farmers and farmworkers in the district, present their activities as safe since they do not engage in the use of harmful chemicals and burning. However, since they do not adopt all the principles of organic farming, it will be wrong to say they produce organically. Amidst the challenge of not staying strictly to the principles of organic farming, the environment and humans are largely protected by the activities of organic pineapple farmers.

Evidence from the study also revealed that organic pineapple farming improves the lives of farmers. They expressed a high level of financial content due to their engagements in organic crops. Because organic systems are frequently more resilient to extreme weather events and provide diverse set of outputs, organic pineapple farming generally reduces the vulnerability of farmers. This is because of the high pricing and price premiums of organic fruits. Higher organic pricing act as a buffer against the low prices and price volatility of conventional markets. The formation of social networks and organisations into farmer cooperatives also gives organic pineapple farmers better access to education, and credit. Despite the positive impact on farmers and their workers, some challenges were recorded. Various methods are being employed to increase the benefits and reduce the challenges in organic pineapple farming for both farmers and workers. Among them, is encouraging farmers to organise since organising offers advantages such as ready market and good pricing. Based on these, it can be concluded that farmers and their workers enjoy favorable work conditions as a result of growing pineapples organically

The discoveries of this study showed that organic pineapple farming promotes decent work and sustains the environment due to the safe practices farmers engage. Through their work, humans benefit from a healthy ecosystem, clean water, and air, preserved soil nutrients, and access to food. Farmers and their workers also enjoy favorable work conditions as a result of growing pineapples organically. While workers on smallholder organic pineapple farms play an important role, it is crucial to note that some indicators of decent work conditions are inadequate and need to be improved in the Ekumfi district. It can be concluded that engaging in organic pineapple farming offers a more integrated

approach to sustainable agriculture, which is key to the broader discourse of sustainable development.

Recommendation

The proposed recommendations are based on the study's findings.

It is recommended that organic pineapple farmers in the Ekumfi district should request for more policy attention which will focus on training farmers and farmworkers, and ensure that all organic principles are strictly adhered to. Also, these policies should focus on areas with the greatest potential for organic farming and set policies to favor those involved in producing organically.

The study recommends that some indicators of decent work conditions especially for farmworkers need to be improved in the Ekumfi district. Actions should be taken to make sure that farmworkers especially, enjoy favourable working conditions. This is because the only policy on organic farming in Ghana now, relates to organic certification and the best practices in organic farming.

Finally, the study recommends environmentally friendly technologies need to be provided to organic pineapple farmers in the district at subsidized prices to aid in improving production and reducing the work load on workers. When these technologies are used in organic farms, it can help increase the yield of crops, improve duration and work conditions, thereby promoting environmental sustainability and decent work.

Suggestions for further research

The study sought to interrogate how organic pineapple farming and decent work promotes environmental sustainability in the Ekumfi district. However, further studies can be conducted by using longitudinal design in order to observe and record the changes in variables over an extended period.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST
SCHOOL FOR DEVELOPMENT STUDIES
ENVIRONMENTAL SUSTAINABILITY AND DECENT WORK POTENTIALS AMONG ORGANIC PINEAPPLE FARMERS IN THE EKUMFI DISTRICT IN THE CENTRAL REGION OF GHANA

KEY INFORMANTS INTERVIEW GUIDE	
Themes	***Issues, Questions and Probes***
Background characteristics of participant	1. Sex 2. Years of experience 3. Place of work 4. Position
Organic farming practices in relation to best practices	5. What are some peculiar features of organic pineapple farming? 6. How is the soil fertilised by farmers (what equipment_s do they often use and how protective are they)? 7. What kind of farmers are engaged in organic pineapple farming (experience, age, gender, educational level, financial status)? 8. Why do farmers opt for organic pineapple farming? 9. Is there a policy on organic farming? 10. Are there Agricultural Extension Agents responsible for organic farming? 11. Do you work with NGO'S? What is their role? 12. Do farmers do organic farming on commercial basis? (in addition to regular farm)? Why? 13. What is the average farm sizes of organic farms? 14. What are some of the issues that threaten organic pineapple farming

Decent work conditions	15. What are the job opportunities/ special task associated with organic pineapple farming? (types/ forms) 16. What are the OHS issues specific to OF 17. How does engaging in organic farming affect income (positive/ negative, average income) 18. What groups are available to farmers engaging in organic farming? 19. What is the membership trend (growing, static, declining)
Extent to which organic farming promotes environmental sustainability and decent work	20. In your opinion, how does organic farming promote decent work? 21. In what ways do practicing organic farming sustain the environment? 22. How does the mandate/ objective of your group/organisation/institution promote environmental sustainability? 23. What kind of activities do you assist farmers with in an attempt to sustain the environment 24. What are some of the successes the organisation has achieved so far in promoting environmental sustainability and decent work? 25. What are the challenges you face in carrying out your duties (how do you handle them) 26. What are some future plans of the group/organisation in ensuring that the environment is sustained, and decent work conditions adhered to?
Conclusion	27. Any comment or recommendation on ways to promote environmental sustainability and decent work?

APPENDIX B

UNIVERSITY OF CAPE COAST

SCHOOL FOR DEVELOPMENT STUDIES

ENVIRONMENTAL SUSTAINABILITY AND DECENT WORK POTENTIALS AMONG ORGANIC PINEAPPLE FARMERS IN THE EKUMFI DISTRICT IN THE CENTRAL REGION OF GHANA

FARMERS INTERVIEW GUIDE	
Themes	***Issues, Questions and Probes***
Background characteristics of participant	1. Sex 2. Years of experience 3. Age 4. Education 5. Status 6. Household size 7. Telephone number 8. Farm size 9. Do you have other farms that are not OF 10. Do you do OF on commercial basis or family consumption only?
Organic farming practices in relation to best practices	11. How do you prepare the land? 12. What variety of pineapple do you grow (Improved variety or local. Why)? 13. How do you prevent insects from attacking your crops? 14. How is the soil fertilised (what equipment_s do you use, how protective are they)? 15. How are weeds managed on the farm? 16. What are some peculiar features of organic pineapple farming? 17. What kind of agroeconomic activities does the labour engage in? 18. Why do you opt for organic farming?

Decent work conditions	19. What are the job opportunities associated with organic pineapple farming? (types/ forms) 20. Do you rely on family labour or hired labour? 21. What kind of labour do you rely on (Female, male, young, migrant) 22. How much do you pay labour per day? 23. Is organic farming more difficult? How, why 24. What is the average hours farmers spend working on the farm daily? 25. What are the safety and health problems you encounter (are these specific to OF)? 26. How does engaging in organic farming affect
	your income (positive/negative, average income)? 27. Does engaging in organic farming affect men and women differently? (Income, health, work conditions) 28. What kind of jobs do women undertake and why? 29. How do you support yourselves in times of need (Sickness, Old age, Accident) 30. Do you have any pension scheme/ save money towards pension? 31. Does the income of farmers translate into the work conditions of farmworkers? 32. What are some rights you have as a farmworker? 33. As a farm worker, do you have a stake in decision making. 34. What groups are available to farmers engaging in organic (Association, Cooperative, Union etc) 35. What criteria for joining this group and how effective is it 36. Are there other farmer nonorganic farmers groups you join

Extent to which organic farming promotes environmental sustainability and decent work	37. How does organic pineapple farming promote your working conditions? 38. What are the benefits of practicing organic pineapple farming? 39. In your opinion, what is environmental sustainability? 40. How does organic pineapple farming sustain the environment? 41. Are there any negative impacts of organic farming? (long and short term) 42. Does the impact depend on the size of farm? 43. How does organic pineapple farming promote economic benefits (short and long term) 44. What are some of the challenges you face at work? 45. How are these challenges addressed (process or addressing)?
Conclusion	46. Any comment or recommendation on ways to Promote environmental sustainability anddecent work?

APPENDIX C

UNIVERSITY OF CAPE COAST

SCHOOL FOR DEVELOPMENT STUDIES

ENVIRONMENTAL SUSTAINABILITY AND DECENT WORK POTENTIALS AMONG ORGANIC PINEAPPLE FARMERS IN THE EKUMFI DISTRICT IN THE CENTRAL REGION OF GHANA

FOCUS GROUP DISCUSSION GUIDE FOR FARM WORKERS

1. What do you perceive as organic farming?
2. How do you prepare the land?
3. How do you prevent insects from attacking your crops?
4. What is the process of fertilising the soil (what equipment_s do you use, how protective are they)?
5. How are weeds managed on the farm?
6. What variety of pineapple do you grow (Improved variety or local. Why)?
7. Does engaging in organic farming affect men and women differently? (Income, health, work conditions)
8. What kind of jobs do women undertake and why?
9. How do you support yourselves in times of need (Sickness, Old age, Accident)
10. Do you have any pension scheme/ save money towards pension?
11. Does the income of farmers translate into the work conditions of farmworkers?
12. What are some rights you have as a farmworker?
13. As a farm worker, do you have a stake in decision making.
14. What groups are available to farm workers engaging in organic (Association, Cooperative, Union etc)

15. What is the membership trend (growing, static, declining)?
16. How much are you paid per day?
17. Is organic farming more difficult? How, why
18. What is the average hours you spend working on the farm daily?
19. What are the safety and health problems you encounter (are these specific to OF)?
20. How does organic pineapple farming promote your working conditions?
21. What are the benefits of practicing organic pineapple farming?
22. In your opinion, what is environmental sustainability?
23. How does organic pineapple farming sustain the environment?
24. Are there any negative impacts of organic farming? (long and short term)
25. Does the impact depend on the size of farm?
26. How does organic pineapple farming promote economic benefits (short and long term)
27. What are some of the challenges you face at work?
28. How are these challenges addressed (process or addressing)?

APPENDIX D

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
INSTITUTIONAL REVIEW BOARD SECRETARIAT
TEL: 0558093143 / 0508878309
E-MAIL: irb@ucc.edu.gh
OUR REF: IRB/C3/Vol.1/0121
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0011497

2ND MAY 2023

Ms Sharonrose Adom Asiaw
Department of Integrated Development Studies
University of Cape Coast

Dear Ms Asiaw,

ETHICAL CLEARANCE – ID (UCCIRB/CHLS/2022/81)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your research on **Environmental Sustainability and Decent Work among Organic Pineapple Farmers in the Ekumfi District in the Central Region of Ghana.** This approval is valid from **2nd May 2023** to **1st May 2024**. You may apply for a renewal subject to the submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit a periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Kofi F. Amuquandoh
Ag. Administrator