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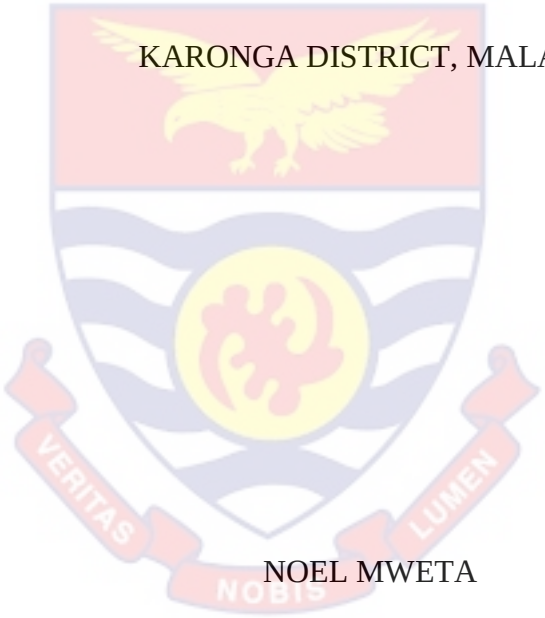
SOCIO-ECONOMIC BENEFITS AND CHALLENGES OF OIL PALM PRODUCTION AMONG INDIGENOUS RURAL FARMERS IN KARONGA DISTRICT, MALAWI



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SOCIO-ECONOMIC BENEFITS AND CHALLENGES OF OIL PALM PRODUCTION AMONG INDIGENOUS RURAL FARMERS IN KARONGA DISTRICT, MALAWI

BY

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Thesis submitted to the Department of Sociology and Anthropology of the Faculty of Social Sciences, College of Humanities and Legal Studies, University of Cape Coast, in partial fulfillment of the requirements for the award of Doctor of Philosophy degree in Sociology

NOVEMBER 2024

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.

Candidate's Signature: …….

Date: ……

Name: Noel Mweta

Supervisors' Declaration

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

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

Name: Prof. Alex Somuah Obeng

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Name: Prof. John Windie Ansah

ABSTRACT

Oil palm production (Elaeis guineensis) presents significant opportunities for the rural population to alleviate poverty through agriculture. This study investigated the socio-economic benefits and challenges of oil palm production among indigenous rural farmers in the Karonga District, Malawi. A mixed-methods approach was employed, integrating data collected through questionnaire, interview, and focus group discussion guides. The questionnaire was administered to 477 households engaged in oil palm production. Further, 10 key informants were interviewed, and 4 focus group discussions were formed. Guided by the Theory of Access, examining oil palm production's importance for sustaining indigenous rural farmers' livelihoods revealed a multifaceted role in addressing food through cooking oil production, creating employment opportunities, and meeting other basic needs. Despite these benefits, challenges such as access to market, farm equipment, information and extension services, and credit persist, hindering production and socio-economic progress. Again, the Spearman rho correlation analysis between acres of land cultivated and benefits from oil palm production revealed -.140 with a sig value of 0.000, signifying that as more acres of land farmers cultivate, benefits tend to reduce moderately. The researcher, therefore, recommends that the MoA collaborate with other stakeholders in the agriculture sector, including financial institutions and the manufacturing industry, in the provision of extension services as a means of information access, creating the market, and providing credits to indigenous rural farmers so that they can invest and buy equipment necessary for this agricultural activity.

KEYWORDS

Access

Agriculture

Indigenous rural farmers

Malawi

Oil palm

Socio-economic

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DEDICATION

Ellen Makombe-Mweta

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LIST OF ACRONYMS AND ABBREVIATIONS

CA	Capability Approach
FAO	Food and Agricultural Organisation
FFB	Fresh Fruit Bunches
GAD	Gender and Development
GDP	Gross Domestic Product
GoM	Government of Malawi
MATRAD	EMalaysia External Trade Development Corporation
MGDS	Malawi Growth and Development Strategy
MoA	Ministry of Agriculture
NAP	National Agricultural Policy
NAIP	National Agricultural Investment Plan
NGO	Non-Governmental Organisation
NPC	National Planning Commission
PKO	Palm Kernel Oil
SDG	Sustainable Development Goals
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development

1.0.CHAPTER ONE

INTRODUCTION

1.1.Overview

The researcher in this study investigated the socio-economic benefits and challenges of oil palm production among indigenous rural farmers in Karonga district, Malawi. The study understands that agriculture serves as a vehicle for socio-economic development, particularly in developing countries such as Malawi that rely on it to support people's lives. The notion of the ability to benefit from the resource (oil palm), as advanced by Ribot and Peluso (2003), has been introduced in the discourse of oil palm production among indigenous rural farmers in Karonga district.

From this study, the findings will probably lead to the exploitation of oil palm, which has been neglected for a long period. Oil palm production has been key in mitigating socio-economic challenges among people in countries such as Malaysia, Indonesia, Ghana, Nigeria, Honduras and Papua New Guinea as sources of food and income generation (Khatun, Maguire-Rajpaul, Asante & McDermott, 2020; Qaim, Sibhatu, Siregar & Grass, 2020; Krishna, Euler, Siregar & Qaim, 2017).

This chapter gives the background to the study, the problem statement, the objectives of the study, the significance of the study, and defines concepts critical to the study, namely access, socio-economic, and indigenous farmers. It also provides a brief overview of subsequent chapters.

1.2.Background to the Study

Globally, agriculture "increases the socio-economic status of people all over the world, especially the world's poor population, who are dependent on it

as their main source of livelihood" (Kalu, Sakilu & Ebhota, 2023, p. 2). In addition, "agriculture accounts for 4 percent of global gross domestic product (GDP), and in some developing countries, it accounts for more than 25 percent of GDP, and in poor countries, the agriculture sector is two to four times more effective in raising incomes among the poorest compared to other sectors" (Food and Agricultural Organisation (FAO), 2021, p. 2).

In developing countries, agriculture is the backbone of their economies as it sustains the lives of most rural populations. It plays a "key role in food security and economic development, as most of the rural population depends either directly or indirectly on agriculture for their livelihoods" (Udemezue & Osegbue, 2018, p. 134). Agriculture further "serves as a source of foreign exchange, employment, and reduces expenditure on the imports, hence forming the foundation of developing countries' economic development" (Todaro & Smith, 2009, p. 24).

In Africa, the role of agriculture in transforming both the social and economic frameworks of the economy cannot be overemphasised. "Agriculture has been the source of gainful employment, providing the industries with local raw materials, and as a reliable source of government revenue" (Udemezue & Osegbue, 2018, p. 134). Furthermore, agriculture "increases the supply of food available for domestic consumption and releases labour needed for industrial employment; enlarges the size of the domestic market for the manufacturing sector; increases the supply of domestic savings; and provides foreign exchange to the government through agricultural exports" (Udemezue & Osegbue, 2018, p. 135).

In Malawi, and as it is in mot African countries, agriculture serves as the backbone of the economy. The Malawi Government, through National Agricultural Investment Plan (NAIP) (2018) acknowledges that Malawi is largely an agriculture-based economy, hence, "placing high priority on the agricultural sector due to its critical contributions towards the socio-economic development and livelihood of the population" (Malawi Government (NAIP), 2018, p. 2). Again, in Malawi, agriculture contributes effectively to broadening economic growth, poverty reduction, and food and nutrition for the nation. For instance, in 2018, agriculture generated approximately, 28 percent of GDP, 65 percent of employment, and 63 percent of export earnings (Malawi Government (NAIP), 2018). Moreover, the agriculture sector in Malawi is characterised by the "production of maize as a staple food and a few key cash crops, such as tobacco, as a chief source of foreign exchange earnings, with its per capita income remaining low, averaging US$502 over the past decades" (Malawi National Planning Commission (NPC), 2020, p. 4).

Additionally, the agriculture sector in Malawi is crucial for the economy and individual livelihoods, providing the single most important income source for 85 percent of Malawian families (Kampanje, 2022; Markowitz, 2018). "Leading agriculture sub-sectors in Malawi include crop farming, livestock production, horticulture, fisheries and aquaculture, irrigation, and agro-processing" (Malawi Government (NAIP), 2018, p.1).

Oil palm (*Elaeis guineensis*) production as an agricultural activity has been key in promoting the livelihoods of rural farmers. Through agriculture, oil palm production in developing countries has provided potential avenues for rural farmers to alleviate poverty (Castellanos-Navarrete, de Castro & Pacheco,

2021; McCarthy, Gillespie & Zen, 2012). Oil palm is a multifaceted crop, "one of its characteristics is its high yield, in terms of the amount of oil produced per unit of cultivated area, with two different types of products that can be extracted from the fruit, namely palm crude oil (fresh fruit) and palm kernel oil from the seeds of the fruit" (Chiriacò, Bellotta, Jusi & Perugini, 2022, p. 2).

Oil palm and its related products are the most widely traded vegetable oils worldwide, representing about 60 percent of global trade and contributing significantly to 25 percent of the world's total vegetable oil consumption (World Bank, 2010). At the industrial level, extracts from oil palm fruits are used to produce different kinds of products, including "cooking oil, red oil, sweetened condensed milk, margarine, emulsifier, chocolate coatings, toffee, coffee whiteners, whipped toppings as cream, chocolate bars, and also can be processed to be cattle fodder, pulp and paper, alcohol, compos, activated charcoal, organic solvent, lubricants, soap, candles, pharmacy products, and cosmetics" (Sarku, 2017, p. 2).

Moreover, oil palm production contributes directly to employment, dividends, government taxes, and other retributions in countries such as Indonesia and Malaysia (Dahliani & Maharani, 2018). In Malaysia, for example, "the oil palm sector is one of the crucial revenue earners after the electrical and electronic, petroleum, and chemicals industries" (MATRADE, 2021, p. 2), making it the largest exporter of palm oil, accounting for "approximately 18.3 percent of the global oils and fats (17.37 million metric tonnes) while contributing to 34.3 percent of the total palm oil trade" (Parveez, Kamil, Zawawi, Ong-Abdullah, Rasuddin, Loh, Selvaduray, Hoong, & Idris, 2021, p. 182). Further, "the success of oil palm has contributed to Malaysia's

gross domestic product (GDP) on average of 5 to 7 percent, foreign exchange earnings, and the creation of employment opportunities. Also, as a sustainable crop, oil palm plays a critical role in helping to feed more than three billion people worldwide" (Nambiappan, Ismail, Hashim, Ismail, Shahari, Idris, Omar, Salleh, Hassan, & Kushairi, 2018, p. 14).

In Indonesia, oil palm plays a vital role in national economic and social development. As a leading export commodity, it generated approximately USD 22.9 billion in 2020, accounting for 11 percent of the total export value and contributing around USD 5.13 billion in foreign exchange earnings (Gabungan Pengusaha Kelapa Sawit Indonesia, 2021). Oil palm production has also become "a significant source of employment, with approximately 16.2 million labourers, 4 million direct farmers, and 12.2 million indirect labourers" (World Bank, 2019, p. 7). In the context of regional and national development, "oil palm production has continued to play a central role in raising incomes, alleviating rural poverty, and reducing inequality between Java and the outer islands of Indonesia" (Cramb & McCarthy, 2016, p. 6).

In Africa, particularly in countries such as Ghana and Nigeria, oil palm production has become a key source of food and income for smallholder farmers. In Ghana, where smallholders account for over 60 percent of oil palm cultivation, the crop plays a vital role in sustaining local economies and rural livelihoods. As a versatile crop, it is deeply integrated into the daily lives of both rural and urban populations, supporting individual households and industrial operations. In Ghana, "smallholder farmers produce about 60 percent of crude palm oil and account for 85 percent of the planted area from an estimated total of approximately 400,000 hectares under oil palm cultivation"

(Khatun, Maguire-Rajpaul, Asante & McDermott, 2020, p. 2). The production of oil palm not only supports farmers, but also a wide range of other players in the value chain. They consist of non-industrial palm kernel oil processors, mill operators, transporters, distributors of seeds, and sellers of agricultural inputs (Awusabo-Asare & Tanle, 2008).

Despite the availability of oil palm in Malawi, there has been little or no exploration of the potential benefits of this important crop. Oil palm as a resource that is available in the Karonga district begs the question as to why the resource that is readily available for the benefit of the country is underutilised. In Malawi, oil palm production is embedded in the everyday lives of the Nyakyusa, the indigenous rural farmers who reside in the Karonga District. Though oil palm production has been practised since time immemorial by indigenous rural farmers, the importance of this important crop to their livelihood remains underexplored. Again, the gender dynamics that shape the production of oil palm, including the role of the Malawi Ministry of Agriculture in promoting oil palm, and challenges affecting the growth of this agricultural activity remain under-researched.

This study unravelled the socio-economic benefits and challenges of oil palm production in Malawi. Drawing enormous lessons from countries that have invested in oil palm and mainstreamed oil palm into their development agendas, such as Indonesia, Malaysia, Ghana, and Nigeria, just to mention a few, Malawi stands a chance to benefit from oil palm due to its availability in the country and globally.

1.3.Problem Statement

Malawi's agricultural sector plays a pivotal role in driving the nation's economy and achieve self-reliance; hence, the government's commitment to agricultural transformation, aimed at increasing farm household incomes, enhancing food security and nutrition, and boosting agricultural exports (Malawi National Agricultural Policy (NAP) 2016). Despite this emphasis on agriculture, the potential of oil palm as a crop capable of addressing socio-economic challenges has been largely overlooked in the country.

Oil palm production has been key to mitigating socio-economic challenges in countries such as Malaysia, Indonesia, Nigeria, and Ghana. For instance, in Malaysia, "oil palm production contributes on average 5 to 7 percent of the country's GDP" (Nambiappan, Ismail, Hashim, Ismail, Shahari, Idris, Omar, Salleh, Hassan & Kushairi, 2018, p.3); in Indonesia, oil palm expansion reduced rural poverty in Riau province, from 21 percent to 10 percent (Hasan, Fadhil, Fahmid & Ahmad, 2022); in Nigeria, the production of oil palm contributes to the rural economy, particularly smallholder farmers (Busari, Agboola, Akintunde & Jimoh, 2022); while in Ghana, "palm oil is utilised in the everyday lives of rural and urban Ghanaians as it is integrated into Ghanaian cuisine, where it is used to prepare local stews, traditional soups, and used as an all-purpose cooking oil" (Khatun, Maguire-Rajpaul, Asante & McDermott, 2020, p.3). Despite these envisaged importance of oil palm to the economy, it has not been given the prominence it deserves in Malawi.

Though there is oil palm in Malawi, the country continues to import crude palm oil from foreign markets. For instance, in 2020, Malawi imported crude palm oil and edible fats worth USD 87,450,046 (Kampanje, 2022). This

missed opportunity by the government of Malawi to harness the potential benefits of oil palm such as job creation, income generation for rural farmers and Malawi as a country, improved food security through by-products, meeting basic needs including education and health charges, and other economic viability raises concerns about the country's failure to explore this agricultural resource.

Furthermore, it is essential to acknowledge the paucity of research by the Malawian researchers to examine the socio-economic benefits and challenges of oil palm production. Most of the studies done in Malawi have concentrated on other cash crops such as tobacco, tea, cotton, macadamia, and soybeans (Wineman, Chilora, & Jayne, 2022; Zuza, Maseyk, Bhagwat, Emmott, Rawes & Araya, 2021; Mng'omba, Akinnifesi, Kerr, Salipira & Muchugi, 2017), revealing the importance of these crops in creating job opportunities, generating foreign exchange to the nation, providing food security through their by-products, and contributing to Malawi's economy. In addition, these studies did not focus on gender dynamics in shaping the production of cash crops; hence, there is a need for this research to unearth the potential of oil palm.

1.4.General Objective of the Study

The main objective of this study was to investigate the socio-economic benefits and challenges of oil palm production among indigenous rural farmers in Karonga District, Malawi.

1.4.1.Specific Objectives of the Study

The specific objectives of the study were to:

1. Examine the importance of oil palm production to the livelihood of indigenous rural farmers in the Karonga District;

2. Assess the challenges confronting oil palm farmers in the Karonga District;
3. Analyse gender dynamics that shape oil palm production; and
4. Examine the role of Malawi's Ministry of Agriculture in promoting oil palm.

1.4.2.Research Questions

The study was guided by the following questions;

1. How important is oil palm production to the livelihoods of the indigenous rural farmers in Karonga District?
2. What are the challenges confronting oil palm farmers in the Karonga District?
3. What are the gendered dynamics that shape oil palm production?
4. What are the roles of the Malawi Ministry of Agriculture in promoting oil palm production?

1.4.3.Hypotheses

In formulating the hypotheses, the Durkheim's (2013) approach to hypothesis development was followed. Durkheim's (2013) approach focused on measurable social phenomena, exploring relationships between or among variables, and considering the impact of social integration. Further, the approach involved seeking empirical explanations for social phenomena and understanding the influence of external social forces (Kuhn, 1962). In line with this, the following hypotheses were developed and tested:

1. H_0: There is no significant relationship between the acres of land cultivated and the benefits households accrue from oil palm production.

H_1**:** There is a significant relationship between the acres of land cultivated and the benefits households accrue from oil palm production.

2. H_0: There is no significant association between gender and the ability to access land.

   H_1: There is a significant association between gender and the ability to access land.

3. H_0: There is no significant gender difference in number of acres of land between men and women.

   H_1: There is a significant gender difference in number of acres of land between men and women.

1.5.Significance of the Study

The findings of this study will inform the Malawi National Agricultural Policy (2016) to consider oil palm as one of the crops in the country for mitigating socio-economic challenges. By shedding light on the socio-economic benefits of oil palm, this study encourages stakeholders in the cooking oil industry to explore this locally available resource.

The findings of this study underscored the role of oil palm in achieving the Malawi 2063 Vision for progressive economic growth through agriculture and contributing to the achievement of key Sustainable Development Goals: poverty reduction (Goal 1), zero hunger (Goal 2), and accelerated economic growth and employment (Goal 8).

Furthermore, this study fills a notable literature gap in Malawi, by providing valuable insights into oil palm production and its socio-economic significance. It offers a fresh perspective on agriculture's role in driving socio-economic development. It enhances the knowledge base in agriculture and the

sociology of rural development within the rural agricultural landscape of Malawi.

1.6.Delimitations of the Study

The socio-economic benefits and challenges of oil palm production among indigenous rural farmers in Karonga District were examined in this study. Data was gathered solely from indigenous rural farmers, with a particular emphasis on oil palm production. The study recognised that raising production could be crucial in tackling the nation's socio-economic problems, but it did not seek to quantify the oil palm industry's overall economic impact. The significance of oil palm production for rural livelihoods, gender dynamics, farmer problems, and the role of Malawi's Ministry of Agriculture in promoting oil palm production were all highlighted in the study. Respondents were chosen to offer a range of viewpoints, and a combination of quantitative and qualitative methods was employed to guarantee a thorough understanding.

1.7.Limitations of the Study

The current study did not seek to establish the importance of oil palm production in the value chain system. The study further did not investigate the production unit, quality of palm oil produced, or environmental risks associated with oil palm production, as the main focus was the investigation of the socio-economic benefits and challenges of oil palm production among indigenous rural farmers. With data primarily collected from indigenous rural farmers, the extent to which oil palm can trigger the national economy significantly falls short. However, as the study involved agricultural development officers from the Malawi's Ministry of Agriculture, provided insights to which the agriculture policy can be re-aligned thereby recognising oil palm as a potential crop to be

tapped for the betterment of the nation, due to its multifaceted aspects, such as cooking oil and other edible products.

1.8.Definition of Terms

Access: Access is "the ability to benefit from a resource" (Ribot & Peluso, 2003, p.156). In this work, access is defined as the ability to benefit from oil palm. Access, as such, is a bundle of interwoven mechanisms that can spearhead socio-economic benefits from oil palm production among indigenous rural farmers in Karonga district, Malawi.

Socio-economic: It is concerned with social factors that lead to economic activities in society. That is, socio-economics can be viewed as a quest for social factors that contribute to economic activities in society (Boyer, 2008). Further, socio-economics is about the "investigation of the origin, transformation, and impact of governance structures in modern societies, and that the efforts have to be concentrated on the search for the social conditions, factors, and mechanisms of economic action" (Hellmich, 2017, p. 4). In understanding social factors within society, agriculture comes at the centre, as it is one of the activities that most of the communities are involved in. That is, agriculture contributes to the socio-economic aspects of most communities.

Indigenous rural farmers: These are smallholder farmers who live in geographically located places and whose land is customarily inherited. Indigenous farmers, whose land and agricultural activities are customary-based, as most land cultivated by them falls under customary land (Takane, 2008). However, "indigenous farming is not just farming practised by indigenous people and land possessed customarily. It is the product of indigenous cultures that are deeply connected to particular places" (Takane, 2008, p.270).

1.9.Organisation of the Study

There are nine chapters in this study. The study's background, the problem description, research goals, and the importance of the study are highlighted in Chapter 1. A thorough literature survey including both theoretical and empirical viewpoints was provided in Chapter 2. While the empirical study concentrates on agriculture in general and oil palm cultivation in particular, the theoretical review addresses Ribot and Peluso's (2003) Theory of Access.

Chapter three outlined the study's methodological framework, covering its philosophical foundation, research design, study area and population, data collection and analysis methods, and ethical considerations. Chapter four explored the socio-demographic characteristics of respondents and discusses the development of oil palm production among indigenous rural farmers.

Chapter five examined the importance of oil palm production for the livelihoods of indigenous rural farmers, emphasising its contributions to food security, income generation, and meeting social needs. Chapter six addressed the challenges faced by farmers in oil palm production, including limited access to markets, technology, credit, and information. Chapter seven discussed gender dynamics in oil palm production, focusing on labour division, decision-making power, and land acquisition issues.

Chapter eight examined the role of the Ministry of Agriculture (MoA) in promoting oil palm production, highlighting challenges such as limited extension services and insufficient recognition of the crop. Finally, chapter nine summarised the study, presenting key findings, contributions to knowledge, and recommendations for future research.

2.0.CHAPTER TWO

LITERATURE REVIEW

2.1. Overview

This chapter presents a theoretical and empirical review of the literature and a conceptual framework. The theoretical review looked at the theories that could be used to guide the study, whereas the empirical literature review looked at the existing literature about agriculture and oil palm, in particular. The conceptual framework highlighted key concepts and the relationships between them have been presented. The conceptual framework served as a roadmap for this study, guiding the research topic and helping to organise and analyse the information gathered.

2.2. Theoretical Review

This study aimed to investigate the socio-economic benefits and challenges of oil palm production among indigenous rural farmers in Karonga district, Malawi. The Theory of Access developed by Ribot and Peluso (2003) was applied to this study. The ability to benefit from the resource, that is, how and in what ways people can gain from oil palm that is within their reach, is central to the notion of access. The theory was chosen based on its applicability, simplicity of use, and capacity to explain observed patterns or regularities in the knowledge of oil palm production among indigenous rural farmers (Bryman & Bell, 2019). The review of the theory helped to establish the current state of knowledge, identify controversies or debates surrounding the theory, and identify implications for future research about oil palm (Osanloo & Grant, 2016).

However, before progressing into looking at the theory of access as advanced by Ribot and Peluso (2003), some theories, including property rights, entitlement and capability approach were looked at.

2.2.1. Property Rights and Access

The notion of access, as advanced by Ribot and Peluso (2003), has a bearing on the understanding of property rights. In Ribot and Peluso's (2003) work, the idea of property comes to light, though taking a different shape, thereby stressing mechanisms as crucial to the realisation of benefits from the resource. Koch (2008) argues that the idea of a bundle of powers about access, is a reinterpretation of the concepts of 'bundle of rights' and 'bundle of owners' as proposed by property theorists. This emphasises that obtaining access is related to power dynamics rather than just legally based rights and ownership.

Arguably, property rights give entitlement to the owner upon which he or she has invested in a particular resource, such that the benefits accrued have to be enjoyed by the owner. Scholars such as Segal and Whinston (2013) have argued that property rights give the individual the right to use the resource and benefit from it while excluding others from using it. Such being the case, property rights include a "bundle of decision rights involving the asset (entitlements), which provide the rights to take certain actions (rights of access), and to prevent others from taking certain actions (rights of exclusion), including the right to take the profits generated by use of the asset and to prevent others from doing so" (Segal & Whinston, 2013, p.2).

Furthermore, in defining property rights, Marx (1964) looked at appropriation, centred on an act of obtaining or acquiring benefits from a resource through the alienation of others' labour that is embedded in material

things or production. Property rights, as such, are shaped by various factors, including legal systems, cultural norms, power dynamics, and social interactions. Also, property rights are not simply fixed and inherent characteristics of an object or resource but are constantly negotiated and contested by social actors.

For MacPherson (1978), property rights are seen as a means of organising and regulating social interactions around objects or resources. Such means and regulations provide a framework for determining who can use or benefit from the resource, and under what conditions. Also, for MacPherson (1978), property rights can be assigned to individuals, groups, or collectives and can be subject to various restrictions and obligations. Hence, "property rights involve various social actors, including individuals and collectives, who are linked to each other in social relationships, and property takes the form of enforceable claims to some use or benefit of a resource" (MacPherson, 1978, p. 3).

Property rights are claims that are legitimised according to Sikor and Lund (2009), because the state or another type of politico-legal authority has approved them. Property is private, according to Locke (1988), since it is the product of combining one's labour with the natural world. Humans turn natural resources into their property when they combine labour and those resources. This implies that people can obtain property via their efforts and have a right to the products of their labour.

In their analysis of property rights, Stevenson (1991) and Schlager and Ostrom (1992) noted that property rights delineate relationships among individuals in terms of the utilisation of tangible or intangible entities.

Additionally, these rights necessitate specific authorised activities. In such a case, property rights may refer to the empowerment to carry out designated actions associated with a distinct domain. For each right an individual possesses, corresponding regulations are in place to sanction or mandate specific actions when exercising that particular property right.

Arguably, property, be it communal or individual, involves entitlements for those who hold rights and corresponding responsibilities that should be adhered to. Moreover, an individual's property rights encompass a blend of entitlements, responsibilities, freedoms, authorities, protections, and liabilities, collectively shaping the ethical or legal obligations dictating the conduct of others concerning the subject of property. Hence, Fernández (2008) argues that the right to use the resource can be direct or indirect. For example, the right to acquire immediate advantages from a resource, such as fishing, water harvesting, timber cutting, etc., represents direct use rights. In contrast, indirect use rights pertain to the authorisation to receive indirect benefits linked to a resource, such as monetary compensation, access to public goods, in-kind assistance, etc. Therefore, where there is no property, rights, or duties, conditions for open access prevail.

In interrogating property rights, Meinzen-Dick and Pradhan (2002) assert that among the institutions influencing human interactions with natural resources, property rights regimes stand out as particularly impactful. These regimes not only dictate who is permitted to use specific resources and in what manner but also influence the incentives individuals have to invest in and sustain the resource base over an extended period. Hara (2003) went further to state that property rights regimes are expected to fulfil specific functions

concerning a particular resource within a defined context. Consequently, these regimes bestow the authority to harness benefits from the resource within the specific context to which they are applicable.

In this study, the role of property rights in obtaining resource access to oil palm production has been recognised. While acknowledging the importance of property rights, it is crucial to take into account additional factors, including the influence of the state, local cultural dynamics, the socio-economic status of the community, environmental factors, access to financial resources and technology, as well as local networks and associations. All these factors collectively contribute to shaping access to oil palm production.

While acknowledging property rights in this study, it would be imperative to view property rights not as static and universally applicable but rather as dynamic entities that can differ across diverse contexts and evolve. For instance, certain situations may involve local communities holding customary or indigenous land rights that lack formal recognition from the state. These rights might be rooted in longstanding traditions and practices governing land access and utilisation. Moreover, the socio-economic status of local people can influence their ability to access land for oil palm production. Additionally, the influence of local culture extends to the shaping of property rights. In certain cultures, land may be perceived as a communal resource meant for collective sharing and management, while in others, it may be viewed as a private asset open to buying and selling. These cultural norms and practices significantly contribute to the interpretation and enforcement of property rights concerning oil palm production.

Furthermore, arguing in line with Meinzen-Dick and Pradhan (2002), it can be argued that the conception of property rights overlooks the fact that there are various types and different ways in which people can claim them. Property rights are fixed, unchanging entities when in reality they can be flexible and subject to negotiation. Furthermore, even if a single, unchanging form of property rights were possible, it would not be well-suited to the uncertainties that often arise when dealing with natural resources such as oil palm. Natural resources are often subject to changes in availability, ecological conditions, and market dynamics, which can make it difficult to determine and enforce property rights. In this light, the weakness of property rights lies in its failure to capture reality, as it overlooks the diverse arrays of property rights bundles and the numerous foundations for asserting such rights.

Considering the aforementioned points, even though the Theory of Access, as advanced by Ribot and Peluso (2003), shares similarities with property rights, the latter proves too restrictive due to its emphasis on private resource utilisation. Property rights primarily centre on individual ownership, neglecting the concerns and necessities of communities, indigenous groups, and the environment. Consequently, the exclusive private use of resources such as oil palm can result in adverse social and economic consequences. Analysing the benefits of oil palm production through the lens of property rights would limit the scope, as it does not incorporate alternative mechanisms that could optimise the advantages arising from the resource.

Again, regarding this study, using property rights in the context of oil palm production would offer a restricted insight into the potential benefits from oil palm. A key factor contributing to this limitation is the occasional lack of

well-defined or enforceable property rights in practice. Moreover, the existence of property rights does not automatically ensure a fair distribution of benefits arising from oil palm production. Frequently, large-scale plantation companies dominate in terms of land and resources, restricting the access and benefits available to small-scale farmers and local communities. Such disparities in power and ownership have the potential to generate social and economic inequalities, disproportionately impacting vulnerable groups, who are frequently marginalised and deprived of the advantages associated with oil palm production.

2.2.2. The Entitlement Approach

Sen's (1982) examination of entitlements highlights its importance and capacities, while presenting a different perspective on access and control. Sen's (1982) approach has been criticised, so, applying it to real-world situations calls for a closer look at its viability and practicality. This is especially true given the intricate interplay of political, legal, social, and economic factors that affect entitlements to oil palm production. Once more, Sen's approach may not fully represent the complex nature of resource access and control in various socio-political situations, so the degree to which it addresses power dynamics and structural inequalities is still up for debate.

In his argument, Sen (1982) argued that entitlements are dynamic and subject to change over-time, influenced by factors such as economic growth, political shifts, and social movements. For instance, in economic development, individuals may experience an augmentation in their entitlements to food, given their enhanced ability to command more resources. Likewise, changes in political landscapes or the emergence of social movements can result in the

acknowledgement of novel rights and entitlements, like the right to equitable treatment or the right to reside in a pollution-free environment.

However, Leach, Mearns, and Scoones' (1999) critique of the entitlement approach called for a reconceptualisation of Sen's entitlement framework, suggesting that endowments should include resources as well as rights held by actors, with capabilities referring to what people can do or be with their entitlements and entitlements signifying their legitimate effective control over alternative commodity bundles. This implies a change from the traditional understanding of endowment, which sees them mainly as natural or monetary resources given as gifts or as a type of benefit through inheritance.

Arguably, Sen (1982) focused on people's capacity to secure food through legally sanctioned means within society, encompassing various methods such as production possibilities and interactions with the state. As such, the legitimisation of entitlements occurs through the state and societal systems, taking diverse forms such as legal rights, social norms, customs, and governmental policies.

Also, a more in-depth examination of the entitlement concept reveals two categories of entitlement, namely personal entitlement (endowment) and exchange entitlement. A person's entitlement set encompasses the complete array of goods and services attainable by converting one's endowments, such as land and labour (Devereux, 2001). Personal endowment closely intertwines with private property, relying on the individual self. The individual, nonetheless, can trade labour for benefits or invest their abilities in land or available resources for gain. A personal endowment can be conceptualised as

an ownership bundle, with the function of defining the range of alternative commodity bundles that the person can access.

Regarding exchange entitlement, it is predicated on the exchange of services, and is regulated by the legal, political, economic, and social attributes of the society in question and the person's position. For example, through the exchange of rice for milk, a farmer acquires the entitlement to use the milk (along with other potential uses for the rice). This same principle applies to the exchange of labour power for wages, where the worker gains an exchange entitlement to the wages provided by the employer.

Again, upon closer examination of the concept of entitlement in Sen's work (1982), it implies a connection to property rights. That is, the entitlement approach focuses on the entitlements of each individual, regulated by the established norms within society. These entitlements encompass various essentials such as food, housing, capital, etc., which can be conferred by either society or the state. Consequently, entitlements centre on rights delineated within the prevailing legal framework of a specific society.

Therefore, the limitation of the entitlement approach lies in the fact that it involves the capability to derive benefits from a resource based on legal mechanisms prevailing in the society (Sen, 1982). In essence, entitlement pertains to the capacity to lay claim to a particular resource within the legal frameworks operative in society. In contrast, access, in and of itself, extends beyond the confines of legal frameworks established within society (Ribot & Peluso, 2003).

Arguably, from an epistemological standpoint, justification is imperative for access, whereas entitlement does not necessitate such

justification (Burge, 2003). To elaborate further, access requires justification (including understanding) involving reasons necessary for accessing the resource, whereas entitlement does not need reasons or understanding (Casullo, 2007). Access obliges individuals to be well-informed and possess sufficient understanding for the utilisation of a resource to maximise benefits. Conversely, entitlements are influenced by external factors. For instance, "a person is entitled to accept as true something that is presented as true and that is intelligible to him or her unless there are stronger reasons not to do so" (Casullo, 2007, p.269).

Further, entitlements emerge through processes wherein an individual's initial ownership, represented by their endowments such as land or labour, are converted into a collection of entitlements. However, this transformation is contingent on certain factors. While individuals might have access to natural resources (such as oil palm) through group membership, their ability to benefit from these endowments depends on their capacity to convert them into entitlements through labour. This process is predominantly influenced by political and social dynamics, although it is also intertwined with the economic condition of a group or society and the specific regulations governing their access.

Therefore, when assessing the meaning and implications of entitlement, it is important to consider the social and political context in which they are granted, as well as the endowments which provide the basis for their transformation. Entitlements are therefore "the outcome of negotiations among social actors, involving power relationships and debates over meaning, rather

than simply being the result of fixed moral rules encoded in law" (Leach, Mearns & Scoones, 1999, p.235).

While Sen's (1982) concept of entitlement differs somewhat from Ribot and Peluso's (2003) notion of access, it provides a foundation for moving beyond the definition and comprehension of access. Sen's approach encourages exploration of the mechanisms, such as land and labour that significantly contribute to reaping benefits from oil palm. Sen (1982) underscores the importance of acknowledging entitlements through two fundamental questions: who receives what, and how do they acquire it?

2.2.3. The Capability Approach

The core concern of the capability approach (CA) is the opportunities for people to live the kind of lives they wish to live and have the freedom and self-respect that are required (Sen, 1982). As an approach, it is closely related to the principles of equality, social justice, and human dignity. The capability approach emphasises an individual's ability to be autonomous and use one's capabilities to realise their goals.

As per Sen (1999), capability is described as a form of freedom, specifically, the substantial freedom to attain various combinations of functioning. This implies that for individuals to genuinely possess capabilities, it is not sufficient for them to merely have certain abilities; they must also be granted the opportunities and freedoms required to put those abilities into practice. To illustrate further, an individual might possess the ability to pursue education, but if they lack access to schools or the necessary resources, they cannot truly exercise that capability.

For Nussbaum (2011), capability involves individuals' ability to choose and pursue goals that they value, but this is necessitated by having the necessary resources to realise the choices. For example, individuals need education, healthcare, and economic opportunities to have the ability to pursue their chosen goals. Without these resources, individuals may have the freedom to choose, but they lack the means to act on those choices and achieve well-being. As such, Nussbaum (2011) sees resources as an essential component of capability. Without resources, individuals may be limited in their ability to exercise their freedom and act on their choices. For instance, if someone desires to become a doctor but lacks access to education and money, their freedom to pursue this goal is constrained. In contrast, if they have access to resources such as education grants and affordable healthcare, they can pursue their goal and achieve well-being.

In addition, Nussbaum (2011) emphasised the importance of social and relational resources. For example, individuals need social support networks and opportunities for social interaction to fully exercise their capabilities. These resources can help individuals overcome barriers and constraints that may limit their freedom and choice. As such, for Nussbaum (2011), the capability approach regards each individual as an end in himself or herself, emphasising not only the overall or average well-being but also the opportunities accessible to each person.

For Robeyns (2021), the capability approach is characterised by two normative assertions. Specifically, it posits the assertion that the freedom to attain well-being is fundamentally morally significant (Robeyns, 2021). This underscores the ethical importance placed on individuals having the freedom to

pursue and attain a state of well-being. Secondly, the assertion that well-being should be conceptualised about people's capabilities and functions (Robeyns, 2021). This implies a shift from solely measuring well-being by outcomes to considering the inherent capacities and opportunities individuals possess to lead a fulfilling life.

The capability approach recognises that individuals have different capacities and abilities and that their well-being is influenced by the opportunities available to them to choose and pursue certain functions. Functionings are the various things that people value and aim to achieve, such as good health, education, employment, social relationships, and personal freedoms. By focusing on functioning, the capability approach acknowledges that people have different preferences and goals, and that their well-being should be evaluated in light of these individual differences.

From the aforementioned, it can be argued that the capability approach places a heightened emphasis on the freedoms at individuals' disposal and their capacity to exercise them. The Approach centres on individuals, emphasising their competencies to make well-informed decisions about their own lives. As a concept centred on substantive freedoms, it necessitates external entities, such as the government, to bestow these freedoms by creating opportunities. Consequently, the capability approach strives to depart from the predominant perspective fixated on economic outcomes, shifting focus towards other facets of development, including freedom of choice, participation, and rights. It adopts a goal-oriented stance, with the objective being to optimise individuals' capabilities rather than maximise some normative measure of income or production.

Nonetheless, while the capability approach shares certain aspects with the Theory of Access, it places a more pronounced emphasis on the principle of justice. This inclination necessitates the involvement of other entities, particularly governments, to facilitate the actualisation of specific goals for individuals. In essence, substantive freedom within the capability approach mandates governments to grant these freedoms. In contrast, the Theory of Access focuses on the ability to benefit from the resource. It extends its purview beyond the mere availability of substantive freedoms, delving into various mechanisms that can contribute to the realisation of benefits from the given resource. This distinction underscores the multifaceted nature of these approaches, with the capability to delve into broader justice considerations, while access emphasises the practicality of benefiting from resources.

2.3. Grounding Theory of Access

In principle, the theory of access can be situated within the broader framework of the Institutional Theory, where institutions play a pivotal role in facilitating the realisation of benefits from a resource. In this context, institutions encompass processes that organise social action and anchor such actions to specific values, as articulated by Weber (2019). Furthermore, as per Wendt (2016), institutions serve to regulate, impose sanctions, and establish principles that delineate the parameters within which social actions occur and the extent to which particular values can be acquired.

At the centre of the Institutional Theory is the power to control, which can be seen as authoritative, economic, and relational power. Each category of power possesses distinct origins and mechanisms through which it is wielded. For instance, authoritative power is the influence gained through formal

positions of authority, encompassing the capacity to formulate and enforce laws, regulations, and public policies (Mangset & Asdal, 2019). Its foundation lies in the acknowledgement and acceptance of authority by those under its jurisdiction, often reinforced by the potential use of force or other sanctions to guarantee compliance.

Economic power involves the capacity to obtain and uphold resources like money, land, and other assets that can be utilised to acquire or possess items of value (Vallas & Schor, 2020). It is grounded in control over resources and the capability to employ them to influence others. This form of power is wielded through the management of wealth, ownership of property and production means, access to capital and credit, or dominance over markets or industries. Economic power holds the potential to shape economic structures, impact business choices, govern employment conditions and wages, or sway consumer behaviour.

Relational power emanates from interpersonal connections and networks characterised by trust and loyalty (Soga, Bolade-Ogunfodun, Islam & Amankwah-Amoah, 2022). It finds its roots in social connections, networks, and trust, often cultivated through personal relationships, alliances, and the accumulation of social capital. The exercise of relational power involves methods like persuasion, negotiation, extending favours or rewards, and leveraging social and cultural norms and values.

However, all the three types of power mentioned above are interconnected and can reinforce each other. For example, individuals or organisations with authoritative power may use economic power to reinforce their authority. Similarly, economic power can be used to gain access to, and

influence relational networks, while relational power can be used to gain access to economic resources or to influence those in positions of authority.

Although the Theory of Access has its roots in the broader field of institutional theory, it takes a different approach by incorporating the idea that mechanisms are the triggers necessary for achieving the resources advantages (Koch, 2008). The Theory of Access refines the ability to benefit by examining the several processes that make it easier to realise the advantages of the resource. The notion of access places special focus on the useful and adaptable elements that let users benefit from the resource.

2.4. The Theory of Access

The researcher's use of the Theory of Access in the context of oil palm production among indigenous rural farmers was guided by several pivotal questions. These included inquiries into the indigenous rural farmers' perceptions of the importance of oil palm to their livelihoods; the access mechanisms through which these farmers benefit from oil palm production; considerations of gender dynamics that shape this agricultural activity; challenges confronting farmers; and the role of the Malawi Ministry of Agriculture in promoting oil palm.

The definition of access is "the ability to profit from things, including material objects, humans, institutions, and symbols" (Ribot & Peluso, 2003, p. 153). The "process of discovering and mapping the different mechanisms that generate bundles of power that allow actors to obtain, control, and keep access is known as access analysis" (Parlee, Foley, Gomez, Miah, Mather & Stephenson, 2021, p.2).

According to Berbés-Blázquez, Bunch, Mulvihill, Peterson and de Joode (2017), the Theory of Access's analytical framework frames access as a composite bundle composed of interwoven threads that collectively weave a web of benefits that individuals or groups can take advantage of within a specific temporal context. In the light of this, "access may be characterised as the ability to benefit from resources through a larger variety of social connections that either facilitate or impede the realisation of gains from resource use" (Ribot & Peluso, 2003, p. 157). In addition, "access is better understood as the actual ability to benefit rather than just the right to use resources" (Ribot & Peluso, 2003, p.158).

Ribot and Peluso (2003) conceptualised access within the framework of the ability to benefit, equating ability to power. The assertion that "power is inherent in certain types of relationships and can emerge deliberately or inadvertently through social relationships" (Parlee, Foley, Gomez, Miah, Mather & Stephenson, 2021, p.3). This underscores the intrinsic connection between power dynamics and the capacity of actors to influence the practices and ideas of others.

According to Peluso and Ribot (2020), the key tenet of the theory of access is that, when it comes to scale issues, access analysis investigates the various reasons behind a single instance of benefit, beginning at the local level and working outward. The assessment of the socio-economic benefits of oil palm production on livelihoods will be significantly impacted by this conceptualisation. Within the Karonga District, oil palm farming is a long-standing tradition among indigenous rural farmers. Understanding the

significance of the crop to the livelihoods of community members can be gained by analysing the advantages at the local level.

Myers and Hansen's (2020) evaluation of the Theory of Access highlighted a number of the theory's strong points, most notably its ability to deal with both structural components and individual agency. Because of its dual focus, the Theory of Access can effectively combine social science theory and empirical research, which helps to clarify the dynamics at play.

Also, the assessment by Szaboova, Brown and Fisher (2020) on the Theory of Access acknowledged the importance of resource proximity, emphasising its advantageous impact on resource exploitation for the local population. The focus on the availability of oil palm and its proximity to the rural population in the Karonga District was deemed crucial for understanding its potential relevance and benefits for farmers.

Moreover, Khatun, Maguire-Rajpaul, Asante and McDermott's (2020) evaluation of the Theory of Access provided a thorough differentiation between two crucial types of access mechanisms. The explanation covered two types of access: relational and structural, which comprise technology, capital, markets, labour, knowledge, authority, identities, culture, and social interactions; and rights-based access, which is defined by legal, customary, or conventional sanctions. The recognition of rights-based access mechanisms emphasises how important it is for the state, local community, or government to get involved to enforce claims for benefit derivation. This study uses the Malawi Ministry of Agriculture's role in boosting oil palm production to demonstrate the use of rights-based access.

Ribot and Peluso (2003) introduced the concept of structural and relational access mechanisms, which emphasised the critical roles that technology, capital, labour, markets, knowledge, cultural identities, and social relations play in gaining advantages. By representing access mechanisms as a network of interconnected components that must interact with one another to achieve optimum benefit realisation, this clarifies the intricate interactions amongst them.

2.4.1. Right-Based Access

A review of the right-based access proposed by Ribot and Peluso (2003) considers access that is authorised by legislation, tradition, or custom. This implies that both formal and informal organisations play a significant role in determining access, including the Malawi's Ministry of Agriculture and customary-based institutions that are established locally within the community (Koch, 2008). Individuals are guaranteed legal and legitimate access to opportunities and resources through right-based access. It is frequently viewed as a means of advancing equality and shielding marginalised communities from prejudice and exclusion. The goal of right-based access is to establish an equitable and just society in which every individual has an equal chance to prosper. There are several ways to implement right-based access, including national laws, policies, and regulations.

Furthermore, right-based access implies the engagement of a community, state, or government to uphold a claim, and it is characterised by customary or convention-based approaches (Ribot and Peluso, 2003). For example, customary roles enshrined among indigenous rural farmers may allow a certain section of individuals to benefit from oil palm or not.

Moreover, the perspective of right-based access reveals a system where local communities are ostensibly empowered. Rather than endowing them with ownership or control over resources, states may opt for granting specific privileges or permissions for resource access and utilisation. This strategy enables states to retain ultimate control and decision-making authority over resource management while offering limited benefits or opportunities to local communities.

However, even though institutions are essential for maximising the benefits of the resource, it is important to remember that "any illegal access is also founded on rights because it is a type of direct access that is defined against others based on the prohibitions of tradition, convention, or law" (Ribot & Peluso, 2003, p.162). Unauthorised resource access can be seen as a means of defending one's rights, even when it goes against accepted legal and social standards.

Within the context of oil palm production, the realisation of benefits is tied to indigenous rural farmers' access to favourable policies and institutions. This necessitates the implementation of supportive policies. These policies collectively contribute to creating conditions wherein farmers can engage in oil palm production with a heightened focus on sustainability, equity, and social justice.

2.4.2. Structural and Relational Mechanisms Access

The critical role that structural and relational mechanisms play in enabling the realisation of resource advantages was highlighted in the debate by Ribot and Peluso (2003). Many components are included in these mechanisms, including knowledge, authority, social identity, markets, capital, technology,

labour, and possibilities for labour, as well as access by negotiating other social interactions (Ribot & Peluso, 2003). Realising oil palm's benefits can be sped up by utilising a network of these structural and relational mechanisms.

i. Technology

Ribot and Peluso (2003) argued that access to technology is crucial for the realisation of benefits from the natural resources. In particular, technology has proven to be instrumental in optimising oil palm production. The integration of machinery and various technological advancements has progressively empowered farmers, allowing them to derive enhanced benefits from their endeavours.

Technology is seen as a critical component in oil palm production, according to King (2017), since it is necessary for the extraction or conversion of oil palm fruits into other goods. For instance, a farmer needs access to technology for the extraction, conversion, and the delivery of the harvest to markets to harvest palm fruits, extract oil, and produce other goods. Additionally, Tsige's (2019) study pointed out that technology is not just used for conversion or extraction; it also makes resources easier to acquire and utilise. Therefore, having access to technologies such as harvesters and processing equipment can significantly boost oil palm productivity.

ii. Capital

The role of capital and credit in increasing oil palm production cannot be overemphasised. Access to capital plays a pivotal role in realising benefits from resources, facilitating access to other mechanisms such as technology, and thereby enhancing people's capacity to derive benefits (Mottaleb, Krupnik & Erenstein, 2016).

Ribot and Peluso (2003) suggested that obtaining credit is a crucial element in achieving the benefits from resources. More specifically, when it comes to oil palm, credit is essential for creating and maintaining a consistent supply of inputs, which boosts the production. Having access to capital makes it possible to accumulate wealth in the form of money and tools that can be used for labour mobilisation, extraction, production, conversion, and other procedures involved in reaping the rewards of oil palm production (Coleman, Henry, Orser, Foss & Welter 2019; Nouman, Siddiqi, Asim & Hussain 2013).

The absence of credit access for rural farmers results in their "inability to invest in modern agricultural technologies and essential inputs such as improved seeds, fertilisers, and machinery" (Omonona, Lawal & Oyinlana, 2010, p.2). This impediment significantly constrains their capacity to enhance yields and adopt improved farming practices, consequently leading to diminished production. The decline in production, in turn, translates to reduced incomes of farmers, who find themselves unable to produce and sell a sufficient quantity of oil palm products to generate adequate revenue.

Furthermore, without access to formal credit, farmers may be forced to rely on informal lending sources, which often come with exorbitant interest rates, exacerbating their financial hardships. This scenario can trap farmers in a continuous cycle of debt and poverty, as they struggle to repay loans while meeting their basic needs.

iii. Labour

Benefits from resources, according to Ribot and Peluso (2003), are influenced by access to labour and labour opportunities. Individuals or entities that possess the authority to regulate labour access can derive advantages from

resources at various stages in their lifecycle or along the trajectory of commodities derived from them. Further, according to Sunam (2017), the control over labour opportunities, specifically jobs, can be strategically utilised to gain benefits from resources, often entwined with patronage relations.

In rural communities with limited infrastructure, the scarcity of available job opportunities can pose challenges for individuals in accessing employment and, consequently, the associated resources. As noted by Pinga, Gomez, Fatty and Onyemma (2022), the absence of specialised labour can particularly impact resources that demand specific knowledge and skills for efficient extraction. In cases where there is a shortage of labour with particular skills, the resource may remain untapped despite the willingness of the farmers.

Labour is of paramount importance in oil palm production among indigenous rural farmers, serving as the backbone of the entire production process. Indigenous rural farmers heavily rely on manual labour for various tasks throughout the oil palm production cycle. From the initial stages of planting and maintaining oil palm seedlings to the labour-intensive process of harvesting ripe fruit bunches, indigenous rural farmers dedicate significant time and effort to ensuring the success of their oil palm production. Skilled labour is particularly crucial during the harvesting phase, where workers must carefully navigate the tall palm trees to collect the fruit bunches without causing damage to the trees or the fruits. The availability of skilled labour among indigenous rural farmers directly impacts the production and profitability of their oil palm operations.

Beyond the immediate agricultural activities, labour in oil palm production contributes to the socio-economic development of indigenous rural

communities. Oil palm production provides employment opportunities for local residents, offering a source of income and livelihood for many families. In regions where oil palm production is a primary economic activity, indigenous farmers and plantation workers rely on this employment for their sustenance. The income generated from oil palm production helps to alleviate poverty, improve living standards, and support community development initiatives such as infrastructure projects and educational programs. Additionally, the labour-intensive nature of oil palm production fosters a sense of community cohesion and solidarity, as farmers often collaborate and support each other in various farming activities.

iv. Market

The capacity to benefit commercially from oil palm production is contingent upon its owners' access to markets rather than its ownership of market rights (Ribot & Pelusos, 2003). Additionally, "improving farmers' access to markets boosts the ability to benefit" (Shiferaw, Hellin & Muricho, 2011, p. 483). Therefore, market accessibility and availability are crucial elements that have a big impact on how people use oil palm to their advantage.

Market access is "the total of all skills acquired through experience or training that enable a farmer to get and maintain regular customers to his or her produce" (Shepherd, 2007, p.18). Market access is a critical aspect of a farmer's success as it allows them to sell their products and generate income. It involves the ability to navigate and connect with various market channels, such as local markets, retailers, wholesalers, and food service providers.

Market access is controlled by a plethora of systems and processes. For example, to access marketplaces, other infrastructure such as good roads must

be available (Ribot & Peluso, 2003). However, most rural villages with inadequate roads find it difficult to access markets, and this keeps them away from realising the benefits of agricultural resources. Market accessibility helps rural farmers' ability to reliably sell more produce for more money. As a result, farmers are motivated to invest in their businesses and increase the quantity, quality, and range of goods they produce.

Nevertheless, "access to markets can be affected by the dissemination of market information. Lack of timely and accurate information to market contributes to poorly functioning markets, while access to timely and accurate market information is an important element for transforming markets into competitive ones" (Magesa, Michael & Ko, 2014, p. 265). It is desirable that farmers, for instance, have information that is relevant to them for better farming practices.

In a nutshell, access to markets is essential for farmers to sell their oil palm products. This includes access to local, national, and international markets, as well as fair and competitive pricing mechanisms. Access to markets allows farmers to generate income from their oil palm production and improve their economic well-being.

v. Knowledge

Ribot and Peluso (2003) suggested that the attainment of benefits from a resource is contingent upon the availability of knowledge. Additionally, "the flow of information and knowledge into, out of, and within the agricultural sector is essential for enhancing small-scale agricultural production and connecting higher output to profitable markets, which in turn improves rural livelihoods" (Lwoga, Stilwell & Ngulube, 2011, p.385).

Mudege, Mdege, Abidin and Bhatasara (2017) state that a person's level of competence plays a role in determining whether or not they are eligible to get resources. The provision of agricultural extension services, for instance, provides the foundation for farmers' understanding of knowledge and information transmission in oil palm agriculture. In other words, agricultural extension increases farmers' capacity for innovation. Extension services provide a platform for awareness, understanding, adoption, and application of new concepts, practises, and technologies.

According to a study by Mudege, Chevo, Nyekanyeka, Kapalasa and Demo (2016), one of the main advantages of extension services is that they allow farmers to remain informed about the most recent advancements in the agricultural industry. Professionals with training, extension agents have access to current scientific research and real-world expertise. They can share this knowledge with farmers and assist them in comprehending and assessing new farming innovations, technology, and practises. Farmers are able to increase their output and maintain their competitiveness thanks to this.

According to Yaseen, Xu, Yu, and Hassan (2016), improving agricultural information distribution in rural areas could help close the knowledge gap and help farmers increase their output. Nonetheless, the majority of issues that rural farmers deal with involve, among other things, inadequate information and a dearth of extension services. This happens when the information given is irrelevant to their particular requirements or fails to consider the resources and conditions in the area.

It can, therefore, be argued that access to knowledge and information is essential for farmers to successfully participate in oil palm production. This

encompasses agricultural training and extension services, which equip farmers with technical expertise in oil palm cultivation and effective farming practices. Additionally, access to market insights and consumer demand trends enables farmers to make well-informed choices, enhancing both their productivity and profitability.

It can also be argued that the provision of extension services to farmers creates opportunities for collaboration between government, non-government, and other private organisations. By collaborating, there is increased access to information, the creation and sharing of good practices, the introduction of innovative farming methods, and the creation of markets for farm produce. They act as a conduit for the dissemination of information, training, and technical assistance to farmers, allowing them to make informed decisions and implement sustainable and efficient farming practices.

vi. Authority

According to Ribot and Peluso's (2003)' getting access to authority is regarded as a crucial point in the chain of events that allows people to gain advantages. Furthermore, "authorities are nodes of direct or indirect types of access control when several access mechanisms or strands are bundled together in one person or institution" (Acosta, Van Wessel, Van Bommel, Ampaire, Twyman, Jassogne & Feindt, 2020, p.1212). Traditional leaders or village elders are examples of customary authorities that are crucial in negotiating resource access. In addition to safeguarding resources in the common pool and preventing resource exploitation by misinformed parties, customary authority can offer a financially advantageous method of facilitating resource use.

Persaud, Telmer, Costa and Moore (2017) argued that local rules and norms also determine who has access, depending on the locality or case, alongside area-specific local legal authorities over land or resources. In some cases, customary authorities might have primary drivers in a particular culture or tradition, and legal authorities might hold legal authority on paper, but for practical reasons, it could be the customary authority and/or local traditions that dictate who has access to a resource and benefits from it.

Furthermore, it was discovered in a study by Chigbu, Uwayezu and Katjuia (2022) that conventional, customary, and legal authorities may all compete or clash in areas of authority. The dispute between the rights of indigenous people and those of the government is an example of one involving legal, customary, and conventional authorities. The government and the indigenous people may disagree over how to use the land and any resources that may accompany it as a result. The breakdown or rejection of a common set of laws or norms can also lead to conflict between customary and conventional authorities (Chigbu, Uwayezu & Katjuia, 2022).

vii. Social Identity and Culture

According to Ribot and Peluso (2003), the distribution of benefits from objects is influenced by access to resources through social identity and culture, which is frequently mediated through participation in a community or a group. Social identity is made up of a variety of characteristics, such as place of birth, ethnicity, religion, and the history associated with each of these. Due to these characteristics, certain people may be subject to formal laws that favour particular people or groups based on their connections, income, or social standing. Individuals who don't have the desired qualities can be excluded or

treated unfairly, while those who do might get special treatment and access to resources.

However, the degree to which social identity can be used as a motivator for claiming access may depend not solely on the local dynamics and social relationships, but also on the institutional environment and legal or political context (Ribot & Peluso, 2003). For example, when access to natural resources is embedded in the legal system, regulations and procedures may define which entity has the right to resources and in what circumstances. This could limit social identity-based mechanisms of access. In cases where social identity is used as a means by which to claim access, claimant communities may encourage others to join them through outreach initiatives. This may also be done with the aid of providing external support for newcomers to the community, such as in the form of literacy programmes, job training, or other support.

However, social identity can also intersect with other access mechanisms, such as those involving credit, markets, technology, and investments (Ribot & Peluso, 2003). For example, access to credit or capital may be limited to those who have certain identities, often related to ethnicity, class, gender, or education. Also, social identity may be constrained by socio-cultural norms. For example, in many communities, women are restricted from participating in certain markets or having access to certain resources.

viii. Social Relations

According to Ribot and Peluso (2003), access through the negotiation of social relationships is closely linked to social identity and plays a crucial role in almost all other aspects of access to resources. That is, individuals can gain access to resources by strategically engaging in social relations. This can be

done through strategies of participation, influence, and negotiation. However, these strategies involve careful selection of the different opportunities present in a particular social environment, as well as the development of relationships with influential individuals that will help facilitate access.

Access to resources through social relations highlights the importance of actively engaging with social networks to access resources that are necessary for economic success. For example, people with a large social network may be able to rely on their connections to access information about available resources. Similarly, individuals with higher economic status may have more resources at their disposal, such as the ability to invest in education or training programmes, access to capital for entrepreneurial ventures, or the ability to purchase desirable goods and services. Economic status can also give individuals access to powerful networks or influential individuals who can help them in their resource acquisition efforts.

However, a thorough analysis of social relationships points to two main principles: indirect mechanisms of access, which rely on networks of connections or take advantage of pre-existing power dynamics in a given society, and direct or face-to-face mechanisms of access, which entail building relationships with influential people who can grant access. Direct, in-person access methods, are predicated on the notion of personal ties and relationships. This may be a friend, family member, mentor, or even a co-worker. People can obtain opportunities through developing relationships with these influential people that they might not have otherwise had.

The indirect access mechanisms rely on exploiting prevalent power dynamics or established networks of connections within a society (Ribot &

Peluso, 2003). This may entail capitalising on social connections or affiliating with a particular social group that has access to specific resources or opportunities. For instance, being a part of a well-connected family or a powerful social group can afford individuals indirect access to resources or opportunities that might be unavailable to others.

Further analysis of social relations also suggests that while individuals and communities may utilise either or both of the approaches to secure access to resources, the stakes associated with indirect mechanisms are potentially higher (Berry, 2018). For example, in the case of seeking access to land, if an individual provides gifts or other forms of service to those in power (as is typical within frameworks of patronage systems), then they are more susceptible to being further exploited and/or exposed to greater risks should those relationships fail. In this context, recognising the various ways in which people can benefit is essential to comprehending the complexities of resource access.

2.4.3. Relevance of the Theory of Access to the Study

In order to analyse the socio-economic benefits and challenges of oil palm production among indigenous rural farmers in Karonga District, the notion of resource utilisation, described by Ribot and Peluso (2003), was crucial. The ability to benefit from a resource is impacted by relational, structural, and rights-based factors, according to Ribot and Peluso (2003). Given that oil palm is extensively available to indingeous rural farmers, it has been questioned to what extent the crop benefits their livelihoods.

In addition, the Theory of Access in this study was crucial for interrogating both the structures of institutions and relational mechanisms that were important to deriving benefits from oil palm production among indigenous

rural farmers. The theory provided the basis for the examination through which institutions could act as an enabler or constraint to the realisation of benefits, thus a bundle of powers (Peluso & Ribot, 2020).

The theory provided leeway for the analysis of gender dynamics among indigenous rural farmers. The theory, thus laid a foundation for interrogating gendered dynamics such as perceived division of labour, decision-making power dynamics, and land access issues among farmers, hence socio-cultural norms practised within households.

The examination of structural and relational challenges served as the foundation for assessing the challenges that farmers face in producing oil palm. According to the idea, having access to resources alone is insufficient; one also needs to be able to take advantage of them, which is dependent on several mechanisms and factors such as markets, technology, labour, capital, knowledge, authority, identity and culture, and social interactions.

2.4.4. Conclusion: The Synthesis of Theoretical Review Perspective

According to the principle of access, the ability to benefit from the resource is highly valued. Ability to benefit from processes of resource demand, including relational, structural, and rights-based mechanisms. Mechanisms that uphold rights are predicated on the institutions that support or legitimise them. The Ministry of Agriculture, for instance, is essential to maximising the benefits of the resource in Malawian agriculture. Beyond the purview of the law, certain unofficial institutions rooted in social structures or customs may serve as impetuses for the realisation of resource advantages.

Structural and relational mechanisms, including technology, labour, capital, markets, etc., are enablers for the potential realisation of benefits.

Structural and relational mechanisms interact with each other for enhanced realisation of benefits. For example, technology demands capital; thus, to buy machinery for production in agriculture, one needs capital. For one to have full knowledge about the prices of market goods and which crops to cultivate, one needs knowledge as a mechanism to facilitate the realisation of the benefits.

The Theory of Access, therefore, has some semblances with property rights and the entitlement approach. This is the case as a critical of rights-based mechanisms suggests institutions play a key role in accessing the resource. For instance, both the property rights and entitlement approaches suggest legal means and systems as enablers for the realisation of benefits from the resource. However, the Theory of Access goes beyond legal systems by adding other mechanisms such as technology, capital, and markets as enablers for realising the benefits from the resource. The notion of access changes direction from deriving benefits from the resource by legal means to the ability to benefit from the resource, hence placing priority on the individual(s) other than the legal systems.

2.5. Review of Empirical Literature

An overview of the current empirical research on agriculture, with an emphasis on oil palm production, is provided in this section. It highlights the socioeconomic importance of agriculture, especially the development of oil palm, and how it helps rural farmers make a living. It also describes the ways in which oil palm production enhances people's socioeconomic well-being.

2.5.1. The Importance of Agriculture

Growing evidence points to the significance of agriculture for economic expansion in developing nations. A study by Etuk and Ayuk (2021), highlighted

that agriculture is a cornerstone of developing countries' economies, contributing to rural development, food security, and export revenue. Additionally, the 2019 World Bank report emphasised that advancing agriculture is crucial for eradicating extreme poverty, promoting shared prosperity, and feeding the projected global population of 9.7 billion by 2050.

In his examination of the role that agriculture plays in rural farmers' livelihoods, Szirmai (2015), came to the conclusion that agriculture has contributed to economic growth in developing nations by supplying raw materials for manufacturing, industrial labour, domestic savings, and the market for industrial goods, as well as food for the expanding non-agricultural population. Similarly, Mangani, Jayne, Hazell, Muyanga, Chimatiro, Burke and Johnson (2020) highlighted in their study that agricultural growth in developing countries fosters an increased demand for various services within agricultural value chains and serves as a crucial supplier of products for the agro-industry. Subsequently, elevated incomes in farming and rural areas stimulate a greater demand for locally-provided consumer goods and services. For instance, increased farm incomes can lead to poverty reduction and improved livelihoods for farmers and rural communities. This can lead to improvements and meet other social services such as education, healthcare, and other social services in rural areas.

Further, Diao, Hazell, Resnick and Thurlow (2007) noted that thinking about socio-economic development and transformation in the nation is a step toward recognising agriculture as a backbone in most developing countries, particularly Africa. In their analysis of agriculture for the national economy, Diao, Hazell, Resnick, and Thurlow (2007) further argued that agriculture

constitutes significant proportions of the national economy, employing most of the population and contributing substantially to exports. Its connections to the broader economy, both within a country and internationally, give rise to development patterns that prioritise employment intensity and are advantageous for impoverished segments of the population.

The African Union (2011) envisions achieving food security across the continent by ensuring both the availability and affordability of food, with a focus on providing the poor access to sufficient food and nutrition. The goal is to boost agricultural production, targeting an annual growth rate of 6.0 percent, particularly for small-scale farmers and women. This "vision includes establishing dynamic agricultural markets at national and regional levels, integrating farmers into the market economy, improving market access, and positioning Africa as a net exporter of agricultural products" (African Union, 2011, p.3). Additionally, it seeks to advance "a fairer distribution of income, position Africa as a pioneer in agricultural research and technology, embrace ecologically friendly practises, and support the sustainable use of natural resources" (African Union, 2011, p.4).

Studies in Malawi by Kamara, Conteh, Rhodes and Cooke (2019), Chinsinga and Chasukwa (2018), and Sumberg, Anyidoho, Chasukwa, Chinsinga, Leavy, Tadele, Whitfield and Yaro (2015) revealed that agricult"ure has been key in addressing socio-economic challenges, particularly among the rural population where agriculture is the main occupation. Agriculture has created employment opportunities, ensured a stable food supply for domestic consumption, supplied resources for both domestic and international markets, and helped stabilise foreign exchange revenues. It has played a crucial role in

economic development by contributing to GDP growth and fostering rural development. Activities such as crop farming, livestock rearing, and fishing have provided jobs in rural areas, helping to reduce unemployment and poverty.

However, as suggested by Rehman, Jingdong, Khatoon, Iqbal and Hussain (2019), governments must design policies that encourage agricultural production, sustainability, and profitability to recognise agriculture and its role in socio-economic development and transformation. This can be accomplished by giving farmers better access to capital and inputs; investing in infrastructure offering suitable incentives; and helping them develop their ability. Furthermore, research and development as well as agricultural technology investments can contribute to higher agricultural production as well as better efficiency and profitability, as stated by Frija, Chebil, Mottaleb, Mason-D'Croz and Dhehibi (2020).

2.5.2. Agriculture and Poverty Reduction

Scholars such as Osabohien, Matthew, Gershon, Ogunbiyi and Nwosu (2019), and Darfour and Rosentrater (2016) have argued that agriculture plays multiple roles in poverty alleviation. As an employer, source of income, tax resource, provider of basic nutrition, and supporter of economic growth, agriculture is critical in reducing poverty among rural smallholder farmers.

In his 1979 inaugural speech, Schultz pointed out that a substantial portion of the global population experiences poverty, making an understanding of the economics of poverty crucial for comprehending significant economic principles. Given that a significant number of impoverished individuals derive their livelihood from agriculture, gaining insights into the economics of agriculture would provide substantial knowledge about the economics of

poverty. Udemezue and Osegbue (2018), in their critical analysis of the link between agriculture and poverty reduction in the African context, revealed that agriculture increases the supply of food available for domestic consumption and employment.

In his study of poverty in rural communities, Ayoo (2021) argued that, poverty is a significant economic and social issue impacting a large portion of the global population, manifesting in various forms. These include "a lack of productive assets and income, leading to unsustainable livelihoods, as well as diseases, chronic hunger, malnutrition, homelessness, inadequate access to clean water, limited educational opportunities, reduced life expectancy, and social exclusion" (Ayoo, 2021, p. 4). Additionally, poverty is linked to high unemployment, elevated rates of infant and maternal mortality, and limited involvement in decision-making processes.

However, in most rural regions where agriculture is the main source of income, poverty is widespread (Gollin, 2014). Accordingly, "almost 80 percent of the severely poor reside in rural areas and mostly depend on agriculture for their income, either through wage jobs in the sector or labour on their farms" (Food and Agricultural Organization Report (FAO), 2019, p. 4). Due to their restricted access to resources, unstable land tenure, and isolation from markets and services, small-scale and subsistence farmers are in a worse situation than others. This is particularly true in nations where irrigation facilities are scarce and agricultural production is primarily rain-fed. In addition, a lack of markets, inadequate infrastructure, unsatisfactory agricultural techniques, and susceptibility to natural calamities all contribute to poverty in rural areas (Geza,

Ngidi, Ojo, Adetoro, Slotow & Mabhaudhi, 2021; Ogundipe, Oduntan, Adebayo & Olagunju, 2016).

Arguably, improving agricultural performance necessitates eradicating poverty by generating revenue opportunities (Dhrifi, 2014). People in rural places can find employment options through farming. Because of this, it makes sense to assume that a rise in farm revenue will help to reduce poverty, given that a large portion of the impoverished rely on agriculture for their income (Cervantes-Godoy & Dewbre, 2010, p. 7). The direct influence of agricultural production on poverty reduction comes from increased farm earnings, while the majority comes from indirect sources like employment and food prices.

Enhancing the provision of good infrastructure in rural communities can stimulate the living standards of the rural population, as most of the rural population depends on agriculture for their livelihoods. In this condition, "good roads reduce transportation costs and generate diverse economic benefits that include increased ease of transporting agricultural produce to markets, ease of accessing agricultural inputs, and an increase in the profitability of income-generating businesses" (Ayoo, 2021, p. 6). Therefore, the realisation of poverty reduction among the rural population can be achieved if there are good roads that can lead farmers to get access to the markets easily.

2.5.3. Agriculture in Malawi

Agriculture has continued to be the backbone of Malawi's economy ever since the country gained independence in 1964. According to the Government of Malawi's 2022 Annual Economic Report, "agricultural accounted for 22.4 percent of gross domestic product (GDP) and provided over 80 percent of national export revenues" (Government of Malawi, 2022). (Government of

Malawi, 2022, p. 9). Additionally, agriculture is essential to the nation's food sustainability and to the creation of jobs at the local and industrial levels.

The Malawi National Resilience Strategy 2018–2030 (Government of Malawi, 2018) recognises that a large number of the nation's citizens can move from poverty to wealth, with certainty through agriculture. In other words, a large number of rural Malawian households can escape poverty by engaging in agricultural entrepreneurship, while others can do so by joining the rural labour market and engaging in non-farm rural economies (Government of Malawi, 2018). The potential of farming as a means of escaping poverty can be increased by non-farm revenues, and agriculture can help labour and migration pathways to livelihood options that build resilience. These three pathways are complementary to one another.

The main agricultural sub-sectors in Malawi include subsistence and large-scale farming, subsistence livestock husbandry, fisheries, horticulture, agroforestry, and livestock rearing (Pauw, Thurlow & Ecker, 2018). Subsistence farming and livestock husbandry are the major activities in the agricultural sector. The main crops grown in Malawi are maize, pulses (such as groundnuts, beans, and soya beans), rice, sweet potatoes, root crops, cassava, sugarcane, and tobacco (Benson, 2020). The majority of smallholder farmers are engaged in subsistence farming, growing crops for their consumption. This form of agriculture is labour-intensive, as only basic tools are used while the majority of the labour force is unskilled (Benson, 2021).

Malawi's agriculture is further separated into the estate and smallholder sectors. Smallholder land is held by customary law, whereas estate land is owned under leasehold or freehold tenure systems. Masanjala (2006) observed

that, aside from variations in the land tenure system, farming practices differ in that smallholder farming, which is characterised by resource constraints, prioritises crops like maize, potatoes, and cassava, among others, that are primarily consumed at the household level, while estate farming is capital intensive and concentrates on producing high-value crops for the export market, such as tea, coffee, sugar, and tobacco. The rural farmers produce food commodities such as maize, rice, horticulture crops, and livestock products whereas estates concentrate on cultivating crops that are suited for sale. Additionally, it helps the commercial sector to produce high-value commodities that are exported.

Over 90 percent of Malawi's cultivated land is located on small-scale farms, covering an estimated 2.2 to 2.5 million hectares. An estimated 4.7 million hectares could be used for agriculture, including plantations, irrigated land, rain-fed, dimba, or wetland crops, and an additional 0.9 million hectares for grassland. It can be inferred that roughly 50 percent of Malawi's total land area is suitable for cultivation, of which only 50 percent is being farmed (Malawi Government (NAP), 2016).

According to Markowitz's (2018) research, agriculture is a significant component of Malawi's economy and individual livelihoods, providing the primary source of income for 85 percent of Malawian households and accounting for 30 percent of the country's GDP. The sustainability of livelihoods was also studied by Mangani, Jayne, Hazell, Muyanga, Chimatiro, Burke, and Johnson (2020). They found that since over 80 percent of Malawians live in rural regions, agriculture is the main source of subsistence for the great majority of the population. More than 85 percent of Malawians directly earn

their livelihood from agriculture, which also provides more than 80 percent of the country's export earnings and more than 85 percent of all jobs, according to Chinsinga and Chasukwa (2018) and Kamchacha (2012). Consequently, the nation's main source of income is agriculture. Furthermore, Malawi's primary driver of economic expansion is agriculture. Agriculture employs 80 percent of the productive labour force, or those making over $8 million annually (Kamchacha, 2012; Tchale, 2009).

Regarding food sustainability among households, Mango, Makate, Mapemba, and Sopo (2018) noted that agriculture in Malawi has been key to providing food to the population in the country. Agriculture has provided a sure way for the large population to attain food sustainability. Despite Malawi's reliance on agriculture for a sustainable food supply, the nation frequently experiences food insecurity due to weather and climate-related uncertainties, such as climate change (droughts, floods), dwindling soil fertility, and subpar agricultural policies that impact smallholder farmers. These challenges lead to poverty among Malawi's smallholder farmers.

Arguing in line with Makate, Wang, Makate, and Mango (2016), the study advances the idea that as Malawi is hit by climatic and weather uncertainties, the country needs to diversify its crop by looking at alternative crops that are resilient to weather and climatic shocks, such as oil palm, to stabilise their food stocks and incomes. Diversifying crops is a tactic to increase the resilience of agricultural systems, especially in populations that mostly depend on agricultural products (food and fodder) for their livelihoods, as Njeru (2013), further notds. Crop variety also improves resilience by increasing the farm's temporal and spatial biodiversity.

2.5.4. Role of Malawi Ministry of Agriculture in Promoting Farming

One of the most important departments in the Malawi is the Ministry of Agriculture. Because agriculture is the backbone of the nation's economy, the Ministry is important for its overall economic contribution to the country. To guarantee food security and boost revenue, the ministry's goal is to support and encourage actions that raise agricultural output and maintain wise management and effective use of land-based natural resources. The Malawi Ministry of Agriculture sees a country that enjoys enhanced agricultural production, provides food security, and experiences sustained agricultural growth and development to fulfil its mandate and mission (Malawi Government (NAP), 2016).

Malawi's Ministry of Agriculture is tasked with promoting and advancing broad-based, sustainable agricultural development policies that boost economic growth and aid in the fight against poverty, among other fundamental responsibilities. According to Chinsinga (2008), the MoA's specific functions include, "ensuring household food sufficiency and improving the nutritional status of the population; diversifying and expanding agricultural production and exports; increasing farm incomes; safeguarding the natural resource base; promoting agricultural policies, legislation, and regulations with stakeholder participation; producing and disseminating agricultural information and technologies; regulating and ensuring quality control of agricultural produce and services; and monitoring and managing the food security situation" (Chinsinga, 2008, p.3).

According to the Malawi National Planning Commission (NPC) (2020), the Ministry of Agriculture is tasked with developing policies related to farming

in the country. In line with its mandate, "policies about agriculture are tailored towards contributing to the attainment of national food security, poverty reduction, and national economic development objectives as outlined in the Malawi Growth and Development Strategy (MGDS)" (Malawi Government (NAP), 2016, p.3).

The Ministry of Agriculture's (MoA) four main goals include "disseminate novel technologies and agronomic practices; augment farm incomes through the cultivation of high-value crops; empower farmers by fostering social capital within the community; and enhance farmers' capabilities to implement sustainable natural resource management practices" (Ragasa & Niu, 2017, p. 7).

The Malawi National Agricultural Policy (2016) further states that the MoA's responsibilities include creating appropriate extension materials on the diversification of agro-based enterprise production and enhancing small-holder participation in native agro-based businesses such as poultry, small ruminants, beekeeping, vegetables, and fruits. Malawi National Agricultural Policy has not oil palm acknowledged as one of the country's significant crops as the National Agricultural Policy (2016), prioritises commodities such as maize, beans, tobacco, and ground nuts, among others. As a result, colonial crops are prioritised, which results in less crop diversification. Furthermore, the Malawi National Agricultural Investment Plan (2018) prioritises state investments in agriculture and excludes oil palm.

2.5.5. Gender Dynamics in Agriculture

In their study of gender issues in agriculture, Cole, Puskur, Rajaratnam, and Zulu (2015) pointed out that, it is impossible to ignore the pursuit of gender

equality, inequalities, and other social and cultural elements in the majority of African communities among smallholder farmers. Questions like who has the advantage in terms of financial profits from agricultural activities and who controls resources in agriculture, among other things, are crucial.

Inequalities in resource access are the foundation of gender inequality problems in agriculture. Weak positioning in intra-household bargaining, which stems from unfavourable marriage and inheritance rules, family and community traditions, and unequal access to labour markets, is the primary cause of this inequality. Anaglo, Boateng and Boateng (2014) examined gender inequality in agriculture and found that, while it goes unacknowledged far too frequently, it shows up as unequal access to markets and resources, and this causes agricultural output to be lost, poverty levels to rise, and women to experience food and nutrition insecurity.

In the study by Kihiu and Amuakwa-Mensah (2021), it was revealed that in some African communities, women bear the brunt of unequal access to resources and lucrative markets because of their limited land ownership rights, marginalisation from the decision-making process, and their exclusion from production-enhancing agricultural inputs and technologies. For example, women's access to contemporary technology and inorganic inputs is limited or non-existent in the majority of developing nations, and their lack of land ownership rights limits their ability to produce agricultural products. Additionally, women's labour and resources are undervalued, and they have limited access to finance (Diamoutene & Jatoe, 2021). In essence, these restrict their capacity to strategically assist their family and lift them out of poverty.

Reducing poverty among women requires a transition from subsistence to high-value farming, which is made possible by improved access to resources. Women spend a higher proportion of their income on food than men do, which benefits the development of children in particular as well as the food and nutrition security of the household. Reducing gender inequality can be achieved through targeted social safety programmes, labour market reforms that improve access to capital and financing, and other tactics that expand the economy's access to opportunities and resources.

2.6. Oil Palm Production

Oil palm production, which is an economic activity in tropical countries such as Honduras, Papua New Guinea, Solomon Island, Guatemala, and Brazil, has been a "significant contributor to gross national product (GDP), foreign exchange earnings, source of employment, as well as serving as the source of food at the domestic level" (Qaim, Sibhatu, Siregar & Grass, 2020, p. 322). In addition, in south-east Asia, countries such as Malaysia and Indonesia, "oil palm production contributes to incomes, capital accumulation, and higher expenditures on food, health, education, and durable consumer goods in smallholder farm households" (Kubitza, Krishna, Alamsyah & Qaim, 2018, p. 109).

According to studies by Villela, D'Alembert, Rosa and Freitas (2014), Vijay, Pimm, Jenkins and Smith (2016), and Mutsaers (2019), oil palm is a financially successful crop that is utilised globally in a variety of everyday items in the body care, biofuels, and agri-food sectors. For instance, these researchers claim that oil palm and its derivatives are the most widely sold vegetable oils outside, making up around 60 percent of all oilseed exports, and that demand is

expected to rise sharply over the coming years. Oil palm's primary benefit over other oil crops is its significantly higher production per hectare, which raises revenue (Khatun, Reza, Moniruzzaman & Yaakob, 2017).

Furthermore, studies by Sayer, Ghazoul, Nelson and Boedhihartono (2012), and Yaap, Struebig, Paoli and Koh LianPin (2011), highlighted the use of oil palm in the production of cosmetics and other detergents, including confections, as well as its use as vegetable oil, demonstrating the increasing demand for products made from this plant globally. According to these researchers, the growing need for palm oil due to an increase in worldwide demand has coincided with a large increase in the amount of oil produced and the total area farmed in areas where oil palms are grown.

The 2019 United Nations Conference on Trade and Development also emphasised the role of oil palm as a crop in reducing socio-economic challenges. For instance, oil palm production boosts GDP and reduces poverty in nations such as Nigeria, Ghana, Indonesia, and Malaysia. The need for robust conservation efforts, habitat protection, and sustainability is highlighted by the rising demand for products from oil palm around the world.

2.6.1. Oil Palm Production and Rural Livelihoods

Central to the question of livelihood is 'how do people earn a living?' At the individual level, livelihood refers to the specific activities and resources a person engages in to earn a living (Scoones, 2013). This includes wage labour, self-employment, subsistence farming, or informal work. At the household level, livelihood is the combination of resources and activities that support the well-being of the household as a whole (Scoones, 2013). People's livelihoods are shaped by a complex interplay of social, economic, and environmental

factors, as well as the combination of activities such as agriculture, wage labour, and self-employment for people to meet their needs. This intricate web of elements contributes to the diverse strategies and livelihood patterns observed among individuals and households in different contexts.

Among rural farmers, livelihood generally refers "to the capabilities, assets, and activities required for sustaining or improving their means of living" (Tang, Bennett, Xu & Li, 2013, p. 17). That is, livelihood encompasses the capabilities they have to earn a living, including assets and activities they are engaged in to sustain or improve their lives.

In essence, livelihood extends beyond the mere act of securing income; it also encompasses the range of capacities, resources, and undertakings that rural farmers are involved in to support their daily existence. These facets include their skills, knowledge, social networks, access to assets, and participation in various activities related to agriculture, trade, and other income-generating pursuits. Leveraging these capabilities and assets to ensure the sustainability and improvement of their quality of life may involve securing necessities, such as food and shelter, as well as pursuing opportunities for economic growth and social well-being.

The benefits of oil palm production, such as the creation of income, have been shown in numerous studies. Benefits include increased farmer incomes, economic advantages, rural job prospects, improved livelihoods, and significant contributions to economic growth in general. For example, "oil palm production has permitted a continuous diversification of occupations and lives, including the replenishment of household income from labour options" (McCarthy, 2010,

p. 832). An increase in farmer income is among the benefits of oil palm (Ayompe, Schaafsma, & Egoh, 2021).

According to Edwards (2019), the development of oil palm contributes significantly to the reduction of poverty by giving rural farmers jobs and revenue, which raises their salaries. Because oil palm farmers frequently need to collaborate with larger agro-industrial companies to process and market their products and obtain access to international markets, it also supports livelihoods. Furthermore, Marangoni, Galli, Ghiselli, Lercker, La Vecchia, Maffeis, Agostoni, Ballardini, Brignoli, Faggiano and Giacco (2017) argued that oil from oil palms is the world's most significant supply of edible oil and that it offers sustenance for vulnerable populations in developing nations.

Feintrenie, Chong and Levang (2010) aver that oil palm has become a very profitable industry worldwide, providing income in all ecologically acceptable places. Furthermore, a study by Sunarminto, Mijiarto and Prabowo (2019) found that the growth of Indonesia's oil palm plantations has boosted rural residents' economic stability, which in turn has encouraged the establishment of new revenue streams within farming households' livelihood systems.

Dharmawan, Mardiyaningsih, Komarudin, Ghazoul, Pacheco and Rahmadian (2020) found that the creation of oil palm plantations in Indonesia has been seen as a successful strategy for improving the rural agricultural communities' economic and livelihood systems. Furthermore, it was noted in Chiriacò, Bellotta, Jusić, and Perugini's (2022) work that oil palm is a major factor in boosting Indonesia's economy and enhancing the welfare of its native populace. Furthermore, oil palm contributes significantly to improving food

security and reducing poverty. Furthermore, the national economic development goal now includes the expansion of oil palm, driven by small-scale farmers, as a solution to the urgent problem of Indonesia's low employment opportunities and pervasive poverty. Alwarritzi, Nanseki and Chomei (2016) state that the research that is currently available shows that small-scale farmers' expansion of oil palm agriculture has a major positive influence on the welfare of rural populations.

According to a report on oil palm published by the Malaysia External Trade Development Corporation (MATRADE) (2021), Malaysia's oil palm industry is regarded as a major source of income, coming in third place behind the petroleum, chemicals, and electrical and electronic sectors. Furthermore, it is evident from Malaysia's oil palm performance report (2021) presented by Parveez, Kamil, Zawawi, Ong-Abdullah, Rasuddin, Loh, Selvaduray, Hoong and Idris that oil palm cultivation has been beneficial to the nation because it raises GDP, foreign exchange earnings, and creates job opportunities. Usually, the oil palm industry contributes between five and seven percent of the country's gross domestic output (GDP).

Additionally, Alwarritzi, Nanseki and Chomei (2016) revealed that the economic growth plan calls for the expansion of oil palm, which is mostly driven by smallholders, as a means of addressing Malaysia's severe problems with unemployment and poverty. The study also discovered that when smallholders expand their oil palm enterprises, the quality of life in rural areas is much improved. Oil palm is a vital sustainable crop that feeds over three billion people globally, according to Nambiappan, Ismail, Hashim, Ismail, Shahari, Idris, Omar, Salleh, Hassan and Kushairi (2018).

According to a study by Ngadi (2017), oil palm production has been a major factor in creating job opportunities and reducing poverty in rural areas in West African countries like Ghana and Nigeria. Oil palm has been a reliable source of income, a crop that can withstand drought, and a local source of cooking oil. Furthermore, a crop that is mostly farmed by small-scale farmers is very important for regional economy and rural populations' livelihood (Khatun, Maguire-Rajpaul, Asante & McDermott, 2020).

Research conducted in Ghana by Ahmed, Dompreh and Gasparatos (2019) revealed that oil palm farmers exhibit greater income levels and have reduced poverty compared to farmers engaged in other agricultural activities. Oil palm-derived goods possess a diverse range of applications, serving various functions both within domestic settings and throughout industrial sectors.

Khatun, Maguire-Rajpaul, Asante and McDermott (2020) stated that oil palm is a crop that grows in Ghana and produces two types of oil: fresh fruit bunch (FFB) oil and palm kernel oil, which is taken from the nut's kernel (PKO). Oil from fresh fruit bunches (FFB) is used in a variety of ways in the detergent, cosmetic, and culinary industries. Animal feed and energy both make extensive use of palm kernel expellers. According to Khatun, Maguire-Rajpaul, Asante and McDermott (2020), PKO is frequently used as an all-purpose cooking oil and in cooking processes to make traditional soups and stews from the region.

Oil palm has emerged as a vital source of income for many small-scale farmers in Nigeria. Oil palm is a common cash crop grown by farmers in rural Kogi State, Nigeria, according to a study by Adesiji, Komolafe, Kayode and Paul (2016). Empirical study has shown that this crop is a vital source of sustenance for many rural areas, making it extremely significant. Furthermore,

in Nigeria, the localised production of oil palm by rural farmers act as a mitigating factor for the socio-economic challenges these farmers confront in maintaining their standard of living. Apart from producing income, the extraction of palm oil also creates jobs and supplies food for people living in rural areas.

2.6.2. Oil Palm Production in Malawi

Oil palm production has been practised by the Nyakyusa people, who reside in the Karonga District of Malawi, since time immemorial. These farmers have been involved in producing cooking oil and soap, using indigenous technologies. Also, these farmers cultivate land ranging from approximately two to three acres, and farm ownership is largely based at the family level. In addition to being a commercial endeavour, oil palm production is a cultural custom that has been passed down through the ages. As an essential component of their identity, the community takes pride in maintaining and carrying on this custom. Again, there are clear gender roles associated with oil palm agriculture. Women work in processing to extract the lucrative oil from palm fruit bunches, while men perform the majority of the hard labour. These farmers' production of oil palm is distinguished by its lack of mechanisation in contrast to contemporary, industrialised agriculture.

2.6.3. Oil Palm Production and Sustainable Development Goals

A look at the socio-economic benefits of oil palm production to sustainable development is also premised on the notion of sustainable rural livelihoods. Assessing "the effects of oil palm production on SDG 2 is a particularly important issue given the fact that current estimates show that almost 8.9 percent of the world's population (690 million people) suffer from

hunger and malnutrition" (FAO, 2020, p. 4), and that "the majority of the world's undernourished population is in Asia (381 million) and Africa (250 million), which are the countries with the most oil palm cultivators" (Chiriacò, Bellotta, Jusić & Perugini, 2022, p. 9). Oil palm production has been credited with reducing levels of malnutrition, particularly in countries such as Indonesia and Malaysia. Oil palm "offers a more affordable and readily available form of cooking oil for rural households; it gives access to more nutrition-rich meals and addresses both undernourishment and malnutrition" (Haryatia, Subramaniama, Noorb, Loha & Abd Aziza, 2021, p. 331).

From the standpoint of access to social benefits, "oil palm cultivation increases the possibility of access to healthcare, chiefly due to the increased economic means at their disposal thanks to their earnings from oil palm cultivation" (Chiriacò, Bellotta, Jusić & Perugini, 2022, p. 10). The acquisition of income through oil palm production has rendered rural farmers unable to access health care services, hence meeting SDG 3 (good health and well-being). Studies conducted in Indonesia and Malaysia found that households involved in oil palm cultivation had greater access to healthcare, with higher rates of healthcare utilisation (Qaim, Sibhatu, Siregar & Grass, 2020; Edwards, 2019; Sibhatu, 2019). The increased income from oil palm cultivation allowed households to afford healthcare expenses and access the necessary medical services.

Oil palm production, as one of the agricultural activities contributes effectively to SDG 4 (quality education). As a corporate social responsibility, "the majority of the large oil palm companies, in countries such as Malaysia and Indonesia, are involved in building schools to provide education for the children

of their workers, thereby generating a positive impact on the standard of living of employees and their families" (Santika, Wilson, Budiharta, Law, Poh, Ancrenaz, Struebig & Meijaard, 2019, p. 108). Education is "considered an essential factor in improving agricultural production, particularly with a view to sustainability and social equity" (Furumo, Rueda, Rodríguez & Ramos, 2020, p. 3).

The production of oil palm has proven essential in reducing the impact of Sustainable Development Goal No. 8. (SDG8). Economic growth and decent labour are promoted by SDG 8. For farmers, oil palm production is essential since it offers benefits. For example, "oil palm boosts economic growth and GDP, improves farmer income, and provides chances for employment in rural regions and improved livelihoods" (McCarthy, 2010, p. 822). Additionally, oil palm production has greatly improved employment and income opportunities in rural parts of many countries, counteracting the slow labour absorption in metropolitan areas. Workers on medium-sized and large farms are classified as permanent, seasonal, or casual based on the tasks they perform (Chiriac, Bellotta, Jusi and Perugini, 2022; Mardiharini, Azahari, Chaidirsyah & Obaideen, 2021).

2.6.4. Challenges Facing Rural Farmers in Oil Palm Production

Generally, rural farmers face numerous challenges that affect their oil palm production including capital, market, technology and information.

i. Capital

Rural farmers engaged in oil palm production encounter a significant hurdle related to the insufficient capital necessary for investing in this agricultural endeavour, as highlighted by scholars such as Pratama, Winarso,

Hudalah and Syabri (2021), and Nurfatriani, Ramawati, Sari and Komarudin (2019). The provision of adequate capital to these farmers is crucial for fostering increased production levels. Kamara, Conteh, Rhodes and Cooke (2019) pointed out that the substantial production gap observed in oil palm production is directly linked to the limited financial resources available to rural farmers, hindering their capacity to invest in modern cultivation practices. Addressing the challenge of capital scarcity is essential for narrowing the production gap and enabling rural farmers to adopt more efficient and sustainable methods of oil palm production.

One way to empower rural farmers could be to give them access to financial services such as insurance and credit. According to Tambi, Choy, Yusoff, Abas and Halim (2021), rural farmers can obtain the funds they require to invest in their agricultural endeavours, purchase inputs like seeds and fertiliser, and improve their infrastructure by providing them with financial services. As a result, farmers might be able to increase their yields and production, which would ultimately lead to greater income and improved living conditions. Furthermore, lending money to farmers might enable them to purchase the equipment and inputs they require to improve their farming methods.

Additionally, giving rural farmers insurance guarantees that their means of subsistence would be protected in the event of weather-related hazards like floods and droughts, which can have disastrous effects on the farmers (Darmawan & Ahmad, 2022). Farmers can obtain compensation in the event of a harvest failure or other weather-related damages, by offering insurance packages that cover these risks. Insurance provides farmers with a safety net,

enabling them to carry on with their operations even in the face of hardships and eventually, promoting food security and economic stability (Abubakar, Ishak & Makmom, 2022).

ii. Knowledge

The acquisition of knowledge is pivotal for unlocking the benefits of oil palm cultivation. In essence, as articulated by Rodthong, Kuwornu, Datta, Anal and Tsusaka (2020), oil palm-producing farmers stand to gain significantly from platforms that facilitate knowledge-sharing; offering insights into best practices and cutting-edge technologies. Through these platforms, such as workshops and trainings, farmers can access demonstrations, receive skills, and seek guidance from experts in the field. Additionally, extension programmes are essential for providing rural farmers with knowledge on the best farming methods. The need of training programmes and skills development programmes for small-scale farmers was emphasised by Vermeulen and Goad (2006). Rural farmers can increase their output by improving their knowledge and abilities in oil palm production through the provision of training, development plans, and skills.

iii. Farm Equipment and Machinery

The absence of suitable agricultural equipment continues to be a major barrier for rural farmers to reap the potential advantages of oil palm production. Large-scale, effective production requires proper farm equipment, yet many Malawian rural farmers struggle to get and make use of it. The use of contemporary agricultural machinery provides opportunities for small-scale farmers to increase output, decrease labour expenses, and boost product quality, and ultimately, linking them to wider consumer bases (Chew, Ng, Hong, Wu, Lee, Low, Kong & Chan, 2021). Encouraging these farmers to invest in new

farm equipment is part of a larger plan to boost oil palm production, which can result in higher incomes and better living conditions. To attain sustainable agricultural development and enable rural farmers to participate successfully in the market, this programme is essential.

2.6.5. Gender Dynamics in Oil Palm Production

It is important to recognise the diversity and complexity of gender dynamics that exist among rural farmers involved in oil palm production.

i. Gender Roles in Oil Palm Production

The concept of gender distinguishes itself from the biological differences denoted by the term 'gender' (about nature). Gender aligns more closely with the social perspective, encompassing a set of roles that define what is expected or deemed appropriate for men and women, as well as what they are discouraged from doing (involving socio-cultural interpretations) (Lindqvist, Sendén & Renström, 2021). It is a nuanced interplay of societal norms, behaviours, and cultural expectations that shapes our understanding of gender roles and how they manifest in various societies worldwide.

Seldom are gender roles problematic or associated with male dominance and female subjugation. According to Mehraban, Debela, Kalsum and Qaim (2022), gender norms tend to be conceptualised in most African communities as part of the natural order of things that men and women accept without questioning or challenging them. Gender roles are "defined and upheld through social practices, norms, and values and can shape access to societal resources, opportunities, and entitlements" (Elmhirst, Siscawati, Basnett & Ekowati, 2017, p. 1136). The prevalence of gendered norms creates a context in which women often face structural obstacles in their attempts to live dignified and meaningful

lives. For instance, traditional gender roles may dictate that women should primarily be caregivers and homemakers, while men are expected to be the breadwinners.

The Gender and Development (GAD) framework is used to explore gender roles in oil palm production. "The GAD framework aims to comprehend how women's and men's roles are shaped by society, and how their actions fulfil the roles that society has assigned to them" (Sarku, 2016, p. 188). Within this framework, gender roles pertain to the expectations that stem from social identities, feminism, and masculinity within households. According to societal norms around traditional gender roles, men and women play different roles in the production of oil palm (Barriteau, DeCaro & Mohasesi, 2018).

In most countries where oil palm plantations are cultivated, "men are the main providers as they are engaged in the heavy physical aspect of labour required in such tasks as clearing bushes and planting seedlings" (Rowland, Zanello, Waliyo & Ickowitz, 2022, p. 7). On the other hand, women are most often engaged in processing and packaging activities.

It is noteworthy that "the gendered distribution of labour is done with thought to meet the genders' knowledge level" (Maharani, Moeliono, Wong, Brockhaus, Carmenta & Kallio, 2019, p. 122). Men are typically assigned to tasks requiring a higher level of skill or knowledge regarding oil palm production, while women are instructed to engage in less laborious activities. This shows that women are employed for a variety of reasons, including poorer labour skills and lower salaries. This suggests that, while simultaneously elevating men to a more significant role in the oil palm production, the division

of labour based on gender perpetuates the discrimination against women in this industry.

It is also important to note that "gender roles account for the gender disparity in earnings" (Toumbourou & Dressler, 2021, p. 42). To increase the earnings of females in oil palm production, "there should be improved access to credit facilities, mastery of skills in modern processing techniques, provision of mechanised equipment, and improved access to markets" (Nwankwo, 2016, p. 252). However, a lack of organisations or the government's interventions to promote women would potentially limit women's ability to realise benefits from the activity.

ii. Gender Analysis on Power Dynamics

Gender analysis of oil palm production reveals that "even in the absence of explicitly gender-specific roles or policies, this agricultural activity is characterised by unequal gender power dynamics" (De Vos & Delabre, 2018, p. 218). Men usually occupy decision-making roles and highly skilled positions that provide them with access to resources and power to maintain and even reinforce unequal gender roles. Women also have less access to opportunities and resources. These asymmetrical gender roles tend to restrict women's mobility and prolong gender inequality.

Again, gender-powered dynamics are perpetuated by cultural norms. For instance, "cultural norms often assign different roles and responsibilities to men and women. Men are often expected to be the primary breadwinners and decision-makers, while women are typically confined to domestic and caregiving roles" (Retnaningsih, Asriwandari, Ningsih, Purwanti, Sidiq, Artina & Rosaliza, 2022, p. 4). In addition, men are often seen as authority figures and

decision-makers, while women are expected to be submissive and obedient (Nangia & Forsac-Tata, 2020). This can result in women having little control over their own lives and being subjected to discrimination and violence.

However, gender inequality is not considered to be associated with "gender injustices such as discrimination, marginalisation, or the imposition of numerous burdens" (Li, 2015, p. 7). It is widely accepted that married women and men have different but complementary duties, with women primarily serving as spouses and mothers and males acting as the heads of families. But, "men are considered as the principal breadwinners, while women may be expected to take on additional tasks, including domestic work and the care of children and family" (Kim, 2017, p. 33). According to a study conducted in Ghana by Sarku (2016), lowering barriers that prevent women from participating and raising knowledge of existing inequities are two ways to increase gender equity in oil palm production. Gender equality, in terms of access to land, resources, tools, extension services, and market knowledge require the implementation of policies.

iii. Gender and Land Holdings

Insufficient land holdings pose yet another obstacle for rural farmers. Specifically, these farmers grapple with inadequate farm lands to expand their oil palm plantations effectively. As highlighted by Gollin (2014), rural farmers find themselves constrained by the limited number of acres they can cultivate, resulting in diminished economic returns due to the restricted cultivation space. Fitzherbert, Struebig, Morel, Danielsen, Brühl, Donald and Phalan (2008) illustrated instances in Indonesia where land claims arose due to the government's failure to address land-related issues.

Among oil palm-producing farmers, regarding land ownership and the distribution of earnings from oil palm production, cultural norms derived from patriarchal and matriarchal systems have a significant effect. In other words, men always have the upper hand in enjoying the benefits from resources like land, such that when patriarchal values are put in place, women have little control over the land or proceeds from the production (Retnaningsih, Asriwandari, Ningsih, Purwanti, Sidiq, Artina & Rosaliza, 2022; Udume, George, Fagbohun, Ozoya & Olonade, 2021). As a result, women who intend to farm have to rely on their male relatives or husbands for access to land. These circumstances place women at a disadvantage when it comes to competing for land.

2.6.6. Capacity Enhancement and Oil Palm Production

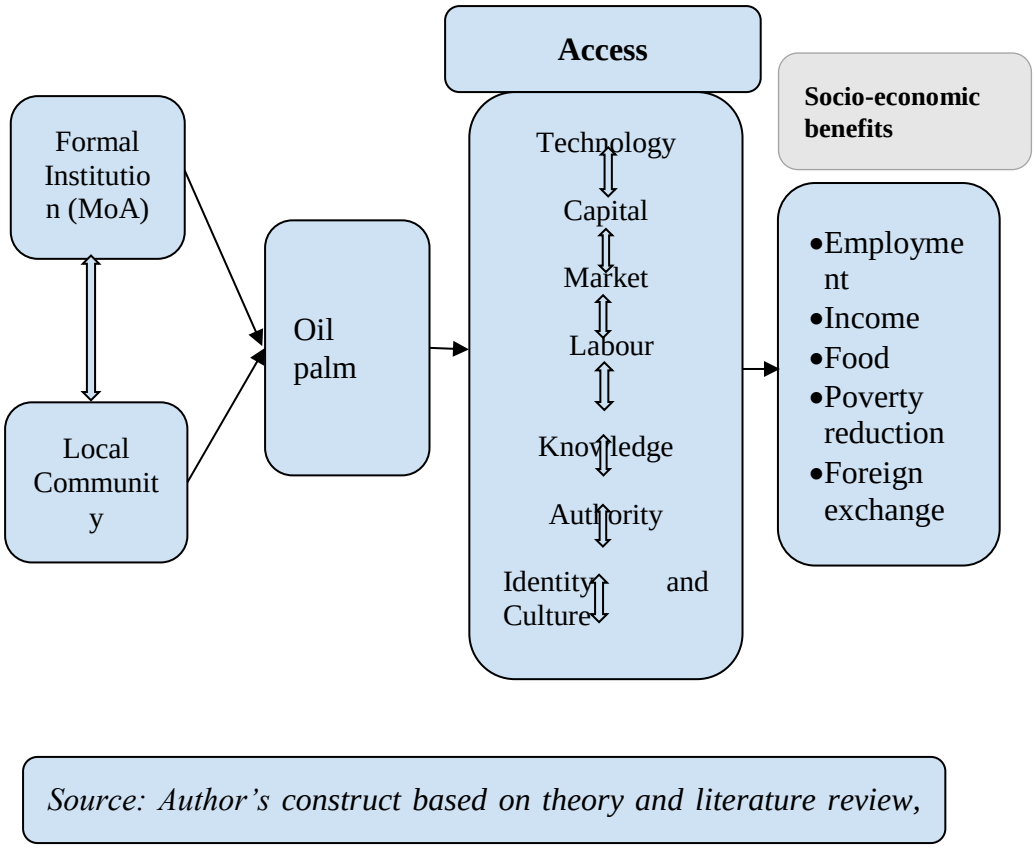
Building capacity, empowering smallholder farmers, and educating the public about oil palm production are all crucial for raising oil palm productivity. Farmers require resources, financial access, and experience in order to increase their oil palm production capability. According to the World Bank (2007), smallholder farmers who are empowered can use their land to create food and end poverty.

Improving smallholder farmers requires the government to provide policies that help them develop their capacity and acquire skills. This emphasises the need for institutions such as the Malawi Ministry of Agriculture to play a bigger role in helping smallholder farmers develop their competence. Providing pertinent knowledge on oil palm production, facilitating or granting farmers financing, supplying technology, and guaranteeing that the products find a market, are all examples of capacity building.

2.7. Conceptual Framework

A conceptual framework shows the "relationship between concepts and their impact on the phenomenon being investigated. The framework is derived from concepts or constructs. The conceptual framework provides understanding rather than offering theoretical explanation" (Regoniel, 2015, p. A conceptual framework is also known as an analytical framework.

A preliminary conceptual framework was constructed following a theoretical and empirical study of the literature about the benefits and challenges of oil palm production from a socio-economic perspective. This framework was derived from a review of the literature and the concepts put out by Ribot and Peluso (2003). Access is the capacity of individuals or groups to take advantage of, manage, or make use of resources or services (Ribot & Peluso, 2003). The authors maintained that rather than being a static condition, access is a dynamic process that is influenced by institutional arrangements, power dynamics, and social relationships. Even though the conceptual framework at this point might seem a little one-dimensional, it offers a foundation for investigating access concerns and the factors that either facilitate or impede the socioeconomic benefits of oil palm production among Malawi's indigenous rural farmers.



Source: Author's construct based on theory and literature review,

Figure 1: Preliminary conceptual framework

The conceptual framework in Figure 1 illustrated how the dynamics of oil palm production could be understood by applying Ribot and Peluso's (2003) Theory of Access. This conceptual framework holds that both rights-based and structural-relational access mechanisms are necessary to reap the benefits of oil palm. Rights-based mechanisms are represented in this study by formal institutions, especially the Malawi Ministry of Agriculture, which is in charge of crop development and promotion, and local community authorities, who assist in facilitating and supporting oil palm production locally.

Oil palm production in Malawi is still underdeveloped, despite the fact that it is a large resource with potential for economic growth. In order to fully reap the benefits of oil palm production, the framework emphasised the significance of structural and relational access mechanisms, such as technology,

capital, markets, labour, knowledge, authority, identity, culture, and social interactions, in addition to rights-based mechanisms. Access to resources and benefits from oil palm production might be facilitated or restricted by the existence or lack of these structural and relational access mechanisms. However, there access mechanisms do not work independently, rather they interact with each other. For example, technology depends on the availability of capital. For one to invest in technology in as far as technology is concerned, there is a need for capital. More so, the availability of market plays a key role. For instance, the realisation of income (money) through the markets would enable farmers to have enough capital to invest in technology. Market also depends on information (knowledge). That is, market information enables farmers to know when and where to sell their produce. Again, technological use requires information (knowledge) for farmers to fully utilise it.

This study posited that by effectively harnessing oil palm production, Malawi could achieve significant socio-economic gains, including job creation, income generation, foreign exchange earnings, food security through by-products, and poverty reduction.

2.8. Chapter Summary

Through the preceding review, it became evident that gaining access to resources is pivotal for reaping benefits from oil palm production. Various access mechanisms, including credit, technology, labour, and market access, underscored the inevitability of realising benefits from resources. However, as illustrated above, the Theory of Access distinguishes itself from approaches such as property rights, capability, and entitlement by encompassing more than just legal frameworks. While property rights, capability, and entitlement

demand legal rights from institutions for resource benefit realisation, the theory of access extends its purview beyond legal aspects. It delves into structural and relational mechanisms as crucial for realising the benefits from oil palm.

Moreover, the pivotal role of agriculture in generating income, providing sustenance, and offering employment opportunities to smallholder farmers has been emphasised. In this context, the cultivation of oil palm, as a prominent agricultural activity, emerges as crucial for addressing socio-economic challenges among smallholder farmers. When appropriately harnessed, oil palm, readily available among indigenous rural farmers, holds the potential to mitigate some of the socio-economic challenges faced in Malawi.

Also, gender dynamics and portraying gender differences have been reviewed. Literature has shown that division of labour, decision-making, and power dynamics exist among smallholder farmers. In addition, the challenges that affect smallholder farmers, such as lack of information, credit, technology, and markets, seem to affect the full realisation of the benefits from oil palm production.

3.0.CHAPTER THREE

RESEARCH METHODS

3.1. Overview

Research requires scientific rigour, so data collection and analysis are done systematically. Research needs to be systematically controlled, empirically based, and the data critically analysed (Bryman & Bell, 2019). This chapter, in the first place, describes the philosophical and research approach undertaken. This is followed by the research design, which describes the activities carried out during the research, including the selection of the study area, the selection of respondents, and the means of data collection and analysis. Ethical considerations that were taken have also been presented, taking into account that research is a public good and it has to adhere to ethical principles such that the credibility of the findings is not questionable.

3.2. Philosophical Orientation of the Study

To maintain the scientific rigour necessary for conducting research, a philosophical framework for knowledge generation was integrated, providing an approach to addressing research questions (Babbie, 2012; Scotland, 2012; Mills, 2000). The pragmatic perspective was adopted as a guiding framework for knowledge production, as guided by Neuman (2011) and Kuhn (1962).

Adopting a pragmatic approach was based on the understanding that research should not only be focused on accurately representing reality or describing how phenomena exist independently. Instead, research should also explore the practical value of phenomena under investigation for human lives (Rorty, 1999). In line with this perspective, an analysis of the utility of oil palm in the lives of people was elucidated. The process included collecting

information from the wider population (positivism) while also considering individual viewpoints and experiences (interpretivism) (Creswell & Clark, 2018). This approach balanced an objective analysis of reality based on a larger population with the subjective interpretation of individual perspectives.

A blended approach was used to examine the importance of oil palm production in the lives of indigenous rural farmers, the challenges that these farmers face, and the ways that gender dynamics influence oil palm production. With the help of interpretivism to record individual stories, this method blended aspects of positivism to obtain a more comprehensive understanding of the importance of oil palm production on people's livelihoods, the challenges faced by indigenous rural farmers, and the ways in which gender dynamics influence oil palm production. Once more, information gathered about the significance of oil palm production for the livelihoods of indigenous rural farmers and the challenges they face in producing oil palm helped to shape future research on the Malawi Ministry of Agriculture's involvement in promoting oil palm.

Once more, pragmatism's focus on workable solutions led to its adoption. Finding workable and efficient solutions was the aim while evaluating the difficulties farmers faced in oil palm cultivation. Pragmatism was helpful in this situation since it made it easier to gather significant, concrete, and comprehensive data and successfully solved the research challenge (Morgan, 2007; Robson, 2002).

3.3. Research Approach

This study employed a mixed-method approach in line with the philosophical paradigm. This approach combines the benefits and drawbacks of both quantitative and qualitative research (Gunasekare, 2016; Johnson &

Onwuegbuzie, 2004). The purpose of employing a mixed-method approach was to gather rich, comprehensive, and tangible data in order to examine the socioeconomic advantages and challenges of oil palm production, rather than relying solely on quantitative or qualitative approaches (Creswell & Tashakkori, 2007).

Additionally, a mixed-method approach was employed to achieve an in-depth understanding of the socio-economic benefits associated with oil palm production among these indigenous rural farmers. This choice aligns with scholarly sources such as Khatun, Maguire-Rajpaul, Asante and McDermott (2020), Ansah (2020), Akonor (2019), Onwuegbuzie, Johnson and Collins (2009), and others who highlighted the suitability of utilising the mixed method approach in research. This approach offers a wealth of information on the subject under investigation by integrating both quantitative and qualitative aspects.

A quantitative analysis of the importance of oil palm production to the livelihoods of indigenous rural farmers, the challenges that these farmers face, and the ways that gender dynamics influence oil palm production were carried out first. Once more, conducting the quantitative analysis first helped to inform the qualitative investigation, which included the part the Malawian Ministry of Agriculture played in encouraging the production of oil palm. According to Greene (2007), this method therefore made it possible to collect a variety of perspectives and points of view, providing a number of ways to observe and comprehend what was important and valuable in the context of oil palm production among indigenous rural farmers. Additionally, by actively engaging

respondents in dialogue, the approach facilitated a practical understanding of the research problem.

Regarding the theory of access applied in this study, the mixed-method approach offered a practical and explanatory framework rooted in the social sciences. Taking into account key components of the theory, such as market, capital, and technology, all of which significantly impact benefits from oil palm production, the mixed-method approach aligns effectively with the theoretical framework. This approach facilitated an in-depth, clear, and concrete understanding of the importance of structural and relational mechanisms in realising the benefits associated with oil palm production.

3.4. Research Design

In the process of conducting this research, deliberate choices were made regarding the methodology for gathering, analysing, interpreting, and presenting data, following the guidelines provided by Creswell and Clark (2018). After identifying the research problem, determining the approach, and carefully considering the philosophical and theoretical underpinnings of the study, a sequential explanatory research design was chosen for this study. The sequential explanatory design prioritises the use of quantitative methods before qualitative ones, as discussed in the work of Ansah (2020) and Subedi (2016).

The sequential explanatory design was chosen because it was recognised that a preliminary study of quantitative data would provide a fundamental grasp of the research topic. Additionally, the subsequent phases of the study involved the collecting and analysis of qualitative data in order to refine and explain the quantitative findings, especially when exploring the views of respondents' experiences.

Additionally, the goal of using a sequential explanatory design was to gain a deeper and more nuanced knowledge of the study problem in addition to validating, improving, identifying discrepancies, and exploring differing opinions regarding the quantitative and qualitative data (Cameron, 2009). In this regard, the first step was to begin a quantitative examination of the importance of oil palm production for the livelihoods of indigenous rural farmers, the challenges that these farmers face in producing oil palm, and the ways that gender dynamics influence oil palm production. A qualitative analysis of a number of factors was then carried out, including the importance of oil palm production for the livelihoods of indigenous rural farmers, the challenges that these farmers face in producing oil palm, the ways in which gender dynamics influence oil palm production, and the part the Malawi Ministry of Agriculture plays in advancing oil palm production. As a result, beginning with quantitative analysis and moving on to qualitative analysis provided a comprehensive and multidimensional study of the research problem, taking into account both the respondents' complex qualitative insights and the larger quantitative patterns.

3.5. Study Area

The research was carried out in Malawi's Karonga District, specifically in the Northern Region's Traditional Authority (T/A) Mwakaboko. Geographically, T/A Mwakaboko is located in the Karonga District's northern region. This region is crucial to the district's geopolitical environment because it shares borders with Tanzania, a neighbouring country. The international border influences trade and interactions with neighbouring communities in Tanzania. In terms of political representation, T/A Mwakaboko falls within the jurisdiction of the Karonga North constituency. This constituency is an

administrative division responsible for local governance and representation in the national legislative bodies.

T/A Mwakaboko enjoys a unique position geographically. It is situated along the shores of Lake Malawi, one of the largest and most picturesque lakes in Africa. The lake's waters are a vital resource for the community, offering sustenance, transportation, and recreational opportunities. Additionally, in the upper part of the area, the Songwe River flows, forming a natural boundary between Malawi and Tanzania. Both the lake and the river contribute significantly to the district's ecology and economic activities. The map in Figure 2 shows the study area.

Figure 2: Map of Karonga district.

Source: National Statistical Report, 2018.

The Nyakyusa people, led by T/A Mwakaboko, have a long history of producing oil palm in the Karonga district. In addition to being a commercial endeavour, oil palm farming has a cultural component that has been passed down through the ages. As an essential component of the people's identity, the community takes pride in maintaining and carrying on this custom. Once more, there are clear gender roles in oil palm production. Women work in processing to extract the lucrative oil from palm fruit bunches, while men perform the majority of the hard labour.

These indigenous rural farmers follow farming practices that are closely tied to the customary land tenure system. Unlike modern, industrialised agricultural practices, farming among these farmers is characterised by a lack of mechanisation. Manual labour, traditional tools, and locally-sourced tools are employed. Oil palm production serves as a means of income generation, while maintaining the rich cultural traditions that define their way of life.

The majority of indigenous rural farmers in the area possess relatively small pieces of land that serve as the foundation for oil palm production. These land holdings typically range in size from just one acre to up to four acres. One noteworthy aspect of this agricultural landscape is that families own and manage their land holdings. There is no external involvement from companies or organisations in the oil palm production process. This decentralised approach to land ownership underscores the self-reliance and autonomy of the farming community.

The indigenous rural farmers share a strong cultural bond. Their traditional values, practices, and ways of farming are rooted in a common culture. Cultural homogeneity serves as a unifying force within the community,

fostering a sense of shared identity and collective purpose. Cultural and social cohesion and shared values and practices facilitate cooperation and mutual support among farmers, allowing them to overcome challenges and collectively address issues that affect oil palm production.

T/A Mwakaboko was specifically selected because of its long-standing historical ties to the development of oil palm. Generation after generation of the community has been involved in oil palm production. Over time, the custom of making soap and cooking oil with conventional techniques has been maintained. A special and useful perspective for researching the dynamics of oil palm production is offered by this historical continuity. Once more, the production of oil palm is not just a traditional custom but also a vital source of revenue and communal support. For the locals, it provides both a source of food and economic stability, acting as a livelihood strategy. The community is a relevant case study for comprehending the function of oil palm production in local economies because of its economic component. Again, T/A Mwakaboko was chosen for this study due to the readily available, accessibility and approachable nature of respondents. That is, the choice of the community was strategic, as farmers have been engaged in oil palm production.

3.6. Population and Unit of Analysis

The unit of analysis was created from a particular group of individuals (Creswell & Clark, 2018; Jupp, 2006). For this study, the researcher specifically selected households engaged in oil palm farming as respondents. Additionally, Malawi Ministry of Agriculture officers and indigenous rural farmers were selected as key informants. For the purpose of sharing their perspectives on oil palm production, the key informants were selected from a range of levels.

Indigenous rural farmers who grow oil palm were also chosen to participate in the discussion.

The Malawi National Statistical Office report (NSO) (2021) stated that there were 5,359 households in the T/A Mwakaboko. Nonetheless, a survey was carried out as part of this study to determine how many households in the chosen villages were engaged in oil palm farming. 680 households of the Traditional Authority Mwakaboko were discovered to be involved in oil palm production after a survey. Four localities were especially targeted by the survey, which showed the distribution as follows: There were 171 households in Village Headman (VH) Mwakaboko, 189 households in Nyasa, 167 households in Kasewe, and 153 households in Mwangulukulu that produced oil palm.

Households actively engaged in oil palm production within the selected communities were the focus of the analytical unit. For the quantitative portion of the study, households were chosen as the main units of analysis, enabling an investigation of oil palm production and its effects on their daily life. Furthermore, the Malawi Ministry of Agriculture's agricultural development officers and key informants from particular villages were specifically chosen. Because of their vital responsibilities in the communities, key informants were picked from a subset of the communities. Furthermore, the Malawi Ministry of Agriculture's district-level agricultural development officers were chosen due to their crucial duties in offering extension services pertaining to crop development in the district.

Again, some indigenous rural farmers were selected as discussants in the formulation of focus group discussions. These discussants were selected from communities, and one focus group was formed for each community. The

discussants were selected to provide insights and shed light on oil palm production.

3.6.1. Sample Size

Slovin's formula was used to determine the sample size of respondents in this study. "Slovin's formula is calculated as $n = N / (1 + Ne^2)$, where n = sample size, N = population size, and e = acceptable margin of error" (Tejada & Punzalan, 2012, p.127).

The sample size depended on the nature and design of this study, including the aims and research questions vis-à-vis the underlying philosophical position adopted (Edwards & Holland, 2013). Four communities under T/A Mwakaboko were selected, namely Mwakaboko, Nyasa, Kasewe, and Mwanguluku, due to their accessibility. Also, the communities were selected as people were readily available. From the selected four communities, households were targeted. Under Village Headman (VH) Mwakaboko were 171 households involved in oil palm production. Similarly, Nyasa had 189 households, Kasewe had 167 households, and Mwangulukulu had 153 households, respectively.

Using Slovin's calculation and the allowed error margin of.05, the sample size was determined to be 477 out of the 680 households that made up the study's total population. In light of this, 477 households in each of the four oil palm-producing areas were given questionnaires.

Table 1: Selected communities for the study

Name of Community	Frequency	Percent
Mwakaboko	120	25.2
Kasewe	118	24.7
Nyasa	128	26.8
Mwangulukulu	111	23.3
Total	477	100.0

Source: Field data, 2023

Furthermore, to address the qualitative aspect of the study, key informants were enlisted. Following Guest, Bunce and Johnson (2006), in determining the number of interviews for a study, 10 interviews involving 10 key informants were resorted to. Key informants included three women and seven men. From each village, 2 key informants were selected due to their influence in the community regarding oil palm production. Further, 2 crop development officers at the district level were selected as they are experts in crop development. These interviews aimed to gain insights into the importance of oil palm production to the livelihood of indigenous rural farmers; challenges confronting oil palm production among indigenous rural farmers; gender dynamics shaping oil palm production; and the role of the Malawi Ministry of Agriculture in promoting oil palm.

Moreover, discussants for focus group discussions (FGDs) with indigenous rural farmers actively engaged in oil palm production were recruited. In line with Guest, Namey and McKenna (2017), in determining the number of focus group discussions, taking into account the homogeneity aspects of discussants, a total of 4 FGDs were formed, involving 39 discussants. The

selection and organisation of FGDs involved having one focus group from each community due to their inherent similarities, as the communities shared common traits such as culture, geographical location, and their involvement in activities related to oil palm production, which minimised variations in the gathered data.

Men and women participated in each focus group session. The Mwangulukulu community was made up of five men and four women, whilst the Nyasa, Kasewe, and Mwakaboko communities were each made up of five men and five women. The gender distribution in focus group discussions (FGDs) was determined by the assumption that the topic under discussion was not delicate, therefore permitting both men and women to voice their opinions (Bloor, Frankland, Thomas & Robson, 2001). Given that FGDs are frequently used to gather data from smallholder farmers and obtain rich information from both men and women simultaneously, taking into account that agriculture affects both men and women, whether at the family or individual level, it has been discovered that the gender balance of these interviews works well in Malawi (Mudege, Nyekanyeka, Kapalasa, Chevo & Demo, 2015; Chinseu, Dougill & Stringer, 2019; Phiri, Chipeta & Chawinga, 2019). These focus group discussions were primarily intended to explore the significance of oil palm production for the livelihoods of indigenous rural farmers, the different obstacles that farmers encounter during the production process, and the ways that gender dynamics influence oil palm production among these farmers.

Table 2: Category of key informants and discussants

Source of Data	Method of Data Collection	Number of Participants
Opinion leaders	Interview	8
Ministry of Agriculture	Interview	2
Mwangulukulu village	Focus Group Discussion	10
Nyasa Village	Focus Group Discussion	10
Mwakaboko village	Focus Group Discussion	10
Kasewe village	Focus Group Discussion	9
Total		49

Source: Field data, 2023

3.6.2. Sampling Techniques

To address the research questions, as guided by Creswell and Clark (2018), a sampling procedure was followed. The selection of respondents for the study was based on the researcher's discretion, guided by his judgement, regarding whom to include in the sample. This sampling approach, as discussed by scholars such as Acharya, Prakash, Saxena and Nigam (2013), Babbie (2012), and Onwuegbuzie and Collins (2007), allowed the careful determination and choice of relevant respondents for the study.

A simple random sampling technique was used to select respondents in meeting the quantitative demands. Specifically, the lottery method within the framework of simple random sampling was chosen (Elfil & Negida, 2017). Following the lottery method, the households of farmers involved in oil palm production were listed and assigned unique numbers. Following the assignment of numbers to each household, the desired sample size was drawn by physically

placing all the numbered cards, which represented the households in the population, into a container. These cards were meticulously mixed, and then a selection was made blindly to choose the households corresponding to the required sample size, following the methodology outlined by Singh and Masuku (2014).

The lottery method within the simple random sampling approach ensured that each household within the population had an equal and fair chance of being chosen for the study. This method effectively eliminated bias and guaranteed that the selected sample was a representative cross-section of the entire population, aligning with the principles discussed by Noor, Tajik and Golzar (2022) and Acharya, Prakash, Saxena and Nigam (2013).

Following the recommendations of Campbell, Greenwood, Prior, Shearer, Walkem, Young, Bywaters and Walker (2020), key informants were once more chosen using the purposive sampling technique. Malawi's Ministry of Agriculture agricultural development officers and community opinion leaders were the focus of the purposive sampling. This approach's goal was to have significant dialogical conversations with important informants, as supplied by Babbie (2012), and Showkat and Parveen (2017).

In selecting discussants for the study, convenient sampling was the method of choice when forming focus group discussions (Obilor, 2023). Convenient sampling was deemed suitable in this context because the discussants, who were indigenous rural farmers engaged in oil palm production, were readily available and easily accessible.

3.7. Data Collection Instruments

Following the recommendations of Vogt, Gardner, Haeffele and Vogt (2014), the questionnaire was given to households engaged in oil palm production in order to fulfil the quantitative component of the study. Following their training on the instrument, the researcher hired four (4) research assistants to administer questionnaires to indigenous rural farmers engaged in oil palm farming.

To meet the qualitative demands of the study, in-depth interviews guided by an interview guide were conducted, as interviews are a widely used method in qualitative research (Edwards & Holland, 2013). During interviews, the questioner encouraged key informants to give reflective accounts that reflected the importance of oil palm production to their lives; challenges confronting farmers; gender dynamics shaping oil palm production among these farmers; and the role of Malawi Ministry of Agriculture in promoting oil palm production. (Bourdieu, 1977). Furthermore, focus groups that were facilitated by a discussion guide were used to gather data. Indigenous rural farmers who produce oil palm made up the responders to the focus group sessions. The FGDs were used to get rich information from the group members, which complemented the responses from the questionnaire as well as individual interviews (Boateng, 2012).

3.7.1. Pre-testing of Research Instruments

The instruments, that is, questionnaire, interview guide, and discussion guide, were pre-tested with a segment of rural farmers in Karonga District. These farmers were chosen as they had similar demographic characteristics, including cultural practices and beliefs, language, and land inheritance

practices. The pre-testing of research instruments ensured they were culturally relevant and sensitive to the unique context of indigenous rural farmers, minimising the risk of misinterpretation. It also verified the linguistic appropriateness, clarity, and understandability of questions to facilitate effective communication with respondents while identifying potential barriers to participation. Pre-testing once more provided clues regarding the respondents' comprehension of certain questions. Consequently, the instruments were examined. The logical and sequential flow was improved by rewording, rearranging, and deleting some of the questions.

3.7.2. Data Collection Process

Following a mixed methods strategy and a pragmatic approach to knowledge production, the data collection process included both quantitative information from questionnaires and qualitative information from in-depth interviews conducted with the aid of an interview guide and discussion guides for focus groups.

The first phase involved administering questionnaires to households of indigenous rural farmers involved in oil palm production from selected communities. This first phase aimed at examining the importance of oil palm production to the livelihoods of the indigenous rural farmers.

The second phase involved in-depth interviews and focus group discussions, thereby fostering an active dialogue with key informants and discussants who were actively involved in oil palm production. In-depth interviews involved 2 distinct groups: 8 opinion leaders from communities actively engaged in oil palm production and 2 agricultural development officers from the Malawi Ministry of Agriculture. Also, focus group discussions with

indigenous rural farmers involved in oil palm production were formed. This diverse range of interviews and focus group discussions were designed to obtain information on the importance of oil palm production to the livelihoods of the indigenous rural farmers, challenges confronting oil palm production by farmers, gender dynamics shaping oil production, and the role of the MoA in promoting oil palm production.

3.7.3. How the Survey was conducted

In June 2023, respondents from four specific communities actively engaged in oil palm production were carefully selected. During the first week of that month, the researcher initiated contact with the Traditional Authority of Mwakaboko. During this interaction, the purpose and scope of the study were thoroughly explained, and verbal permission was respectfully obtained from the traditional authority to conduct the survey. It is important to note that Traditional Authority Mwakaboko held the esteemed position of senior chief in the district, subsequently, he effectively disseminated information about the research project to other community leaders under his authority. These community leaders also granted their consent for the study to be conducted.

After obtaining permission from community leaders, four research assistants from the selected communities were recruited. These research assistants were carefully trained to administer the questionnaire to households involved in oil palm production. The administration and subsequent collection of the questionnaires were efficiently completed by June 16, 2023, marking a significant milestone in the research process.

3.7.4. How the Interviews were conducted

In early August 2023, a series of in-depth interviews aimed at gathering valuable insights and perspectives were initiated. The primary goal of these interviews was to engage with opinion leaders and agricultural development officers from the Malawi Ministry of Agriculture to explore various facets of oil palm production in the study area.

In-depth interviews with opinion leaders were conducted directly within their respective communities, ensuring a comfortable and familiar environment for key informants. Before commencing the interviews, key informants were briefed about the topics to discuss. These interviews were thoughtfully designed to delve into their personal experiences and insights, concerning the importance of oil palm production to the livelihood of farmers, the gender dynamics, and the challenges local farmers encountered in oil palm production. To facilitate open and uninhibited communication, these interviews were conducted in the local language (Chichewa). 8 key informants were involved in the interviews, each offering a unique and valuable perspective on the subject matter.

Additionally, two agricultural development officers from Ministry of Agriculture participated as experts. The goals of the study and the precise rationale behind their selection as key informants were explained to the officers. They were invited to offer their knowledge and perspectives on the district's oil palm production. The purpose of include agricultural development officers was to clarify how Malawi's Ministry of Agriculture supports the production of oil palm.

3.7.5. How the Focus Group Discussions were conducted

A series of focus group discussions (FGDs) involving groups of indigenous rural farmers actively involved in oil palm farming were started at the end of August 2023. The purpose of these conversations was to extract insightful opinions and viewpoints from the four communities that were chosen to participate in the production of oil palm.

To ensure a well-rounded understanding of the research questions, 4 separate FGDs were formed, with each discussion group from one of the chosen communities and comprising five men and five women in each group, except for one group that had five men and four women. The decision to conduct one FGD per community was motivated by the observed homogeneity among these communities, which exhibited similarities in various aspects. This approach allowed for the collection of relevant data from a diverse yet interconnected set of discussants.

The discussants were introduced to the purpose and objectives of the study, and the topics that would be discussed during the discussion. The primary areas of interest in these discussions included the importance of oil palm production to the livelihoods of the indigenous rural farmers, various gender dynamics involved in this agricultural practice, and the challenges encountered by farmers. Each group offered distinct and invaluable perspectives on the subject matter. These discussions served as a pivotal component of the data collection process, ensuring that a wide range of experiences and viewpoints were included in the study.

3.8. Data Analysis and Presentation

Having collected data using a questionnaire, responses were compiled and organised into a dataset for analysis. This involved checking for any missing or inconsistent data as well as verifying the accuracy of the information collected. To facilitate analysis, the dataset was subsequently coded and categorised. Descriptive statistical analysis was employed to characterise the connection between variables in a sample and to provide an organised summary of the quantitative data (Kaur, Stoltzfus & Yellapu, 2018). The utilisation of descriptive statistical analysis was driven by the objective of presenting the data in an organised and coherent manner, while also revealing the interrelationships between various variables within the sample. This method, as exemplified by Kaur, Stoltzfus and Yellapu (2018), allowed for the succinct summarisation of both the sample and its associated measurements.

Under the descriptive statistical analysis, measures of frequency were utilised as statistical instruments to elucidate the quantitative data. This involved the use of frequency analysis to enumerate the instances and their corresponding proportions (Mishra, Pandey, Singh, Gupta, Sahu & Keshri, 2019). The rationale behind employing frequency analysis was its ability to provide a convenient list of counts within the dataset, facilitating a more accessible comprehension of various aspects of the data (Cooksey & Cooksey, 2020). Hypotheses were tested through correlations, Chi-Square, and Mann-Whitney U test analyses. The quantitative data was processed using the statistical software IBM SPSS version 27, which ensured a rigorous and methodical examination of the dataset.

Additionally, in accordance with accepted research technique principles, data from focus groups and in-depth interviews were transcribed, sorted, and organised (Babbie, 2012). The methodology of interpretive phenomenological analysis (IPA) was used to analyse the importance of oil palm production among indigenous rural farmers; challenges faced by farmers; gender dynamics shaping oil palm production among indigenous rural farmers; and the role of the Malawi Ministry of Agriculture in promoting oil palm (Olson, McAllister, Grinnell, Gehrke Walters & Appunn, 2016). This approach allowed an in-depth exploration of individuals' personal and lived experiences, aligning with the perspectives articulated by Eatough and Smith (2017).

The quantitative data was presented using tables that were created. In order to clarify the patterns, trends, and statistical relationships included in the dataset, tables were a crucial tool (Larson-Hall & Plonsky, 2015). Additionally, by improving the quantitative data' readability and accessibility, these tables made them easier to interpret and analyse. Once more, the tables provide a well-organised structure for outlining the links and expectations between the variables being studied. By carefully presenting the data in accordance with accepted academic practises, the study output is guaranteed to be clear and rigorous (Hudson, 2015).

The thematic presentation assumed a pivotal role in this research endeavour, serving as an indispensable entry point into qualitative data analysis (Smith, 2016). When working with qualitative data that was naturally complicated and full of complicated ideas, using thematic presentation made it possible to analyse the data in a structured and organised way (Sundler, Lindberg, Nilsson & Palmér, 2019). By directing the process of locating,

classifying, and interpreting the emerging themes that captured the core of the research findings, this methodology enabled a detailed examination of the data.

The thematic presentation approach was employed to convey the study's findings. This method involved the identification, organisation, and elucidation of patterns of meaning, known as themes, within the dataset, as described by Smith (2016). By directing attention toward the exploration of meaning across the dataset, thematic presentation enabled the researcher to discern and comprehend shared or collective meanings and experiences, as outlined by Braun and Clarke (2012, p. 54).

In addition, the thematic presentation didn't just stay at the level of data analysis, it also connected empirical findings to broader theoretical or conceptual underpinnings. This created a methodological bridge and connected empirical insights to the larger theoretical framework within which the research was situated (Braun and Clarke, 2012). In this manner, thematic presentation contributed to the scholarly depth and academic rigour of doing research, demonstrating a commitment to sound methodological practices.

3.9. Ensuring Trustworthiness of the Study

To ensure the trustworthiness of the study, efforts were made to look at critical areas of credibility, dependability, and transferability. Credibility was achieved through prolonged engagement, persistent observation, and rechecking of data. Through prolonged engagement, individuals involved in oil palm production were actively interacted with to gain a deep understanding of the topic (Hadi & José Closs, 2016). Further, persistent observation of data while studying and analysing the data set over a sustained period was done. Persistent observation of data enhanced reliability and comprehension, which

were then used to support any claims or conclusions. The data was rechecked by verifying and cross-referencing information to ensure its accuracy and consistency. Rechecking the data was crucial to avoid errors or misinformation, which could undermine credibility.

Dependability was achieved through systematic, rigorous, and analytical processes in the data set. Regular data quality checks were conducted throughout the research process. This involved reviewing the data for completeness, accuracy, and consistency and addressing any issues or discrepancies promptly. This necessitated the logical presentation of the findings.

Transferability was achieved through several steps that were taken, namely, the provision of detailed description of the research setting and context, including information about the respondents larger geopolitical context; giving a thorough explanation of the data collection and analysis procedures, including details about the questionnaire, interview and discussant guides, coding, and analysis techniques employed; comparing the study's results with previous research to identify similarities and differences with those of other studies; and taking into account the findings' applicability to other contexts or settings, which indicates how pertinent and helpful the findings are for other researchers and practitioners.

3.10. Ethical Consideration

Since ethics dictates whether behaviours are good or bad, right or wrong, ethical issues were taken into account when performing this study (Pruzan, 2016; MacKinnon & Fiala, 2015). Accordingly, respondents gave their informed consent after being made fully aware of the goal of the study and their

participation in it. Respondents were made aware of their rights and that they could voluntarily decide whether or not to participate.

To ensure transparency respondents were informed of the purpose and objectives of the study. This transparency allowed respondents to make an informed decision about their involvement. Further, respondents were assured confidentiality, and key informants and discussants were ensured anonymity.

Cultural sensitivity was adhered to during data collection among the indigenous rural farmers. Recognising the study's focus on indigenous rural farmers from the local perspective, cultural sensitivity was paramount (Oliver, 2010; Liamputtong, 2008; Jackson & Niblo, 2003). To ensure that the study respected cultural values, integrity, and traditions, the researcher engaged an individual well-versed in the traditional values of the community. This approach ensured that the study's objectives were met without violating cultural norms and values. Further, permission was obtained from T/A Mwakaboko, hence adhering to the cultural demands of the area.

Ethical clearances were obtained from the Institutional Review Board (IRB) of the University of Cape Coast (referenced UCCIRD/CHLS/2023/144) and the Malawi University of Science and Technology Research Ethics Committee (MUSTREC) (referenced P.05/2023/051). These ethical clearances confirmed that the study was conducted in compliance with ethical standards.

3.11. Chapter Summary

The study's approach, including its philosophy, has been presented in this chapter. The mixed method approach was used, highlighting the necessity for study to evaluate its utility in enhancing human lives in addition to correctly representing reality or its subjective meaning. The chapter explored the choice

to use a mixed-methods approach, which provided both breadth and depth of understanding by enabling the analysis of the socio-economic advantages and difficulties of oil palm cultivation. The chapter also emphasised how crucial it is to approach the study problem using a sequential explanatory design, first utilising quantitative data analysis to obtain a general knowledge and then adding qualitative data to offer more in-depth understanding.

The study's sample sampling methods, such as convenience, purposive, and simple random sampling, were also described in the chapter. These methods were used to choose discussants, key informants, and respondents. A thorough explanation of the methods used for data gathering, analysis, and presentation has been provided. The chapter has concluded by outlining the measures that were taken to ensure the trustworthiness of the research findings and the ethical considerations that were put in place to protect respondents from any ethical misconduct.

4.0.CHAPTER FOUR

SOCIO-DEMOGRAPHIC ANALYSIS OF RESPONDENTS

4.1. Overview

This chapter presents the socio-demographic composition of respondents who were sampled in this study. The development of oil palm production among indigenous rural farmers has been explored, highlighting its historical origins in the district and examining the wide range of oil palm products produced by rural farmers in Karonga District, Malawi.

4.2. Socio-demographic Characteristics of Respondents

In this study, the incorporation of socio-demographic variables of respondents in the analysis of data was essential for gaining an understanding of the study population. This included the provision of valuable context and insights that contributed to the interpretation of research findings. In principle, the analysis of socio-demographic variables helped to recognise associations and disparities that existed across different demographic groups, providing a more nuanced interpretation of research outcomes (Huff & Tingley, 2015).

i.Age

In this study, the age group of indigenous rural farmers involved in oil palm production in the Karonga District was considered as one of the most important demographic traits frequently looked at in studies conducted in a variety of studies due to its significant implications for understanding the composition of respondents.

Table 3: The age group of respondents

Age Range	Frequency	Percent
21-30	95	19.9
31-40	133	27.9
41-50	84	17.6
51-60	71	14.9
61-70	42	8.8
71-80	45	9.4
81-90	7	1.5
Total	477	100.0

Source: Field Data, 2023.

Table 3 shows the age categories of the indigenous rural farmers in Karonga District involved in oil palm production revealing that the most of farmers were in their youthful age. That is, taking into account the age range of 21-40, this study found that 228 respondents, representing 47.8 percent were within their youthful age, signifying the involvement of youths in oil palm production as per Malawi National Youth Policy (2023). The youths' involvement is important in driving the economy through agriculture. This finding aligns with the study finding by Zidana, Kaliati and Shani (2020) that in rural areas of Malawi, the youths have been active in agricultural activities as a means of supporting their livelihood. Again, this finding corroborates the study findings by Tsitsi, Ombati and Maina (2019) that the youths' involvement in agriculture, has been a mitigation factor for the youth's migration from rural areas into urban centres of Malawi.

Again, taking into account the age range of 21 to 60, this study found that 383 respondents, representing 80.3 percent were in their productive age as far as the labour force in oil palm production is concerned. Within the rural agricultural landscape of Malawi, the age group between 21 and 60 years is crucial for a stable and potentially productive workforce. That is the concentration of these indigenous rural farmers within the age range of 21 to 60 was essential for contributing to the local economy through oil palm production, as far as agricultural labour in Malawi is concerned. This finding corroborates the study findings by Adolfsson and Madsen (2020), that the age range of 20 to 60 years, forms the backbone of driving economic growth, generating income, and supporting livelihoods. Additionally, this finding is consistent with research by Saiyut, Bunyasiri, Sirisupluxana and Mahathanaseth (2019) and McCullough (2017), which concluded that the 20 - 60 age group is the most productive in agriculture. The reason for this is that people in this age bracket usually have higher levels of physical strength, energy, and work capacity, all of which are essential for farming operations like the cultivation of oil palm.

ii.Gender Distribution

The purpose of this study's gender distribution of respondents aimed to compile crucial data regarding the social dynamics and living circumstances of rural indigenous farmers. Again, the goal of gender analysis was to comprehend the distribution of respondents who were male and female and to gain significant knowledge about the role that gender plays in social, cultural, and economic processes. (Doss, 2014).

Table 4: The gender dimension of oil palm farmers

	Frequency	Percent
Male	310	65.0
Female	167	35.0
Total	477	100.0

Source: Field Data, 2023

As indicated in Table 4, the survey revealed that 310 farmers, or 65 percent of those engaged in oil palm production, were men and 167, or 35 percent were women. This study may reflect the current social and cultural norms of these indigenous rural farmers. In light of this, it was inferred that these native rural farmers were employing traditional land acquisition techniques due to the male preponderance in this agricultural activity.

The skewed gender ratio between men and women among these indigenous rural farmers, as found in this study, has implications for resource allocation among these indigenous rural farmers, particularly regarding land. For instance, during the interviews for this study, Nyauzedi, one of the female key informants, who reported "*land belongs to the husband's side. When a woman gets married, she has to move to her husband's side. If the husband dies, the husband's side may repossess the land, leaving the woman with no place to cultivate*." This was further corroborated by Dambuyo, one of the male key informants, who said "*land access favours boys as compared to girls. When a young man marries, his parents take a portion of land and give it to him to cultivate so that the proceeds can help him take care of his family."*

From the given narratives by key informants, namely, Nyauzedi and Dambuyo, it can be deduced that among these indigenous rural farmers, the land

acquisition system leads men to have an advantage compared to women. In particular, according to Nyauzedi, in their community, land is owned by the husband's family. When a woman marries, she relocates to her husband's land. This practice reflected a patrilineal system where land rights and ownership were handed down through the male lineage. Similarly, Dambuyo confirmed that land access is biased towards males. When a young man marries, his parents allocate a portion of the land to him, enabling him to support his family through farming. This finding, consequently, aligns with the assertions made by Kilic, Winters and Carletto (2015), that the patrilineal system has continuously advantaged men and disadvantaged women regarding access to land as property.

Again, from Dambuyo's account, the key informant, it can be deduced that by allocating land to male children, families ensure that young men have the means to support their own families through farming. This practice is intended to provide economic stability for male-headed households. This finding corroborates the study findings by Meijer, Sileshi, Kundhlande, Catacutan and Nieuwenhuis, (2015) that male-headed and patrilineal households within the rural agricultural landscape of Malawi, economic decisions are more frequently made by the husband, including income-generating activities related to farming and agriculture.

iii.Marital Status of Indigenous Oil Palm Farmers

Through a questionnaire, respondents in this study were asked if they had never been married, were married, divorced, or widowed. In order to get important insights into the social dynamics of indigenous oil palm farmers and

possible consequences for this study, the respondents' marital status was examined.

Table 5: Marital status of indigenous rural farmers

	Frequency	Percent
Never Married	17	3.6
Married	366	76.7
Divorced	17	3.6
Widowed	77	16.1
Total	477	100.0

Source: Field Data, 2023

Table 5 shows that 366 of the respondents, representing 76.7 percent were married. This revelation suggested that family units play a significant role in oil palm production among the indigenous rural farmers. This finding further suggested the presence of social support networks and interdependence among household members in the rural agricultural landscape of Malawi. This finding also corroborates the study findings by Djurfeldt, Hillbom, Mulwafu, Mvula and Djurfeldt (2018) that, most rural farmers in Malawi, farm at a family level, thereby facilitating close collaboration, pooling resources together, sharing labour, and supporting each other, leading to achieving the desired goals.

iv.Family Size

In this study, respondents were requested to indicate their family size, for the analysis of family size has a bearing on resource allocation within the household as well as the distribution of labour. Larger families may need to manage resources such as land, labour, and capital differently, as compared to smaller families (Musafiri, 2016).

Table 6: Family size of indigenous rural farmers

		Family Size
N	Valid	477
	Missing	0
Mean		5.12
Std. Deviation		1.849
Variance		3.419
Minimum		1
Maximum		8

Source: Field Data, 2023

This study found that the average family size of the indigenous rural farmers involved in oil palm in the Karonga District production was 5.12, as shown in Table 6. This suggested that, on the average, each household of these indigenous rural farmers, was made up of at least, five individuals. This included, not only the primary nuclear family, but also potentially extended family members living together in the same household. Family members provide mutual assistance, share resources, and collaborate on livelihood activities, fostering resilience and cohesion. This finding corroborates the study findings by Djurfeldt, Hillbom, Mulwafu, Mvula and Djurfeldt (2018) that families within the rural agricultural landscape of Malawi share resources, thereby fostering collaborative efforts in agricultural activities.

Nevertheless, it is essential to note that family size is directly related to the availability of labour on the farm, particularly in predominantly rural agriculture settings. In agricultural activities such as oil palm, where manual labour is often crucial in rural areas, the size of the family can impact the amount

of available workforce. That is, family labour plays a significant role in oil palm production as the family offers cheap labour. For example, Ren, Liu, Van Grinsven, Reis, Jin, Liu and Gu (2019) in their study, revealed that larger family size has the potential to expand oil palm production due to the readily available labour force in rural areas. As such, a crosstabulation was conducted to see the effect of family size on the labour force among the indigenous rural farmers involved in oil palm production in Karonga District.

Table 7: Crosstabulation of family size and family labour

		Farmers rely on family labour.		Total
		Yes	No	
Family Size	Count	428	49	477
	% within Family	89.7%	10.3%	100.0%
	% of Total	89.7%	10.3%	100.0%

Source: Field Data, 2023

The analysis of crosstabulation of family size and family labour in this study revealed that most of these indigenous rural farmers rely on family labour in oil palm production. As shown in Table 7, a cumulative 428 of the surveyed respondents, representing 89.7 percent indicated that, they rely on the family as a source of labour. The family as a source of labour among the indigenous rural farmers involved in oil palm production in the Karonga District demonstrated how the family is essential for the provision of cheap labour. That is, the family anchors the position of providing readily available labour, necessary for oil palm production. This finding supports the study by Poulton, Dorward and

Kydd (2010) that the reliance on family labour among rural farmers offers a multitude of advantages, including the provision of cheap labour, leading to reduced labour costs and that members have a deep understanding of the operation, which enables them to work cohesively and effectively without extensive external training.

Also, in this study, the finding that the family was a source of labour among the indigenous rural farmers involved in oil palm production entailed fostering a work culture that constantly seeks to improve practices. That is, when family members are engaged in activities related to oil palm, members develop a work culture that improve their agricultural activities. This finding affirms a study by Adjognon, Liverpool-Tasie, Benfica and De la Fuente (2017) that, in Malawi, the intimate involvement of family members in agricultural activities among rural farmers creates a sense of ownership and responsibility, motivating them to put in their best efforts to maximise output.

Furthermore, the reliance on the family as a source of labour among the indigenous rural farmers in the Karonga District suggested the close-knit nature of the family, fostering a high level of commitment among family members. This commitment, not only leads to increased production, but also strengthens the resilience of the operation in the face of challenges and uncertainties. This assertion corroborates a study by Neilson (2019) that, the close-knit family enhances shared interests, collective goals, mutual understanding and a dedicated work environment.

Moreover, the finding that family members were a source of labour among these indigenous rural farmers in the Karonga District, led to offering low cost in monitoring, which was a distinct advantage in the oil palm

production. That is family relationships and shared commitment reduced the need for extensive managerial oversight or external monitoring mechanisms. This finding aligns with a study by Snashall and Poulos (2023), and Ogahara, Jespersen, Theilade and Nielsen (2022) that, the family, not only cuts down operational costs, but also fosters a sense of trust and mutual accountability within the family unit, promoting a more harmonious and efficient production process.

v.Education Level

Because education has influence on how development plans and interventions are implemented among indigenous rural farmers, the questionnaire used in this study asked respondents to rank their level of education. Also, knowing education level serves as a crucial indicator of the farmers' existing knowledge and skills. It helps in designing targeted capacity-building programmes and training initiatives to enhance agricultural practices, improve production, and introduce sustainable methods (Alant & Bakare, 2021; Ndlovu, Thamaga-Chitja & Ojo, 2021; Kalimba & Culas, 2020).

Table 8: The education level of farmers

Education Level	Frequency	Percent
Never attended	63	13.2
Primary level	333	69.9
Secondary level	77	16.1
Vocational and tertiary level	4	.8
Total	477	100.0

Source: Field Data, 2023

The results of this study revealed that 333 respondents, or 69.9 percent, completed basic elementary school, as indicated in Table 8. The significant percentage of respondents who said they had finished basic elementary school demonstrated the native rural farmers, relatively high level of access to formal education. This finding is consistent with a study by Kadzamira and Rose (2003) that found that, Malawi's efforts to increase primary school access and enrollment have been generally successful, potentially increasing literacy rates and improving rural farmers' comprehension of the basics.

Furthermore, in the context of Malawi's rural agricultural landscape, the completion of primary school for these indigenous rural farmers engaged in oil palm production in the Karonga District acted as a foundational step that allowed them to learn from others and attend workshops and seminars aimed at enhancing their farming methods. This result supports the claim made by Phiri, Chipeta and Chawinga (2019) that, rural farmers possess a reasonable level of knowledge and are open to adjusting their farming methods after completing basic primary school since they are able to make well-informed judgments and pick up new techniques.

However, since education level affects information sharing on oil palm production, it may have an impact on the ways in which indigenous rural farmers interact with one another and their access to information about oil palm production (Mashavave, Mapfumo, Mtambanengwe, Gwandu and Siziba, 2013). In order to assess the degree of education and the sources of information pertaining to oil palm production, crosstabulation was carried out.

Table 9: Crosstabulation of respondents' education levels and their sources of information

Education level	Family & Friends	Workshops/ Seminars	NGO's	Other sources	Total
Never Attended	61 (12.8%)	1 (0.2%)	1 (0.2%)	0 (0.0%)	63 (13.2%)
Primary Level	330 (69.3%)	1 (0.2%)	1 (0.2%)	1 (0.2%)	333 (69.9%)
Secondary Level	75 (15.7%)	0 (0.0%)	0 (0.0%)	2 (0.4%)	77 (16.1%)
Vocational/ Tertiary	4 (0.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (0.8%)
Count	470 (98.6%)	2 (0.4%)	2 (0.4%)	3 (0.6%)	477 (100%)

Source: Field Data (2023)

Regardless of their educational background, 470 respondents, or 98.6 percent of the sample, cited friends and family as their primary information sources about oil palm farming, as indicated in Table 9. The essential role that informal sources play in bridging the knowledge gap in oil palm production was highlighted by the indigenous rural farmers' reliance on family and neighbours as information sources. One mitigating element was the reliance on friends and family as information sources when extension services were limited to farmers in rural areas. Due to limited access to extension services, this finding confirms a study by Phiri, Chipeta and Chawinga (2019) that indicated that, most rural

farmers in Malawi are forced to rely on unofficial sources of information regarding farming practises, such as neighbours and family.

Additionally, the fact that the indigenous rural farmers relied on friends and family to provide them with information highlighted the value of social influence and community networks in spreading knowledge about oil palm. In other words, friends and family were crucial to networking and helping rural farmers exchange knowledge. This result supports a study by Šūmane, Kunda, Knickel, Strauss, Tisenkopfs, Des Ios Rios, Rivera, Chebach and Ashkenazy (2018) that found that informal networks among rural farmers are highly important for information exchange and decision-making.

Additionally, among these indigenous rural farmers engaged in oil palm production in the Karonga District, family and friends were the most important sources of information, highlighting the traditional and community dimensions of knowledge dissemination. Family and friends were crucial in maintaining information about oil palm production, highlighting their invaluable contributions to the advancement and continuity of knowledge necessary for this farming endeavour. This mode of knowledge exchange and transfer aligns harmoniously with the study findings by Niassy, Fiaboe, Affognon, Akutse, Tanga and Ekesi (2016), regarding the pivotal role of family members and friends in knowledge transfer in most rural African communities. Furthermore, the sharing of knowledge among family and friends among these indigenous rural farmers corroborates a study by Etzioni (2014), regarding the significance of communitarian values in fostering knowledge acquisition and the welfare of rural community members.

Furthermore, the finding that these indigenous rural farmers relied on friends and family for knowledge is consistent with the Theory of Access, particularly when taking into account how social ties help to realise the advantages of oil palm production as explained by Ribot and Peluso (2003). That is, as one of the structural and relational mechanisms, social relations moderated the ability to profit from oil palm production. Social relationships, such those with family and friends, were important mediators in this situation. These connections gave the native rural farmers vital information on growing oil palm. As a result, these farmers have taken use of these social networks to obtain important information that has improved their decision-making and oil palm productivity.

Therefore, it can be said that family, friends, and indigenous rural farmers engaged in oil palm production in Malawi's Karonga District were crucial in exchanging information and understanding about the industry. This agricultural activity relied heavily on informal sources and indigenous knowledge, with family and friends serving as information sources.

vi.Farm Ownership

According to Li (2014), land continues to be an alienable commodity, a place to work for rural farmers in the majority of developing nations. Respondents were asked to indicate on the questionnaire whether farm ownership was based on individual or family ownership.

Table 10: Farm ownership among indigenous rural farmers

	Frequency	Percent
Individual	119	24.9
Family	358	75.1
Total	477	100.0

Source: Field Data, 2023

In this study, it was found that 358 of the respondents, representing 75.1 percent indicated that farm ownership was firmly rooted within the domain of the family, as shown in Table 10. This suggested that for a significant proportion of the surveyed respondents, the prevailing ownership structures were predominantly structured around family-based arrangements. The family-centric revelation in this study, regarding farm ownership, entailed that oil palm production among indigenous rural farmers in the Karonga District was intertwined to ensure family sustainability and prosperity. This finding aligns with a study by Coulibaly, Chiputwa, Nakelse and Kundhlande (2017) that, a significant portion of agricultural activities in rural areas of Malawi is fundamentally driven by the imperative of sustaining the well-being of families, with land-owned at a family level.

To add to above, in this study, it was found that a noteworthy portion of land ownership, constituting 119 of the respondents, representing 24.9 percent exhibited an individual-level ownership structure. This statistic accentuated the prevalence of individual land tenure models in the agricultural landscape, shedding light on the intricate interplay of socio-economic factors that underpinned individual-level land tenure systems. This is of particular relevance when considered within the framework of property rights as noted by Ribot and

Peluso (2003), revealing economic status, with the rich people accumulating more land compared to the poor people in the area.

In addition, the finding that 119 of the respondents, representing 24.9 percent exhibited individual land ownership, another perspective within this subset of these indigenous rural farmers involved in oil palm production in the Karonga District, a distinct implication could be drawn. Specifically, this form of land ownership could be attributed to widows who own land as individuals. This finding corroborates a study by Doss, Kim, Njuki, Hillenbrand and Miruka (2014) in the context of gender and land ownership, underscoring the unique challenges and opportunities that widows encounter with land rights and utilization.

vii.Land Cultivation Capacity

The respondents were asked to estimate how many acres of land they farmed by the researcher. This was the situation because land that was inherited from family members is still highly valued by indigenous rural farmers. The land was a piece of real estate that rural farmers owned and used to fund their families.

Table 11: Land size cultivated

Number of Acres	Frequency	Percent	Mean
1 – 2	413	86.5	1.85
3 – 4	38	8.0	
5 – 6	16	3.4	
7 – 8	10	2.1	
Total	477	100.0	

Source: Field Data, 2023

As shown in Table 11, the majority of indigenous rural farmers in the Karonga District who produced oil palm farmed between one and two acres of land. In other words, 413 respondents, or 86.5 percent, said they owned at least two acres of land. Furthermore, according to the data in Table 11, these indigenous rural farmers' households cultivated an average of 1.85 acres of land. These indigenous rural farmers' cultivation of comparatively tiny plots of land illustrated the range of farm sizes among Malawian rural farmers. This finding is consistent with a study by Giller, Delaune, Silva, van Wijk, Hammond, Descheemaeker, van de Ven, Schut, Taulya, Chikowo and Andersson (2021), which revealed that smallholder farming is the predominant agricultural practise in Malawi's rural areas, with the vast majority of farmers growing comparatively tiny land areas.

Also, in the course of the focus group discussion, an inquiry was made to establish the minimal cultivation of land for oil palm, and Gogo, one of the discussants from Mwakaboko village said, "*land is shared within the family, as land is shared among family members."* The perspective shared by Gogo, the discussant, clearly illustrated another factor necessitating the low cultivation of acres of land among these indigenous rural farmers. The sharing of land at the family level contributed to farmers owning small pieces of land, as this practice reflected the cultural and traditional practices that often dictated how land was inherited and distributed within families, underscoring the role of the customary land tenure system. This finding corroborates the study by Chirwa (2008) that in Malawi, land holding capacity is intricately interwoven with family and generational aspects and that customary land tenure affects the distribution of land among rural farmers. That is, as family members increase, the distribution

of land for cultivation among family members gets reduced, leading small pieces of land being cultivated by households.

Therefore, it can be said that the cultivation of one to two acres of land indicates that small-scale farming operations are the main characteristic of oil palm production. Additionally, the small amount of land used for oil palm cultivation was a reflection of the resource endowment limitations faced by indigenous rural farmers, such as their limited access to markets and the traditional characteristics of land allocation.

viii.Income

Respondents were asked to indicate on the questionnaire how much money their households made from oil palm output. This was motivated by farmers' involvement in the production of cooking oil *(mawese)*, in their communities.

Table 12: Income from oil palm production by farmers

Weekly Income	Frequency	Percent
MK5,000 - MK10,000	387	81.1
MK11,000 - MK20,000	90	18.9
Total	477	100.0

Source: Field Data, 2023

As shown in Table 12 of this survey, 387 respondents, or 81.1 percent, confirmed that their weekly income were at or above the 10,000 Malawi kwacha criterion. The equivalent of this sum was roughly ten US dollars (US$10). This demonstrated the value of oil palm as a source of income for the indigenous rural farmers who grow oil palm in the Karonga district, highlighting the crop's critical role in their ecosystem. This finding affirms the study finding by Adesiji,

Komolafe, Kayode and Paul, (2016) about the economic importance of oil palm production that the industry contributes to income gains, which in turn positions oil palm as a pivotal economic activity and the amelioration of poverty among indigenous rural farmers.

Inquiring further about what farmers were engaged in to generate income, Chinoko, one of the discussants from the Mwakaboko village, said;

> *From oil palm fruits, we produce cooking oil. What happens is that we boil oil palm fresh fruits from a drum, then we sieve water to produce oil. At times, we add sodium bicarbonate to the produced oil so that we can make soap, which we use in our houses.*

Further, Mbamba, one of the discussants from Kasewe village, said;

> *When we sell cooking oil, we get money that helps buy basic needs for our families. We trade with people from Tanzania and get money that sustains our families.*

The accounts responses by Chinoko and Mbamba, the discussants, the production of cooking oil and soap among these indigenous farmers underscored how oil palm was a mitigation factor in addressing some household needs at the domestic level, providing them with income gains. This finding harmoniously aligns with a study by Khatun, Maguire-Rajpaul, Asante and McDermott (2020) that at the domestic level, in countries such as Ghana and Nigeria, oil palm is a lucrative cash crop as it provides rural farmers with income gains through the sale of crude palm oil.

Furthermore, the value of indigenous knowledge in maintaining the livelihoods of these indigenous rural farmers was reinforced by the discussant, specifically Chinoko, who highlighted the local boiling of oil palm fresh fruits

to generate cooking oil. This result is consistent with a research by Goduka (2012) regarding the importance of indigenous knowledge in maintaining and preserving rural farmers' livelihoods.

However, considering the living wage for Malawian rural residents, the accumulated income was modest even though this study indicated that oil palm production helps indigenous rural farmers in the Karonga District generate money, which is under the threshold of 10,000 Malawi kwacha. The computed living wage for rural Malawians in 2014, for instance, was K35,222 ($81.9) per month, which translates to K1,531 ($3.6) each workday for permanent employees, according to Anker and Anker (2014). This figure does not include in-kind benefits that may alleviate the necessity for cash income. Also, with the devaluation of the Malawi Kwacha between 2014 and 2023, the living wage for rural people has exponentially increased. Currently, the revised net living wage, representing take-home pay, as of June 2023 amounts to MWK 148,654 (USD 145) per month (Medinaceli, Andersen, Delajara, Anker & Anker, 2023).

Therefore, it can be said that although indigenous rural farmers made money from oil palm production, it was insufficient to support their way of life. Considering the cost of living in rural Malawi and the country overall, this was the situation.

4.3. Composition of Key Informants and Discussants

In this study, 10 key informants were recruited for interviews. Out of the 10 key informants, 8 key informants from four communities were interviewed. These key informants included three women and five men. The key informants were over 40 years of age; six of them were married, one divorced, and one widowed, and they performed their roles in their households, including taking

care of their families. Furthermore, 2 key informants were drawn from the MoA. These were crop development officers at the district level in the Department of Crop Development.

Focus group discussions involved both men and women who were involved in oil palm production. The discussants comprised individuals who were married, widowed, or divorced. Further, the discussants had their responsibilities within their households.

4.4. Development of Oil Palm Production

Indigenous rural farmers in the Karonga area produced oil palm as a means of subsistence for the Nyakyusha people who lived in the district's northern region. This farming method largely follows a single course. These farmers worked on their own, without contractual obligations or affiliations with organisations like cooperatives. Respondents were asked to describe how they began producing oil palm through the questionnaire.

Table 13: Origin of oil palm production

Reason	Frequency	Percent
Learnt from neighbours	178	37.3
Inherited from family	168	35.2
Knowledge of oil palm trees	112	23.5
Business mindset	17	3.6
Attendance of Agricultural training/ workshops	2	0.4

Source: Field Data, 2023

This study found that indigenous rural farmers in the Karonga District were producing oil palm, and they started by taking inspiration from their neighbours and family members. As seen in Table 13 above, 458 of the

respondents, or 96 percent, stated that they had learnt about oil palm production from their families, neighbours, and their knowledge of oil palm trees. This indicates that they had acquired experiential knowledge from frequent interactions with plants. Learning about oil palm production in this way demonstrated the value of the conventional method in this agricultural endeavour.

Additionally, this study found that a small fraction of 17 respondents, representing 3.6, percent disclosed possessing a business-oriented mindset, demonstrating an entrepreneurial outlook, albeit marginal. Moreover, a mere 2 respondents, representing 0.4 percent, reported acquiring knowledge about oil palm production through participating in agricultural training sessions and workshops. This 0.4 percent depicted the limited involvement of both government agencies and NGOs in this oil palm production, resulting in the perpetuation of traditional methods in oil palm production practices. In tracing the development of oil palm production among indigenous rural farmers, Chindiwo, one of the discussants from Kasewe village, said;

> *Aaah, hmm... The history of oil palm production dates back far. Our forefathers learned about oil palm production in Tanzania. Our forefathers, after seeing people in Mbeya and Kyera produce cooking oil and soap from oil palms, learned the idea and brought it here, taking advantage of the available oil palm trees in our area.*

Further, Khumucha, one of the discussants from Mwakaboko, reported;

> *Oil palm production was learned from Tanzania by our grandparents. This community is close to Tanzania, and people in*

this area are involved in trade exchange with people from Tanzania, this led to learning some ideas about oil palm from our parents.

From the accounts given by Chindiwo and Khumucha, the discussants, it can be deduced that apart from learning about oil palm production from the neighbouring country, Tanzania, the proximity of this valuable crop played a pivotal role in facilitating its cultivation among these indigenous rural farmers. That is, the proximity of oil palm to these indigenous rural farmers, rendered them to exploit from it, thereby complementing the knowledge they acquired from the neighbouring country, Tanzania. This finding affirms the study by Tyson, Varkkey and Choiruzzad (2018) that, the proximity of oil palm to rural farmers in Rau Province, Indonesia, has been the motivation for harnessing this resource.

Additionally, the focus on knowledge transfer between families in the discussants' response, especially Chindiwo's, emphasised the value of indigenous knowledge and unofficial information sources about oil palm cultivation among these rural indigenous farmers. In other words, indigenous knowledge has significance when it is passed down from one generation to the next for the benefit of the local populace. This result supports research by Battiste (2016) and Mistry and Berardi (2016) on the value of indigenous knowledge and its familial origins among rural farmers, as well as the idea that the longevity of indigenous knowledge is especially significant when it is passed down through the generations.

In a nutshell, oil palm production among indigenous rural farmers in the Karonga District is deeply rooted in tradition and experiential learning, with a significant reliance on knowledge handed down through generations in families

and neighbouring communities, particularly in Tanzania. The overwhelming majority of farmers learnt the skills in oil palm production techniques from their neighbours as well as inherited practices from their families, emphasising the importance of informal sources of knowledge in agricultural activities.

4.5. Reasons for Engaging Oil Palm Production

Respondents were asked to indicate reasons that motivated them to engage in this agricultural activity, despite learning and inheriting it from their forefathers. The purpose was to identify the motivating factors that encouraged these farmers to engage in this agricultural activity.

Table 14: Reasons for engaging in oil palm production

Reason	Yes		No	
	Frequency	Percent	Frequency	Percent
I find it easy to farm and manage	468	98.1	9	1.9
I find it a stable farming activity	455	95.4	22	4.6
I find oil palm production more profitable	451	94.5	26	5.5
I find oil palm as cheaper to produce	422	88.5	55	11.5
I find palm oil markets readily available	339	71.1	138	28.9
I perceive oil palm as a perennial crop	176	36.9	301	63.1
I perceive oil palm as drought-resilient	102	21.4	375	78.6

Source: Field Data, 2023

Table 14 identified the factors that motivated indigenous rural farmers to engage in oil palm production. It was found that beyond the proximity of oil

palm, indigenous rural farmers exhibited a strong consensus regarding the manageability, sustainability, profitability, and cost-effectiveness of oil palm production, despite farmers revealing challenges of access to credit and knowledge of oil palm as a drought-resilient crop. The findings revealed that 468 of the respondents, representing 98.1 percent, perceive oil palm cultivation as easily manageable, indicating a widespread belief in the simplicity and practicality of the farming practices involved. This perceived aspect of easy-to-manage oil palm production among indigenous rural farmers in the Karonga District harmoniously aligns with the study by Jelsma, Slingerland, Giller and Bijman (2017) that, among other factors leading to the cultivation of oil palm in Malaysia and Indonesia, including its ease of management.

In addition, the study found that 455 respondents, representing 95.4 percent, shared a consensus on the sustainability aspect of oil palm production, suggesting confidence in its ability to maintain ecological balance and long-term viability. That is, this agricultural activity has been practised over decades, and it has proven to be essential in supporting the lives of these indigenous rural farmers, including economic gains. This has necessitated the perception of oil palm as sustainable due to its long standing history. This finding affirms the study by Rodthong, Kuwornu, Datta,Anal, and Tsusaka (2020), that in Indonesia there is a widespread belief that oil palm production is intricately aligned with principles of sustainability.

Additionally, this study found that a substantial segment of 451 respondents, representing 94.5 percent expressed consensus, regarding the profitability of oil palm cultivation, highlighting its potential as a lucrative venture within their local farming communities. Furthermore, within this

study's framework focusing on cost-effectiveness, 422 respondents, representing 88.5 percent, agreed that oil palm production stands out for its economic efficiency, underscoring its ability to generate favourable returns. This finding corroborates the study findings by Khatun, Maguire-Rajpaul, Asante and McDermott (2020) and Abazue, Choy and Lydon (2019), regarding the affordability and financial viability associated with oil palm production. That is, oil palm is characterised by high yields per hectare, is a cost-effective commodity, and its utilisation in both food and non-food products renders it a significant crop of local and global importance.

Therefore, it can be concluded that the emphasis on manageability, sustainability, profitability, and cost-effectiveness suggests that farmers prioritise factors they perceive as directly impacting their ability to successfully engage in oil palm production. This underscored the fact that farmers make decisions based on their subjective evaluations of the feasibility and practicality of farming practices.

4.6. Chapter Summary

From this chapter, it can be summarised that the social demographic characteristics of respondents reveal complex patterns worth exploring. Taking into account the gender dynamics of indigenous rural farmers, for example, the dominance of males in this agricultural activity suggests how gender disparities may emanate based on social and cultural norms. Again, it has been presented that the age range of farmers underscored the significance of age in the labour force and that family size has anchored the dependability of farmers on the family as a source of labour.

Further, the chapter has discussed the factors that necessitated the development of oil palm production in the Karonga District, Malawi. The study found that apart from the proximity of oil palm to these indigenous rural farmers, they also learnt from their neighbouring country, Tanzania, and this practice has been perpetuated from generation to generation through family and friends' knowledge sharing.

5.0. CHAPTER FIVE

IMPORTANCE OF OIL PALM PRODUCTION TO THE LIVELIHOOD OF INDIGENOUS RURAL FARMERS

5.1. Overview

This chapter presents and discusses the findings on the importance of oil palm production to the livelihoods of the indigenous rural farmers in the Karonga District. In the course of the discussion, findings from both quantitative and qualitative sources on the pivotal role of oil palm production in the lives of indigenous rural farmers have been presented. Oil palm production stands as a pillar in the preservation of indigenous rural farmers' livelihoods. By engaging in oil palm production, indigenous rural farmers secure their sustenance, as the proceeds derived from this endeavour contribute substantially to their overall well-being.

5.2. Oil Palm Production and Indigenous Rural Farmers' Livelihoods

The empirical analysis of who does (and who does not) get to use what, in what ways, and when revolves around the resource (Szaboova, Brown, & Fisher, 2020). Interrogating the importance of oil palm production for sustaining the livelihood of indigenous rural farmers was important, taking into account that these farmers have been involved in this agricultural activity since time immemorial. As such, respondents, were asked through the questionnaire to score the benefits of oil palm production to their lives.

Table 15: Oil palm production and indigenous rural farmers' livelihood

Benefits	Lightly		Moderately		Highly	
	Total	Percent	Total	Percent	Total	Percent
Palm oil has been a source of food for my family.	26	5.5	169	35.4	282	59.1
Farmers can purchase basic needs for their households.	44	9.2	296	62.1	137	28.7
Farmers can pay for health care services for their families.	61	12.8	296	62.1	120	25.1
Oil palm creates job opportunities for my family.	91	19.1	291	61.0	95	19.9
Palm oil proceeds help in paying educational fees.	111	23.3	264	55.3	102	21.4

Source: Field Data, 2023

In examining the importance of oil palm production to livelihoods of the indigenous rural farmers in the Karonga District involved in oil palm production, respondents shared consensus and singled out oil palm as a source of food, employment, and meeting other basic needs.

5.2.1. Oil Palm as Source of Food

In this study, it was found that 282 of respondents, representing 59.1 percent, indicated that the oil palm fruits served as a source of food for their families, with 26 respondents, representing 5.5 percent and 169 of respondents representing 35.4 percent indicating lightly and moderately, as shown in Table 15, respectively. Such being the case, among these indigenous rural farmers in Karonga district, oil palm production can be poised to address malnutrition as indigenous rural farmers can produce cooking oil that is used in their local cuisine. This finding supports the study by Zant (2012) that the majority of rural farmers in Malawi, the primary goal is to produce food to meet the immediate needs of their families.

In the course of focus group discussions for this study, particularly on the importance of oil palm as a source of food among these indigenous rural farmers, a further inquiry was made, and Khuku, one of the discussants from Mwangulukulu village, augmented, "*from the oil palm we get oil, which we use when cooking our food. The oil is nutritious and makes us healthy.*"

From the account given by Khuku, the discussant above, the extraction of oil from fresh fruit bunches (FFB), serves as a means of food among these indigenous rural farmers, as the extracted oil is used to cook different kinds of food within their households. This revelation aligns with the study by Khatun, Maguire-Rajpaul, Asante and McDermott (2020) that, oil palm has been a source of food in rural areas of Ghana and Nigeria as extracted oil is used in local cuisine to make traditional soup. Beyond domestic use, this finding supports Sarku's (2017) study in that, locally extracted oil from oil palm fruits can be positioned to be a foundation stage essential at the industrial level, where

oil palm fruits are used to produce cooking oil, red oil, margarine, sweetened condensed milk, emulsifiers, chocolate coatings, toffee, coffee whiteners, and whipped toppings like cream and chocolate.

Also, the finding that indigenous rural farmers in the Karonga District extract oil from oil palm fruits, and use it in their local cuisine and that the oil is nutritious as narrated by Khuku, the discussant, finds merit in the principles that were outlined at the World Summit on Food Security in 2009, which looked at food security as the consistent availability of adequate, safe, and nutritious food for all individuals to support a healthy and active life (Grainger, 2010).

Once more, the finding that oil palm provided food for these indigenous rural farmers engaged in oil palm production in the Karonga District is consistent with Ribot and Peluso's (2003) notion of access. Ability to benefit from oil palm as source of food has been influenced by the availability of oil palm within their communities. As such, these indigenous rural farmers utilise oil palm fruits not only for commercial purposes but also as a significant component of their diet. The fruits are processed into cooking oil, which is essential for food preparation, hence source of nutrition.

Furthermore, this study can be used to uncover possible synergies with the larger sustainable development objectives, especially SDG-2, since it found that indigenous rural farmers in the Karonga District both extract oil from oil palm fruits and use them as food. That is, according to the United Nations, SDG-2 seeks to eradicate hunger by 2030 (UN, 2015). The goal of guaranteeing sustainable food production systems and the use of resilient farming methods was specifically emphasised in SDG-2, subsection 2.4. These methods seek to

boost production and raise resilience to climate change and extreme weather events such as droughts (UN, 2015).

Again, Malawi seeks to be highly industrialised, with resources coming from the agriculture sector (NPC, 2020). Looking at the local extraction of oil by these indigenous rural farmers in the Karonga District, Malawi stands a better chance to benefit from the resource due to its availability. This will not only contribute to the economic viability of the agricultural sector but also have wider-reaching implications for other industries that depend on oil palm as a raw material. This assertion corroborates the study findings by Sarku (2017) that, oil palm is essential for producing different products including food items, cosmetics, and other industrial products.

In summary, oil palm production by indigenous rural farmers in Karonga District was thought to supply cooking oil used in households, which paved the way for the production of valuable food items such as filler creams, chocolate coatings, toffee, coffee whiteners, chocolate bar cake, and candy.

5.2.2. Oil Palm Production and Employment Opportunities

In this study, it was further found that indigenous rural farmers in the Karonga District have been involved in oil palm production as an occupation, through which they generate income. From Table 15, a cohort of 91 respondents, representing 19.1 percent indicated lightly, while 386 of respondents, representing 80.9 percent indicated moderate to high that oil palm production created employment opportunities within their households. With the 386 respondents, representing 80.9 percent, ranging from moderate to high, indicating that oil palm production created job opportunities, supports the Malawi's National Agricultural Investment Plan (NAIP) (2018), regarding the

importance of agriculture in creating job opportunities among the people in the rural agricultural landscape of Malawi. That is, the creation of job opportunities reflected the integration of oil palm activities into existing agricultural practices, offering additional work rather than full-time employment.

Again, in the course of the focus group discussion, with a particular focus on oil palm production creating job opportunities for the indigenous rural farmers, a further inquiry was made, and Khali, one of the discussants from Kasewe village said;

> *Mmmh.., I cannot fully say that oil palm production offers solutions to jobs. But what happens is that most families headed by women hire youths to pluck fresh fruit bunches, and they are paid for that. This is a time-off job that is done when the need arises.*

From Khali's account above, it can be deduced that while there is a perception that oil palm production created employment opportunities, the nature of these opportunities was temporary or sporadic. For instance, the hiring of youths by families, particularly those headed by women, to pluck fresh fruit bunches from oil palm trees provided once-off or short-term employment rather than permanent. This finding is consistent with a study by Balde, Diawara, Rossignoli and Gasparatos (2019) that found that, the development of oil palm plantations in Guinea's rural areas gave locals access to permanent and seasonal jobs. This was crucial in reducing poverty and unemployment in Guinea's rural areas.

In the Karonga District, oil palm production could help fulfil the sustainable development goals, especially SDG-8, which aims to advance economic growth and decent work by providing employment possibilities for

indigenous rural farmers. SDG-8 sub-section 8.5 highlighted the objective of providing equal compensation for work of equal worth by 2030, as well as full and productive employment and decent work for everyone, including youth and people with disabilities (UN, 2015).

Oil palm production offering job opportunities among indigenous rural farmers in the Karonga District, can be poised to ensure the achievement of sustainable development goals, particularly SDG-8, which seeks to promote decent work and economic growth. SDG-8 sub-section 8.5 emphasised the goal of achieving full and productive employment and decent work for all, including young people and individuals with disabilities, along with ensuring equal pay for work of equal value by 2030 (UN, 2015).

Also, looking at the Malawi 2063 Vision, which seeks to create job opportunities through agriculture (NPC, 2020), oil palm production among these indigenous rural farmers can be poised to meet this vision. That is, the presence of oil palm in Malawi offers multiple advantages in creating job opportunities in the country. This assertion corroborates the study by Khatun, Maguire-Rajpaul, Asante and McDermott (2020), and Purnomo, Okarda, Dermawan, Ilham, Pacheco, Nurfatriani and Suhendang (2020) that, in countries such as Indonesia and Ghana, the development of oil palm production, which has been aligned with the nation's development agenda, has offered potential pathways for job creation.

Moreover, the finding that oil palm production has been offering job opportunities among these indigenous rural farmers aligns with the Theory of Access presented by Ribot and Peluso (2003). Labour opportunities through oil palm production has created once-off jobs to these farmers. As such, from the

perspective of the theory, job creation serves as an important mechanism through which these indigenous rural farmers access economic benefits to improve their livelihoods.

Therefore, it can be argued that among indigenous rural farmers, oil palm production offers a once-off job opportunity, particularly one related to the plucking of palm fruits from trees. Oil palm production has not only established a distinct agricultural culture but has also relatively become a livelihood cornerstone for these indigenous rural farmers' families, offering potential employment prospects, leading to income generation, and contributing significantly to the sustenance of their livelihoods.

5.2.3. Oil Palm Production and Basic Needs

The development of oil palm was seen to be essential in helping indigenous rural farmers in the Karonga District satisfy basic requirements like paying for ward school tuition and medical bills. In Table 15, data revealed that 296 respondents, representing 62.1 percent shared a perception of oil palm's role as a moderate, albeit notable, contributor to the fulfilment of basic needs, a perspective that reflected the complex interplay of oil palm within the socio-economic framework of their households. Further, this study found that 44 respondents, representing 9.2 percent, and 137 of respondents, representing 28.7 percent indicated that oil palm production has lightly and highly contributed to meeting basic needs, respectively. With 296 respondents, representing 62.1 percent indicating that oil palm production helped these indigenous rural farmers to meet basic needs, this finding affirms the study by Phiri, Chipeta, and Chawinga (2019) on the role of agriculture being a reliable supplementary

income that helps households afford necessities such as healthcare and education, in Malawi.

Augmenting on the importance of oil palm production in meeting basic needs, Mbamba, one of the male discussants from Kasewe village, said "*when we sell cooking oil and nuts, we get money that helps in buying things for our families, such as clothes. The money we get helps sustain our families."* Further, Nanthondo, one of the female discussants from Mwakaboko village, said "*we produce mawese (cooking oil), which we sell in Mbeya and Kyera. Through selling, we get little money to support ourselves."*

The accounts by Nanthondo and Mbamba, the discussants, highlighted the tangible benefits by stating that the sale of cooking oil and nuts provided money essential for meeting basic needs, such as clothes and other needs, thereby sustaining their families. The perspectives of these discussants, underlined the critical role of oil palm production, not only as a source of sustenance but also as a means of economic gains, providing these indigenous rural farmers with the financial means to meet their basic needs and improve their quality of life.

Further, independently as to whether indigenous rural farmers involved in oil palm production in Karonga district can pay medical bills and school fees for their wards from the proceeds of oil palm, this study found that 296 respondents, representing 62.1 percent disclosed that the proceeds generated from their involvement in oil palm served as a means to defray their medical expenses. Also, this study found that 264 of respondents, representing 55.3 percent elucidated that the financial gains derived from oil palm production facilitated the fulfilment of school fee obligations for their children. With 296

respondents, representing 62.1 percent and 264 of respondents 55.3 percent indicating that oil palm production helps them to pay medical and educational charges, respectively, it underscored the importance of oil palm production in providing educational opportunities and healthy qualities, thereby contributing to the long-term socio-economic development of their households. This finding corroborates the study by Chowa, Garforth and Cardey (2013), regarding the critical role of agriculture in Malawi not only in providing income but also in ensuring access to essential healthcare and education services for these indigenous rural farmers, thereby contributing to their overall well-being.

Moreover, in the course of interviews, Budula, one of the male key informants, emphasised, "*after selling cooking oil, the income we receive helps us pay school fees for our wards. At times, we also use the proceeds to pay for our medical expenses when we go to private hospitals*." This emphasises that oil palm production serves as a means of meeting the educational needs of these indigenous rural farmers' wards affirms a study by Rafi (2018), that the progression of oil palm within rural settings, for example, in Malaysia and Indonesia, has created a conducive environment for farmers and their children to access educational opportunities.

Oil palm production among indigenous rural farmers in the Karonga District could be greatly considered as a means of poverty alleviation, as these indigenous rural farmers could provide some of their basic needs. That is, as farmers were able to generate income and meet some of the basic needs of their families, oil palm production could be considered as a means of mitigation to poverty alleviation for these indigenous rural farmers. This assertion aligns with the study findings by Benoit (2022) and Adebo, Ayodele and Olowokere (2015)

that, oil palm production has contributed to poverty alleviation with an estimation of 5.3 percent in Rumonge, Burundi, and has been a major vocation, playing a significant role in poverty alleviation in Ekiti State, Nigeria.

Therefore, the ability of these indigenous rural farmers to generate income from oil palm, thereby being able to meet medical and educational expenses, demonstrated community resilience and self-reliance. By harnessing the economic opportunities provided by oil palm, households addressed their own needs.

5.3.Spearman Rho Correlation Analysis

In this study, the researcher hypothesised that,

H_0: There is no significant relationship between cultivated acres of land and households' benefits from oil palm production.

H_1**:** There is a significant relationship between cultivated acres of land and households' benefits from oil palm production.

It was assumed that the more acres of land that households farmed, the more likely it was that they would benefits in terms of employment opportunities, income, and food. Spearman's rho correlation was used to analyse the relationship between acres of land and benefits from oil palm production. The Spearman rho was used as assumption was based on the fact that the test of data does not follow normal distribution, that is, "it is a distribution-free test' (Hamed, 2016, p.214). By using Spearman rho correlation, researchers wanted to draw insights on how increase in acres of land would impact the socio-economic benefits derived from oil palm production. This is important in understanding whether land size meaningfully affects benefits related to oil palm production.

Table 16: Acres of land cultivated and benefits of oil palm production

		Benefits of oil palm production
Number of Acres	Spearman's rho	-.140**
	Sig. (2-tailed)	.000
	N	477

Source: Field Data, 2023

As shown in Table 16, there is a weak negative correlation between the number of acres of land and the ability of indigenous rural farmers to gain from oil palm production in terms of food, with a Spearman rho correlation coefficient value of -.140. This negative figure implied that the potential to benefit from oil palm decreased as the number of acres rises. Once more, a significance (sig) value of 0.000 was noted, indicating that, at a 0.05 level of confidence, this negative correlation is statistically significant. By confirming a substantial correlation between the number of acres cultivated and the potential for benefit from oil palm production, the researcher in this instance accepted the alternative hypothesis.

This result went against what is often observed in the development of oil palm. In other words, rural farmers focus on social and economic viability when they engage in agricultural operations that benefit society and support their livelihoods. Therefore, this result ran counter to the conclusions of a study by Syahza, Rosnita, Suwondo and Nasrul (2015), which found that the purchase power of indigenous rural farmers for primary and secondary needs increased as a result of the expansion of oil palm cultivation on land.

It can, therefore, be concluded that the Spearman rho correlation analysis between acres of land and benefits from oil palm production among

indigenous rural farmers in Karonga district, suggests that as the cultivated land area increases, the benefits from oil palm production decrease.

5.4. Chapter Summary

In summary, oil palm production was seen as a source of food in the form of cooking oil, which is used in the cuisine of indigenous rural farmers. It also provided one-time job possibilities and is positioned to meet some social demands, such as covering health care costs and ward school expenses. Given the importance of oil palm worldwide, Malawi could benefit from this crop because it is grown in the country.

Once more, the correlation analysis between the benefits of oil palm production and the number of acres of land owned by indigenous rural farmers showed a statistically significant (p-value = 0.000) weak negative correlation (Spearman rho correlation coefficient of -0.140). This implied that the benefits of oil palm production tend to decline as the number of acres of land under cultivation rises, which defies conventional wisdom that higher benefits are linked to larger land areas. This surprising finding suggested that expanding oil palm production in Karonga area might not always result in more benefits; other challenges might be at play. A discussion of the challenges to reaping the benefits of this agricultural activity, namely, has been devoted to the following chapter, chapter six.

6.0. CHAPTER SIX

CHALLENGES CONFRONTING OIL PALM PRODUCTION

6.1. Overview

This chapter presents and discusses the findings on the challenges confronting oil palm production by farmers. Oil palm is a precious crop as it is widely utilised, both at the domestic and industrial levels as a sources of edible food and other products. However, it is essential to recognise that the ability to benefit from oil palm production is fundamentally influenced by the multifaceted dynamics of structural and relational access mechanisms, including technology, capital, social relations, cultural identity, markets, labour, and knowledge. Given that agriculture remains the cornerstone for the sustenance of rural farmers in Malawi, it is imperative to comprehend that effectively tackling challenges confronting oil palm production by indigenous rural farmers was intricately linked to optimising the advantages reaped in this agricultural activity.

6.2. Challenges Affecting Oil Palm Production

Oil palm production among indigenous rural farmers in the Karonga District, Malawi, depicts troubled agronomy as farmers faced multiple challenges. In this study, through the questionnaire, respondents were asked to rate the challenges they faced regarding oil palm production, and their responses are presented in Table 17.

Table 17: Challenges confronting oil palm producers

Challenge	Lightly		Moderately		Highly	
	Total	Percent	Total	Percent	Total	Percent
As a farmer, I face poor market prices and networks	27	5.7	159	33.3	291	61.0
As a farmer, I face transportation challenges	27	5.7	169	35.4	281	58.9
As a farmer, I lack technology including machinery	38	8.0	189	39.6	250	52.4
There is a lack of credit for me as a farmer	96	20.1	192	40.3	189	39.6
As a farmer, I lack adequate information	157	32.9	131	27.5	189	39.6
As a farmer, I do not have the requisite skills to oil palm	93	19.5	212	44.4	172	36.5
As a farmer, I do not have access to workshops	59	12.4	272	57.0	146	30.6

Source: Field data, 2023

6.2.1. Limited Market Access

In this study, as shown in Table 17, a portion of 27 respondents, representing 5.7 percent indicated lightly; 139 respondents, representing 33.3 percent indicated moderately; while 291 respondents, representing 61.0 percent disclosed that they encountered challenges related to limited market access. This finding revealed a critical issue negatively impacting the realisation of benefits from oil palm production among these indigenous rural farmers. As a result of this obstacle, these indigenous rural farmers might rely on middlemen or some traders to sell their products. This finding corroborates the study by Tuni, Rentizelas and Chipula (2022) that, limited market access forces rural farmers to depend on intermediaries who often offer lower prices, reducing the farmers' profit margins and economic sustainability, thereby negatively affecting the benefits of this agricultural activity.

Commenting on limited access to markets as a challenge, Namoyo, one of the female discussants from Mwakaboko village, complained, "*there are no markets within our communities. We rely on markets at Kyera or Mbeya. At times, traders from Tanzania come to buy oil from us. But the problem is that tey set prices for the farmers."* Further, Nagama, one of the discussants from Mwangulukulu, mentioned the heightened effects of limited market access by saying, "*due to market problems, we rely on traders from Tanzania who come to buy oil. Traders determine the price, which makes us not realise the many benefits of oil palm production."*

From the responses Namoyo and Nagama, these indigenous rural farmers rely on middlemen to sell their oil palm products because there was not a reputable market. Farmers suffered from unfair pricing, exploitation, and

revenue loss as a result of restricted market access since middlemen frequently possessed more negotiating power and influence over market transactions. This finding aligns with the study findings by Abebe, Bijman, and Royer (2016), and Ochieng, Botha and Baulch (2020) that, the unavailability of readily available markets disadvantages rural farmers and impedes their ability to realise optimal benefits from their agricultural endeavours. Farmers that were grappling with this challenge found themselves in a disadvantaged position when negotiating favourable terms for their oil palm. As a result, the repercussions extended beyond immediate financial implications to influence the overall sustainability and prosperity of their agricultural activities.

In addition, the reliance on traders who came to buy oil palm products, and determined the prices, as narrated by Nagama, left these indigenous rural farmers in the Karonga District struggling to generate more income. This is the case as these indigenous rural farmers did not have the bargaining power to set prices, hence being exploited and unable to fully benefit substantially from the oil palm production. This finding aligns with the study findings by Derembwe (2015) that limited market access exposes farmers to the volatile nature of prices. Thus, limited market access leaves farmers susceptible to exploitative practices by stronger market players, such as traders, further diminishing their share of the benefits derived from oil palm production.

Inquiring what can be done to address the challenge of limited market access, Kaguka, one of the male key informants said;

I wish our government, through the Ministry of Agriculture, could help us by opening markets around our communities. Moreover, we

have companies in the country that produce cooking oil. I think these companies should support us by buying palm oil.

Kaguka, the key informant for this study, recommended that local cooking oil producers buy food from farmers as a way to help them. In order to increase market accessibility and provide chances for local sales of oil palm products, this also demonstrated the necessity of cooperation between the public and private sectors as well as indigenous rural farmers.

Also, the finding that these indigenous rural farmers have limited access to markets aligns with the Theory of Access as presented by Ribot and Peluso (2003). One of the key structural and relational mechanisms identified by this theory is market access. For these indigenous rural farmers, the limited access to markets acts as a significant constraint rather than an enabler, hindering their ability to fully realise the benefits from oil palm production. This limitation restricts their opportunities to sell their products at favourable prices, connect with larger networks of buyers, and expand their market reach, ultimately impacting their economic potential and sustainability.

Therefore, it may be concluded that indigenous rural farmers have been subjected to unfair pricing and exploitative practises due to their limited access to markets and reliance on distant markets and middlemen, which has prevented them from reaping the full benefits of oil palm production.

6.2.2. Limited Farm Equipment and Machinery

In this study, the data extracted in Table 17 also underscored the deficiency in farm equipment and machinery, as indicated by the respondents. Among the surveyed population, 38 respondents, representing 8.0 percent reported a light impact; 189 respondents representing 39.6 percent indicated a

moderate impact; and a noteworthy majority of 250 respondents representing 52.4 percent disclosed being highly impacted by the limited use of farm equipment and machinery. Cumulatively, 439 respondents, representing 92 percent of these indigenous rural farmers faced difficulties related to farm equipment and machinery, materials that are essential for oil palm production. This deficiency did not only affect the operation of their farms, but also the realisation of benefits from this agricultural activity. This finding affirms the study findings by Murray, Gebremedhin, Brychkova and Spillane (2016), and Phiri, Chilonda, and Manyamba (2012) that, within the rural agricultural landscape of Malawi, rural farmers are constrained with access to modern farm equipment and machinery. As a result, rural farmers are pushed to use traditional farming methods, using hoes or Panga knives. This, in turn, lowers farmers' production and benefits from their agricultural activities, as manual labour is increasingly used.

Further, in the course of focus group discussions, Maduku, one of the female discussants from Kasewe village, elucidated the adverse effects of limited farm equipment and machinery by saying;

> *Some of the challenges that we face as farmers are related to a lack of equipment that can promote our farming. As you can see, oil palm trees are tall, and harvesting fruits becomes difficult. This makes our farming difficult and makes it hard to realise potential benefits. Moreover, the way we produce cooking oil is traditionalistic, such that we do not produce more cooking oil.*

Similarly, Chitunda, one of the male discussants from Mwakaboko village, reported;

As farmers who have been involved in oil palm production for a long time, we do not have machines and other equipment that can help in our farming. As you can see, palm trees are tall, and extracting fresh fruits becomes difficult for us.

The study's discussants' responses, especially those of Maduku and Chitunda, shed light on the barriers that these indigenous rural farmers face in producing oil palm, which lowers output and profitability. For example, Maduku highlighted how the lack of equipment hindered farming efforts and compromised the quality of the produced oil due to the labor-intensive nature of gathering oil palm fruits and producing cooking oil. The discussant, Chitunda, also bemoaned the lack of tools to help with oil palm production, highlighting the challenge of harvesting fresh fruits from oil palm trees. These barriers prevented the indigenous rural farmers from reaping the full benefits of this agricultural endeavour. This finding supports the research by Rodthong, Kuwornu, Datta, Anal and Tsusaka (2020) on the significant challenge faced by rural farmers, showing that a lack of equipment not only reduced production efficiency but also limited rural farmers, capacity to benefit from oil palm's economic feasibility.

Once more, the finding that these rural indigenous farmers had limited access to farm equipment was consistent with Ribot and Peluso's (2003) Theory of Access. The availability of agricultural equipment, machinery, and technology mediates the ability to benefit from oil palm production, and this was a key factor in deciding the farmers' capacity to capitalise on oil palm production. According to this study, the lack of proper farm machinery and equipment constituted a major barrier that kept these farmers from maximising

their oil palm production potential and streamlining their production procedures.

It can therefore be concluded that limited access to farm equipment and machinery, had negatively contributed to the realisation of benefits from oil palm production among indigenous rural farmers in the Karonga District, Malawi. This impeded even the production of cooking oil as farmers use traditional methods.

6.2.3. Limited Access to Credit

In this study, it was found that 96 respondents, representing 20.1 percent indicated lightly. In comparison, 381 respondents, representing 79.9 percent indicated facing limited access to credit ranging from moderate to high, as shown in Table 17. The fact that 381 respondents, representing 79.9 percent of the surveyed population reported challenges in accessing credit, ranging from moderate to high impact, it was evident that limited access to credit posed a substantial barrier to oil palm production among indigenous rural farmers. Thus, there was a significant barrier to oil palm production among indigenous farmers, within the agricultural landscape of Malawi, which in turn negatively impacted the realisation of benefits from this oil palm production as these farmers could not ably invest or buy equipment that could help in their farming activities. This finding aligns with the study findings by Salima, Manja, Chiwaula and Chirwa (2023), and Allie and Demiryürek (2020), that in the rural agricultural landscape of Malawi, limited access to credit had far-reaching implications, affecting the overall agricultural production and economic stability of farming communities, including the inability to invest in farm inputs, hindered adoption of modern farm equipment, and farm expansion among rural farmers.

Commenting on limited access to credit during the focus group discussion, Gada, one of the discussants from Mwakaboko village, complained, "*as farmers, we face challenges relating to access to credit in terms of loans."* Further, Chiguwo, one of the male key informants, complained, "*lack of credit and loans for we the farmers is affecting the gains we expect to derive from cultivation of oil palm*."

Chiguwo, the study's key informant, and Gada, the discussant, both emphasised the negative consequences of having limited access to credit in their responses. Chiguwo's response, for example, emphasised the direct effect that lack of finance availability had on farmers' oil palm production, showing that it hindered their capacity to produce oil palm efficiently. This finding supports the findings of studies by Lindsjö, Mulwafu, Andersson, Djurfeldt and Joshua (2021) and Tambi, Choy, Yusoff, Abas and Halim (2021) on the significant difficulties associated with limited credit availability, which stated that rural farmers' incapacity to obtain credit prevents them from investing in the technology, equipment, and inputs required for higher production as well as for improving the quality of their produce.

Inquiring whether there were micro-finance institutions that helped these indigenous rural farmers with loans, Maduku, the female discussant from the Kasewe village said, "*there is no company or organisation that helps us with loans. Even the Malawi Ministry of Agriculture does not provide us with any financial support, we rely on our own.*" Maduku's account underscored the extent to which these farmers depended on their limited personal savings and resources to finance their agricultural operations. This reliance on personal capital significantly constrains their ability to scale up production to purchase

the necessary inputs, including farm equipment. In addition, the Malawi's Ministry of Agriculture did not provide financial support to these farmers, and this suggests a lack of government intervention or programs aimed at facilitating access to credit for oil palm production. This finding affirms the study findings by Allie and Demiryürek (2020) that, within the rural agricultural landscape of Malawi, limited access to credit constrains rural farmers in terms of buying seedlings, fertilizers, and pesticides that are important for the success of any agricultural activity.

Additionally, the finding that these native rural farmers had limited access to financing aligned with Ribot and Peluso's (2003) Theory of Access. One important aspect that affects the ability to benefit from oil palm farming is access to credit. In this regard, financing is an essential facilitator that enables farmers to make investments in the equipment, technology, and inputs they need to increase agricultural profitability and production. However, a major barrier that prevented these indigenous rural farmers from making such investments and, thus, limiting their potential gains from oil palm production was their limited access to credit. Their inability to scale their operations, increase productivity, and maximise yields due to this financial constraint eventually affected their economic stability and growth.

Inquiring what could be done so that these farmers could have access to credit, Maduku, a female discussant from the Kasewe village, said, "*if there can be intervention from the government or any other organisation that can help us with somel loans so that we can invest in our oil palm production, we may be getting more benefits.*" Maduku, a female discussant from the Kasewe village, highlighted the significant potential for improving oil palm production through

financial support. She emphasised that if the government or any organisations could provide small loans to the farmers, it would enable them to invest more effectively in the oil palm production. This investment could lead to increased productivity and subsequently, greater benefits for the farmers. Again, Maduku's statement underscored the critical role of financial assistance in enhancing agricultural activities and the economic well-being of these indigenous rural farmers, suggesting that access to credit could be a key driver for improving agricultural output, hence benefiting from this agricultural activity. This finding aligns with the study findings by Bronkhorst, Cavallo, Van Dorth tot Medler, Klinghammer, Smit, Gijsenbergh and Van der Laan (2017) and Alwarritzi, Nanseki and Chomei, (2016) that, the increase of oil palm production in countries such as Malaysia and Indonesia has been made possible by the lending of credit to rural farmers in such nations. For the purpose of optimising the benefits of oil palm production, this has made it possible for rural farmers to obtain agricultural inputs including enhanced seedlings, fertilisers, insecticides, and farm machinery.

6.2.4. Limited Access to Information

In this study, it was found that among indigenous rural farmers engaged in oil palm production, a significant challenge arose from limited access to information. The data revealed that a substantial portion of the respondents sampled for the study, totalling 320 respondents, representing 67.1 percent, faced this limitation in varying degrees, ranging from moderate to high, with 155 respondents, representing 32.9 percent indicating lightly limited access to information. Information is critical to the realisation of benefits from this oil palm production. That is, without access to information, these indigenous rural

farmers would not be able to reap the benefits of oil palm production, as information is vital in various ways, including best farming practices and market information. This finding aligns with a study by Ragasa and Niu (2017) that, many rural farmers in Malawi have insufficient access to information, including training programmes and workshops. This in turn left many rural farmers in the agricultural landscape of Malawi without the knowledge necessary to optimise their agricultural activity and agricultural benefits.

Emphasising limited access to information, in the course of focus group discussions, Kilifi, the discussant from the Mwangulukulu village said, "*farmers involved in oil palm production hardly have information or extension services from the government or any other organisation. This impedes our farming practices."* Also, stressing the limited access to information, Dodolido, the discussant from the Nyasa village, narrated, "*since we started farming, there has not been a single day an extension service worker has come to teach us the best farming practices to promote our farming."*

There is a severe deficit in agricultural extension services and knowledge transmission, as seen by the response, especially from Kilifi, which highlighted how farming techniques are hampered by the lack of essential information. These indigenous rural farmers struggled with appropriate farming practises due to limited access to knowledge. In a similar vein, Dodolido bemoaned the seeming lack of attention in this area and emphasised the importance of extension services in providing knowledge on efficient agricultural methods. Since they lacked essential information that may have shaped the most effective farming practises for oil palm production, these indigenous rural farmers' limited access to information had a detrimental impact

on their agricultural practises. These farmers thus did not reap many benefits from this farming endeavour. This result is consistent with research by MacIvor (2019), which found that farmers' inability to adopt best practises and increase productivity is hampered by limited access to information, which also hinders the optimisation of benefits from oil palm production.

Furthermore, it may be inferred that these farmers were not only deprived of market knowledge but also of optimum farming methods. In other words, the lack of information from pertinent stakeholders would further restrict these indigenous rural farmers' access to market information, preventing them from knowing and making well-informed decisions regarding the best time and location to sell their oil palm harvest. This claim is consistent with a study by Phiri, Chipeta and Chawinga (2019), which found that giving Malawian rural farmers access to information enables them to decide when and where to sell their produce. This guarantees a higher financial return and aids in the farmers' more strategic sales planning.

Moreover, the finding that these indigenous rural farmers have limited access to information aligns with the Theory of Access as presented by Ribot and Peluso (2003). The benefits from oil palm production are mediated by the availability of relevant information. Information is crucial for making informed decisions about farming practices, market opportunities, and technological advancements. The limitation of access to information, as identified in this study, acted as a significant constraint, preventing these farmers from optimising their oil palm production processes and fully realizing its benefits

Contributing to what could be done to address the challenge of access to information, Nyatembo, a female discussant from the Mwakaboko village said,

"*if the relevant authorities can help us with extension services, in the areas of training or workshops, that would help us to farm better."* Nyatembo, the discussant, stressed the importance of extension services in improving farming practices. She suggested that if relevant authorities could provide support through training sessions or workshops, it would greatly enhance the farmers' abilities to cultivate their land more effectively. This type of assistance would empower these indigenous rural farmers with the necessary knowledge and skills to adopt better farming techniques regarding oil palm production, enabling them to benefit from this agricultural activity. This revealed the absence of technical training and capacity-building initiatives tailored to these indigenous rural farmers. This finding corroborates a study by Lee, Ghazoul, Obidzinski and Koh (2014) that, most of the rural farmers involved in small-scale production face multiple challenges, including limited access to agricultural workshops and training tailored towards improving farming practices.

6.3. Relevant Important Index (RII)

In this study, a further analysis was done to rank the challenges from the observed frequencies. As such, the relevant important index (RII) was used to rank the prevalent of the challenges confronting indigenous rural farmers involved in oil palm production in Karonga District, Malawi (Melović, Cirović, Backovic-Vulić, Dudić & Gubiniova, 2020). Relative Important Index is calculated as $RII = \Sigma(W \times F) / (A \times N)$, and $(0 \leq RII \leq 1)$ where W= Weight given to each factor by the respondents; F= Frequency of each rating; A= The highest possible rating; and N= The total number of respondents (Kinemo, 2024). Again RII is calculated between the value of 0 and 1. To get the Relative

Important Index, frequency of each rating was calculated first. The frequency rating is calculated as the frequency number multiplied by each rating.

Table 18: Frequency rating for each challenge

Rating	Market (f)	Equipment (f)	Credit (f)	Information (f)
3	291	250	189	189
2	159	189	192	131
1	27	38	96	157
Total Frequency Rating Score	1218	1166	1047	986

Source: Field Data, 2023

In Table 18, frequency rating for each challenge was calculated. The sum score of limited access to market was 1218, limited access to farm equipment and machinery was 1166, limited access to credit was 1047, and limited access to information was 986. As per formula, after getting the total rating frequency score, it has to be divided by the multiplication of highest possible rating and the total number of respondents (sample size).

Table 19: Relative important index

	N	Min	Max	Total Scores	A*N	RII
Limited market	477	1	3	1218	1431	.8512
Limited farm equipment	477	1	3	1166	1431	.8148
Limited Credit	477	1	3	1047	1431	.7317
Limited information	477	1	3	986	1431	.6890

Source: Field Data, 2023

In Table 19, the relative importance was observed to rank the challenges based on their prevalence. This was the case as ranking helps in developing

interventions, starting with the most critical challenge, to a less challenge. In the ranking, limited access to ranked high with RII value of 0.8512. This means that, regarding oil palm production among indigenous rural farmers, the availability of market can enhance their realisation of benefits from this agricultural activity. The finding aligns with the study finding by Kambewa and Nagoli (2010), who revealed that limited access to market has been a barrier among smallholder farmers in Malawi, acting as a barrier for economic growth among rural farmers.

Regarding limited access to farm equipment and machinery, the RII value of 0.8148 was observed**,** revealing second from limited access to market as a prevalent challenge. Arguably, farm equipment including machinery are important in many factors, including increased productivity, extracting and processing oil palm fruits into finished products. The finding limited access to farm equipment and machinery ranks second from limited access to markets aligns with the study finding by Murray, Gebremedhin, Brychkova and Spillane (2016), who revealed that low productivity among smallholder farmers in rural areas of Malawi has been attributed to limited access to technology as most of rural farmers have limited use of modern farm equipment

Again, in Table 19, the RII value of 0.7317 was observed, revealing that limited access to credit (capital) was the third critical challenge among indigenous rural farmers. Arguably, credit (capital) is important for increasing production in oil palm as farmers are able to buy necessary farm equipment. This finding confirms the study findings by Simtowe and Zeller (2006), who revealed that limited access to credit has been a barrier among smallholder farmers in Malawi in investing in agricultural production including adoption of

new crops. Lastly, in Table 18, the RII value of 0.6890 was observed, revealing the least prevalent challenge among indigenous rural farmers involved in oil palm production in Karonga district, Malawi.

It can therefore be said that the relative importance index (RII) analysis highlighted the primary challenges faced by indigenous rural farmers in oil palm production in Karonga District, Malawi. Limited access to markets emerged as the most pressing issue, reinforcing that market access is crucial for economic advancement among indigenous rural farmers. Following this, limited access to farm equipment and machinery, was identified as another significant barrier, hampering productivity among rural farmers. Limited access to credit ranked third, underscoring the importance of capital in expanding production capabilities. Finally, limited access to information, was the least prevalent but still notable.

6.4. Chapter Summary

The indigenous rural farmers in Karonga District, Malawi, faced several significant challenges that impeded their ability to fully benefit from oil palm production. The most critical issue was limited access to markets, leaving them vulnerable to exploitative pricing and limited market opportunities. Additionally, limited access to farm equipment and machinery hampered production efficiency, while limited access to credit restricted farmers' capacity to invest in the necessary resources for improving their production. Furthermore, limited access to information from relevant authorities, further exacerbated these challenges.

Further, the relative importance index (RII) identified limited access to markets, stood out as the most critical issue, emphasising the importance of

market access for economic advancement. Limited access to farm equipment and machinery, was also a significant barrier, impacting productivity. Limited access to credit, highlighted the need for capital to enhance production capabilities. Lastly, limited access to information, though less prevalent, remained a noteworthy challenge.

7.0. CHAPTER SEVEN

GENDER DYNAMICS SHAPING OIL PALM PRODUCTION AMONG INDIGENOUS RURAL FARMERS

7.1. Overview

This chapter focused on analysing intra-household gender dynamics among indigenous rural farmers involved in oil palm production in Karonga District. It delved into gender roles, decision-making power, and socio-cultural norms, thereby shedding light on these complexities within households. The gender dynamics among indigenous rural farmers play a pivotal role in shaping oil palm production, including resource allocation, decision-making processes, and overall household well-being. As such, understanding such dynamics was crucial in this study to unearth gendered disparities engrained in this agricultural activity.

7.2. Intra-household Gender Roles

The adoption of oil palm production among indigenous rural farmers in Karonga district has gender-specific consequences that extend to the reconfiguration of labour dynamics, decision-making, and access to land within households. These affect the distribution of tasks and responsibilities and the decision-making power of household members.

Table 20: Intra-household gender dynamics

	YES		NO	
Intra-household	Total	Percent	Total	Percent
There is a division of labour within the family	462	96.9	15	3.1
Men and women make decisions equally within the family	455	95.4	22	4.6
The land is possessed equally regardless of gender	435	91.2	42	8.8
Both men and women can access land	370	77.6	107	22.4

Source: Field data, 2023

7.2.1. Gendered Division of Labour

In this study, it was found that 462 of the respondents, representing 96.9 percent reported the existence of a division of labour within their households, as displayed in Table 20. This gendered division of labour among these indigenous rural farmers in Karonga district suggested that it is not only a practical necessity but also a reflection of cultural norms and gender roles within their households. As such, this gendered division of labour is vital for the efficient functioning among family members, as it ensures that tasks are allocated according to individual strengths and capabilities. This finding supports a study by Djurfeldt, Hillbom, Mulwafu, Mvula and Djurfeldt (2018) that within the rural agricultural landscape of Malawi, men, and women are

assigned distinct roles in the cultivation, harvesting, and processing of oil palm fruits, with responsibilities often aligning with traditional gender expectations.

Further, in the course of focus group discussion for this study, an emphasis on the division within households was made by Namoyo, one of the female discussants from Mwangulukulu village, who reported;

> *At a household level, men are involved in plucking fresh fruit bunches from trees. Women are involved in plucking fresh fruits from bunches, boiling fruits, and producing cooking oil, which is used in our houses.*

Also, Ngwangwa, one of the male discusants from Mwakaboko village said, "*men are involved in physical work, such as plucking palm fruits from trees, as women cannot pluck fruits from trees. Women take charge of boiling palm fruits and producing cooking oil and soap."* The responses given by Namoyo and Ngwangwa, highlighted specific tasks assigned to men and women in the process of oil palm production. Men were primarily responsible for tasks such as plucking fresh fruit bunches from trees. The fact that men were involved in plucking oil palm fruit bunches from trees and domiciling women in boiling fresh fruits to get oil suggests how gender is classified based on strength within households among indigenous rural farmers. This finding affirms the study by Little (2002) that, physical labour requires strength and agility, which aligns with traditional notions of masculinity associated with this agricultural work.

Again, the response by Ngwangwa, emphasised the distinct roles played by both men and women. That is, men are tasked with works that demand physical strength such as plucking fruits from trees as women could not ably do the work. On the other hand, women were involved in boiling fresh fruits to

produce cooking, associating this activity with domestic chores, traditionally assigned to women. This revelation finds support in the studies by Mawardati, Dewi, Khalsiah, Afriliia, Ramadhan and Munandar (2022), and Shisler and Sbicca (2019) that, gender-based role distinctions among rural farmers typically include men being engaged in tasks that demand physical strength, while women undertake labour-intensive activities that necessitate meticulous attention to detail and time commitment.

In addition, the gendered division of labour among these indigenous rural farmers in the Karonga District underscored the significance of the collaborative goal, suggesting that this particular crop plays a unifying role, allowing active and balanced participation of both men and women at the household level. Moreover, the gendered division of labour reflected the influence of the economic contributions of household members such that instead of money being used to employ other people, the assigned tasks within the household reduce labour costs. Thus, the division of labour reduced labour costs. This form of division of labour aligns with the study findings by Olutumise, Bankole, Olutumise and Aturamu (2023) that, gender division of labour complements the labour force in the family among rural farmers.

It can, therefore, be concluded that the existence of a gendered division of labour among indigenous rural farmers provided insights into the socio-economic dynamics within households, and this highlighted the opportunities for promoting gender equality, redistributing tasks more equitably, and enhancing the overall well-being of household members. It fosters how farmers had a collective goal within households as they engaged in oil palm production.

7.2.2. Gender Equality in Decision-Making

In this study, it was found that collective decision-making, regarding oil palm production was evenly shared between men and women at the household level among these indigenous rural farmers in the Karonga District. In Table 20, a cohort of 455 respondents, representing 95.4 percent indicated that both men and women participated actively in decision-making. This finding suggested that both men and women had a voice in determining key aspects of farm management, resource allocation, planning. These promoted the active participation for both men and women in all the agricultural activities, and these demonstrated collaboration and inclusivity among family members. This finding corroborates the study by Walther (2018) that, equality in decision-making ensures collaboration and inclusive practices in shaping the direction and outcomes of agricultural efforts in Malawi's rural agricultural setting.

However, it is essential to recognise that, despite the high level of participation in decision-making among these indigenous rural farmers, traditional power dynamics might still influence decision-making processes. For example, the allocation and sharing of the proceeds (income) at the household level was vital to ensuring the sustainability and continuity of oil palm production. In the course of the interviews, Nyamwezi, one of the female key informants said;

> I*n our community, both men and women are involved in decision-making at the household level. But you know, men are always the heads of their families. There are times when we have sold cooking oil and men tend to take the money and use it to drink beer or do things of their interest.*

From Nyamwezi's account, the key informant, though acknowledging the existence of collective decision-making at the household level, offered another perspective on where power dynamics existed. That is, while both men and women said that there involved decision-making at the household level, there was a clear indication of traditional power gender dynamics, with men being viewed as heads of the families. Again, with men taking control of the proceeds, this highlighted how women were excluded in decision-making processes regarding economic welfare at the household level.

Inquiring further on why men to take money and use it for their interests, regardless of solving problems in their homes, Namasina, one of the female discussants from Kawese village said, "*this normally happens as men are considered as heads of the family. Women are supposed to listen to their husbands based on our culture and tradition.*" From Namasina's response, the fact that men controlled the proceeds depicted how masculinity was demonstrated within households among these indigenous rural farmers. Again the socially-constructed figurehead attached to men as heads of the family enhanced gender disparities, creating obstacles for women to take control of the proceeds. This revelation affirms a study by Brandth and Haugen (2016) that, in most rural communities, particularly in patrilineal societies, men are considered the breadwinners in the family and that they tend to override the powers of women in decision-making in economic affairs.

Again, the finding that men made decisions regarding the proceeds from oil palm production and were considered heads of the family resonates with the Theory of Access by Ribot and Peluso (2003). The ability to benefit from oil palm production was influenced by local authority dynamics. The fact that men

were assigned the role of household heads and decision-makers, this cultural authority granted men greater control over economic resources and decision-making processes within the household, thereby marginalising women, as well as jeopardising equitable enjoyment of benefits from oil palm production.

It can, therefore, be concluded that among indigenous rural farmers involved in oil palm production in the Karonga District, there was perceived equality in decision-making between men and women. However, gender disparities ensued when it came to the control of proceeds from oil palm. The men tended to take control of the proceeds, particularly, the money realised.

7.2.3. Gender and Access to Land

In Table 20, this study revealed that 370 respondents, representing 77.6 percent of the surveyed population indicated that they could access land, suggesting land accessibility to both men and women. This high percentage suggested that land was generally accessible to individuals without overt gender-based restrictions, implying a level of gender parity in land access. This perception wass significant because access to land was a critical factor in agricultural production and economic stability for rural farmers in Malawi.

However, it is important to note that while the perception of access to land was positive among indigenous rural farmers in the Karonga District, the actual control and ownership of land might still be influenced by traditional practices and cultural norms that favoured men or women depending on family systems, thus either patrilineal or matrilineal system (Berge, Kambewa, Munthali & Wiig, 2014). Again, access to land between men and women might be contingent upon being a spouse or family member. During the interview

session, a nuanced perspective was noted. For instance, Dambuyo, one of the male key informants said;

> *In our communities, a man or woman can access land from his or her parents. However, most of the time, this normally happens in favour of boys as compared to girls. When a young man marries, his parents take a portion of the land and give it to him to cultivate so that the proceeds from farming can help him take care of his family.*

Furthermore, Namala, one of the male key informants also said;

> *In our communities, the land is handed over to young men, but at times young, women can inherit land from their parents. We consider that men should take care of their wives, and since a young woman who is married has to go and stay with her husband, the husband's side has to make sure that there is land for cultivation.*

The responses from Dambuyo and Namala, despite acknowledging the presence of land access for both men and women in their communities, another perspective came to light, whereby men were advantaged, reflecting a deeply ingrained gender bias as far as land acquisition was done at the household level. That is, young men were considered the right heir or had a high priority to land acquisition as soon as they got married. This practice might limit women's ability to generate income, accumulate land as assets, and achieve economic independence, hence perpetuating their economic vulnerability, and being marginalised. This finding corroborates the study by Lambrecht (2016) that, by prioritising young men in land access, young women were marginalised, hence

facing greater challenges in accessing land for cultivation and economic activities.

Also, the expectation that men should take care of their wives among indigenous rural farmers in the Karonga District, reinforces traditional gender roles that prescribe women's dependency on men for their well-being and livelihood. This dependency limits women's autonomy and agency, particularly in decision-making processes related to land use and resource management. This finding aligns with the study findings by Badstue, Petesch, Farnworth, Roeven and Hailemariam (2020), and Euler, Schwarze, Siregar and Qaim (2016) that, the traditional expectation that men should take care of their wives, often disadvantages women in land access, as it favours men over women, particularly in patrilineal societies.

Further, from the responses by Dambuyo, the key informant, it could be deduced that access to land for women among indigenous rural farmers involved in oil palm production in the Karonga District was tied to family structures and marital relationships within their communities. That is, women's access to land wass mediated through their family roles, particularly as wives and daughters within family units. Husbands served as the main conduits through which women gained land, either through direct inheritance or allocation by male family members. This arrangement reflected deeply embedded cultural beliefs and social hierarchies, where women's rights to land were contingent upon their relationships with male relatives, reinforcing the notion of women's dependence within the family structure. This finding corroborates the study by Chiweshe, Chakona, and Helliker (2015) and Dery (2015) that, access to land for women

in the patrilineal system is fundamentally rooted in their family connections and the authority vested in their husbands as landowners and decision-makers.

Moreover, the finding that land inheritance among these indigenous rural farmers favours men resonates with the Theory of Access by Ribot and Peluso (2003). One's ability to benefit from oil palm production, was mediated by various factors, including cultural identity. In this context, cultural norms and traditions dictate that men are the primary inheritors of land, which significantly impacts the distribution of agricultural opportunities and benefits. As found in this study, this structural and relational mechanism of cultural identity acted as a barrier for women, preventing them from benefiting equally with their male-counterparts from oil palm production. Since much of the land was allocated to men, women are often excluded from accessing the land necessary for cultivating oil palm, thereby limiting their ability to engage in and profit from this oil palm production.

7.2.4. Women and Land Rights

The question of whether women had cultural land rights as compared to men in the patrilineal system as property owners was worth exploring in this study. That is, in most patrilineal systems where men had the upper hand in inheriting land as property, it mostly hindered women from tapping into oil palm to promote their welfare. In the course of a focus group discussion on land rights issues about women, Natembo, one of the female discussants from Nyasa village said;

> *Most of the time, women have no control over land, especially when the husband dies. If the husband dies and the woman wants to marry*

again, she is supposed to leave the land that she was cultivating with the deceased husband.

Similarly, Dodoma, one of the female discussants from Kasewe village said;

Land belongs to the husband's side. This is the case, as when a woman gets married, she has to move to her husband's side. If the husband dies and the woman wants to marry, she loses her title to the land she was cultivating with the husband before he died.

From the given accounts by the discussants in this study, particularly Natembo, it could be deduced that traditionally, land rights favoured men as compared to women. This placed women in a vulnerable position, as they risked losing access to land if their husband died or if they chose to remarry. The loss of land rights due to widowhood or remarriage could have profound implications for women's livelihoods and economic security. Without access to land, women struggled to support themselves and their families, leading to increased vulnerability, poverty, and dependency on others for survival. This finding corroborates a study by Dancer (2017), about the adverse of women's rights to land being contingent upon their marital status, revealing that such conditions contributed to the disempowerment of women and restricted their urgency in decision-making processes related to land and livelihoods.

Again, from the given account by Natembo, the discussant, it could be deduced that land rights among indigenous rural farmers involved in oil palm production in the Karonga District, favouring men could be attributed to cultural land rights, thereby perpetuating gender inequality, restricting women's autonomy, and reinforcing patterns of discrimination and marginalisation among indigenous rural farmers. This finding aligns with the study by

Murugani, Thamaga-Chitja, Kolanisi and Shimelis (2014) that, cultural land rights patterns often excluded women from inheriting land in their own right, particularly in patrilineal societies, and women had less control over land as compared to men.

It can, therefore, be concluded that women's rights to land were contingent upon their marital status and the decisions of male family members. Upon marriage, women were expected to move to their husband's home and had limited autonomy over land ownership and management. Again, it could be argued that men having land rights suggests a rite of passage where men were the heirs.

7.3. Chi-Square Analysis of Gender and Access to Land

In this study, the following hypothesis was tested. The researcher posited that;

H_0: There is no significant association between gender and the ability to access land.

H_1: There is a significant association between gender and the ability to access land.

The anticipation was that there would be observable differences in access to land based on gender, with distinct social expectations and practices guiding the transmission of land assets among male and female members of the community.

Table 21: Chi-Square test of gender and access to land

		Both men and women can access land.				
		Yes n(%)	No n(%)	Total n(%)	Chi-Square	Sig Value
Gender	Males	247(79.7)	63(20.3)	310(100)	2.264	0.131
	Females	123(73.7)	44(26.3)	167(100)		
Total		370(77.6)	107(22.4)	477(100)		

Source: Field Data (2023)

In this study, the crosstabulation and Chi-square analysis were analysed to test if there were observed differences between men and women in access to land, as shown in Table 21. In the crosstabulation, 247 respondents out of 310 men surveyed, representing 79.7 percent indicated that both men and women could access land. Similarly, 123 respondents, representing 73.7 percent out of the 167 surveyed indicated that both men and women could access land. In addition, an observation of a Chi-square value of 2.264 and a Sig value of 0.131 reveals that there was no statistical differences in access to land between men and women. In this case, the researcher failed to reject the null hypothesis, by affirming that there is no significant association between gender and the number of acres of land one holds. In other words, the differences in the responses between men and women regarding land access are not large enough to suggest any disparity based on gender. This lack of significant difference is crucial to understanding the dynamics of the rural agricultural landscape in Malawi. This finding corroborates the study findings by Adolfsson and Madsen (2020) that,

in Malawi, both men and women had relatively equal opportunities to access land, a vital resource for agricultural production and household sustenance.

Augmenting on the ability for both men and women to access land, in the course of interviews, Dambuyo, one of the male key informants, said, *"in our communities, a man or woman can access land from parents, revealing land as a property easily handed over to women and men.*" From Dambuyo's account, it could be deduced that both men and women could access land from their parents. The statement revealed that land was a property that was relatively easily transferred to both genders, indicating a cultural or customary practice that supported the distribution of land to children regardless of gender. This finding corroborates the findings of the study by Singirankabo, Ertsen and Van de Giesen (2022), and Thindwa (2019) that, in Malawi, the practice of transferring land within families to both sons and daughters is paramount as land is regarded as a family asset that should benefit all offspring equally.

However, while the survey and the response by Dambuyo, revealed perceived equal access to land for both men and women, it was important to consider the broader context. That is, cultural norms and traditional practices could still influence the number of acres to which men and women control. Thus, though access to land was perceived as equal, women might face other challenges, such as having fewer acres of land for agricultural activity. As such, a further analysis was conducted using the Mann-Whitney U test.

7.4. Mann-Whitney U test

The researcher further hypothesised that,

H_0: There is no significant difference between gender and the number of acres of land one holds.

H_1: There is a significant difference between gender and the number of acres of land one holds.

The anticipation was that there would be differences in the number of acres of land one holds based on gender, with the expectation that the number of acres of land held by men differs from those held by women. Therefore, the Mann-Whitney U test was conducted to provide insights into the difference in the distribution of the number of acres of land owned between men and women. This test was suited because the data did not meet parametric assumptions.

Table 22: Mann-Whitney U test on acres of land and gender

		N	Mean Rank	Mann-Whitney U	p-value	Z
Gender	Male	310	259.14	19641.500	0.001	-4.781
	Female	167	201.61			

Source: Field Data, 2023

In Table 22, the summary from the Mann-Whitney U test has been presented about independent variables acres of land and gender. In the analysis of acres of land and gender, the mean rank was observed. The mean rank of 259.14 for males was higher as compared to females, who had a mean rank of 201.61. This signified that among indigenous rural farmers in the Karonga District, men could have more acres of land as compared to women. This was also confirmed by the test statistics, which revealed that men are likely to have more acres of land than women, as evidenced by the Mann-Whitney U value of 19641.500 and the Sig value of 0.001. Again, the Z score of -4.781 suggested a substantial and statistically significant difference in the number of acres of land held between men and women, revealing that women hoed fewer acres than

men. In this case, the researcher accepted the alternative hypothesis by affirming that there is a significant difference between gender and the number of acres of land one holds, with men having more acres of land than women. This gender gap in acres of land reflects deeper socio-cultural dynamics within rural Malawi, particularly in the country's Northern Region. This finding affirms the study by Thindwa (2019) that traditional practices and cultural norms practised by the Tumbukas of the Northern Region of Malawi, often favoured men in the allocation and inheritance of land, which remained a critical resource for agricultural production and economic stability.

Asking why women held fewer acres of land compared to women, in the course of interviews, Dambuyo, one of the key informants narrated, "*when a young man marries, his parents take a portion of land and give it to him to cultivate, so that the proceeds from farming can help him take care of his family."* From Dambuyo's account, it could be argued that among indigenous rural farmers, men were likely to have more acres of land compared to women. This account aligns with the of the study by Islam and Ullah (2021), about the role of a patrilineal system in shaping the dynamics of land access and resource access within communities, as one of the defining characteristics of this system is the transmission of land rights from fathers to their male offspring, typically sons.

The finding that men are more likely to acquire land compared to women resonates with the Theory of Access as presented by Ribot and Peluso (2003). The ability to benefit from oil palm production was shaped by cultural norms and traditions. This gender-biased land allocation significantly influenced who can benefit from oil palm production. As men were more likely to acquire and

control land, they had greater opportunities to engage in and profit from oil palm production, and women, were marginalised in land inheritance, so they faced substantial barriers to accessing the land needed for oil palm production, thereby limiting their ability to benefit from this agricultural activity.

However, though this study has found that land transmission favoured men, the other perspective comes to light. That is, as men were inclined to have more acres of land for oil palm production, it ensured their ability to provide for their families. The practise of parents allocating a portion of land to their sons upon marriage signifies a traditional approach to providing for families and fostering economic stability in their families. This custom reflected the recognition of marriage as a significant life event that marks the transition to adulthood and the assumption of family responsibilities. By allocating land to newly married young men, parents not only supported their son's ability to provide for his family, but also contributed to the economic well-being of the household. This finding aligns with the study by Zuka (2019), about the economic importance of transferring land to male children, arguing that the transference of land to male children provides economic security and stability for male children and their families.

Again, the allocation of land for cultivation to young men among these indigenous rural farmers in the Karonga District contributed to the economic stability of the household by providing a reliable source of income. This practise reinforced ties and family supported networks among indigenous rural farmers. By providing land to their sons, parents demonstrated a commitment to ensuring the continued welfare and prosperity of future generations. This finding corroborates the findings of the study by Djurfeldt, Hillbom, Mulwafu, Mvula

and Djurfeldt (2018) that, in Malawi the intergenerational transfer of land serves as a form of wealth distribution and social cohesion, strengthening the bonds between family members and reinforcing solidarity.

7.5.Chapter Summary

The chapter has shed light on the complex interplay of gender dynamics, resource access, and decision-making power among households. The findings revealed striking incongruity between the perceived division of labour and decision-making authority among indigenous rural farmers involved in oil palm production. While there was a perception of equal participation in decision-making processes, the reality was far more nuanced, with women consistently marginalised in their control over income and access to land. The unequal access to land not only undermines women's socio-economic status but also perpetuates cycles of dependency and vulnerability among women.

Again, this chapter noted that while both men and women in Karonga District, Malawi, were perceived to have equal access to land, significant disparities emerged in the number of acres held by each gender. The Chi-square analysis revealed no statistically significant difference in land access between men and women, supporting the notion that land was relatively equally available to both genders for agricultural purposes. However, further analysis using the Mann-Whitney U test identified a substantial difference in land ownership, with men holding more acres than women. This gender disparity in land holdings reflected socio-cultural practices and traditional norms favouring men in land inheritance and allocation. While this practise supported economic stability for male-headed households, it marginalised women by limiting their access to land, thereby reducing their ability to benefit from oil palm production.

8.0. CHAPTER EIGHT

ROLE OF MINISTRY OF AGRICULTURE IN PROMOTING OIL PALM

8.1. Overview

This chapter presents and discusses the role of the Malawi's Ministry of Agriculture (MoA) in promoting oil palm production. The pivotal role of the Malawi Ministry of Agriculture in promoting crop production in the country cannot be overemphasised. That is, the MoA is tasked, among other functions, with promoting and developing crop diversification and ensuring that there is food security among populations. Guided by the National Agricultural Policy (2016) and the Malawi National Agricultural Investment Plan (2018), the MoA acknowledges that agriculture remains key to meeting the socio-economic development of the country, hence placing high priority on crop development.

8.2. Promotion of Oil Palm Production

MoA remains fundamental for ensuring the socio-economic development of the country. MoA is guided in its activities by the National Agricultural Policy (2016) and the Malawi National Agricultural Investment Plan (2018). Moreover, as per the Malawi National Planning Commission (NPC) (2020), MoA is responsible for formulating farming-related policies within the nation. Consistent with their mandate, these policies about agriculture are designed to support the achievement of national goals such as food security, poverty alleviation, and overall economic development objectives (Malawi National Agricultural Policy, 2016).

Interrogating what the MoA is doing regarding oil palm in the country, Gonthi, one of the crop development officers said, "*despite oil palm not being*

exclusively spelled out in the policy document, efforts are being made to promote this agricultural activity at the district level." Gonthi's statement about the role of the Ministry of Agriculture (MoA) to promote oil palm cultivation, despite it not being explicitly mentioned in policy documents, highlighted several important aspects. Gonthi mentioned that oil palm was not explicitly spelled out in policy documents, but there are ongoing efforts to promote it at the district level. This suggested that while oil palm may not be a focal point in national policies, it is still recognised and supported at the district level. Again, this suggested a localised approach to agricultural development, where district authorities and crop development officers are taking the initiative to support and encourage oil palm production. T

The initiative at the district level formed the foundation stage upon which the nation could benefit from oil palm production, as a localised approach to agricultural development is important in Malawi. This finding corroborates the study by Chinsinga (2008), about the importance of agricultural officers at the district within the MoA structure, in promoting crop's development in the country, emphasising that agricultural officers are instrumental in raising awareness about the benefits and potentials of new crops such as oil palm. They educate farmers on the economic and nutritional advantages of diversifying their crop production.

Inquiring further about what the MoA was doing in promoting oil palm production in the district, in the course of interviews, Gonthi, one of the crop development officers from the Malawi Ministry of Agriculture, said;

> *At the district level, we have come to recognise oil palm production among indigenous rural farmers, by inviting farmers to showcase*

their products at the agriculture fair, which normally happens at the district level. These farmers showcase items such as cooking oil and soap, which are locally made.

Providing indigenous rural farmers in the Karonga District with a platform to exhibit locally made products such as cooking oil and soap is a step toward acknowledging the economic potential and value-added opportunities associated with oil palm production. In addition, participation of these indigenous rural farmers in agricultural fairs offers them the opportunity to access new markets, promote their products, and increase visibility within the local community and beyond. This finding aligns with the study by Liu (2023) that, agricultural expos served several purposes, including advancing the production and marketing of agricultural goods, showcasing agricultural products, building brand awareness, and providing valuable insights into trends in agricultural development.

Also, involving indigenous rural farmers involved in oil palm production in the Karonga District in agricultural fairs underscored the importance of leveraging local knowledge, resources, and entrepreneurial initiatives to promote sustainable oil palm production. This finding aligns with the study by Pacheco, Gnych, Dermawan, Komarudin and Okarda (2017) that recognising rural farmers' capabilities was vital as a catalyst for promoting local processing, generating income, stimulating economic growth, and contributing to poverty alleviation within rural communities.

Further, the finding that the Malawi Ministry of Agriculture (MoA) at the district level had provided indigenous rural farmers involved in oil palm production the opportunity to showcase their products could be understood

through the lens of rights-based mechanisms as presented by Ribot and Peluso (2003), in the Theory of Access. MoA's initiative to allowed farmers to showcase their products at district-level events represented a form of participatory rights-based access. By providing platforms such as agricultural fairs or exhibitions, the MoA enabled these indigenous rural farmers to exercise their rights to market their products, demonstrate their skills, and engage with potential buyers and stakeholders. This approach enhanced the visibility and marketability of locally made oil palm products and empowered farmers by recognising their role as key contributors to the agricultural sector.

Inquiring further whether MoA promotes value addition on the products that indigenous rural farmers are engaged in at the district level, Godiya, one of the agricultural development officers from the Malawi Ministry of Agriculture explained, "*in terms of value addition, there are no such kind of efforts made by the ministry at the district level, nor have there been efforts at the national level."*

From Godiya's response, it could be argued that both at the district and national levels, there were no initiatives or programs specifically aimed at promoting value addition for oil palm production. This indicated a gap in policy and implementation strategies that could otherwise support these indigenous rural farmers in improving their income and livelihoods through value-added activities. The absence of efforts to promote value addition at both the district and national levels suggested a missed opportunity to enhance the competitiveness and profitability of oil palm production. This finding corroborates the study by Hidayati and Hasibuan (2019) that, value-added activities such as processing oil palm fruits into higher-value products like

cooking oil or soap could increase market demand, create employment opportunities, and improve income levels of farmers.

Whether the MoA took strides to ensure that oil palm production was enhanced and promoted at the national level, Godiya, one of the crop development officers from the Malawi Ministry of Agriculture indicated;

> *Strides were being made to advance the crop at the national level. At the district level, we made recommendations to the ministry about promoting the crop some years ago. After engaging farmers involved in oil palm production through agriculture fairs that are conducted at the district level, the recommendation was made to align the policy so that oil palm is listed as one of the main crops, looking at its multifaceted aspects.*

From Godiya's response, it could be deduced that recommendations were made at the district level to promote oil palm production following engagements with farmers during agriculture fairs. This indicated a participatory approach where farmer perspectives and local insights were integrated into policy formulation. Again, Godiya acknowledged that strides were being made at the national level to advance oil palm production. This includes aligning policies to recognise oil palm as one of the main crops. Such recognition was crucial as it signifies governmental support of oil palm within Malawi's agricultural landscape. However, another perspective came to light, that there was a delay in recognising oil palm at the national level as an important crop. This assertion entailed a missed opportunity to harness the benefits of oil palm production at the national level. This finding corroborates the study by Wesseler, Smart, Thomson and Zilberman (2017) that, delaying

recognising crops that are important to the national economy negatively impacts the lives of people.

It could, therefore, be concluded that some efforts were made at the district level, but national-level initiatives were lacking, hindering its development. Although agricultural fairs provide opportunities for farmers to showcase their products and highlight the economic potential of oil palm, the absence of value-added efforts posed significant barriers to realising its full benefits.

8.3. The Provision of Extension Services

The Malawi National Agricultural Policy (2016) stipulated that MoA is also tasked to provide extension services to rural farmers as a means of equipping rural farmers with knowledge regarding farming methods. Knowledge acquisition is essential for the realisation of benefits from oil palm production. According to Ragasa and Niu (2017), the significance of extension services comes to the forefront as the paramount priority for augmenting agricultural production. In Malawi, this acknowledgment emerged prominently during an extensive consultation process conducted to delineate the content of the National Agriculture Policy (NAP) (Hunga & Culas, 2019).

Inquiring whether there was progress or not in this agricultural practice since its inception, Nyabango, one of the discussants from Nyasa village said, "*oil palm production in our communities has been stagnant. For example, we do not receive advisory services from the Ministry of Agriculture."* Also in the course of interviews, Nyabanda, one of the female key informants complained;

> *Farmers here use traditional, archaic, and old knowledge that were handed down from our forefathers. Further, there was not a single*

day when an agriculture advisor from the Malawi Ministry of Agriculture came to teach farmers the best farming practices.

From Nyabango and Nyabanda's accounts, the stagnation of this agricultural activity suggested that these indigenous rural farmers had limited access to extension services that would enhance their agrarian activity. Particularly, from Nyabanda's account, it emerged that the absence of agricultural advisors deprived these indigenous rural farmers of crucial extension services and technical assistance. Again, since within the rural agricultural landscape of Malawi, agricultural advisors were an important source of information, their absence in providing extension services deprived these indigenous rural farmers of opportunities to learn about best farming practices, receive training, and access information. This finding supports the findings of the study by Olagunju, Ogunniyi, Babatunde, Fakayode and Dekunle (2013), that the absence of agricultural advisors presents a missed opportunity for capacity building and knowledge transfer among rural farmers.

Inquiring about what the ministry was doing regarding the provision of extension services to these indigenous rural farmers involved in oil palm production, Godiya, one of the agricultural development officers from the Malawi Ministry of Agriculture said, "*indeed, as a ministry, we have not been able to provide extension services to farmers involved in oil palm production. This can be the case as the crop is just a minor crop in the country.*"

The consideration of oil palm as a minor crop in Malawi was further corroborated by Gonthi, who is a crop development officers in the Malawi Ministry of Agriculture said;

Oil palm in the agriculture sector is considered a minor crop. This can be attributed to the population that is involved in this agricultural activity. As you can see, it is only cultivated by communities on the northern side of Karonga district.

From Godiya's response, it appeared that there is limited support for oil palm production from the MoA. Again, Gonthi's response, characterising oil palm as a minor crop implied that its significance and potential benefits were underestimated or undervalued within the agricultural landscape of Malawi. This perception could be attributed to limited research and policy support for oil palm production. This finding corroborates the study by Zulu (2017) that, inadequate research in crop diversification in Malawi has negatively affected the promotion of some crops that are important to the national economy.

Again, the finding that the MoA did not offer extension services to indigenous rural farmers involved in oil palm production could be explained through the lens of rights-based mechanisms as presented by Ribot and Peluso (2003), in the Theory of Access. That is, the rights-based mechanisms encompass provision of extension services aimed at enhancing agricultural productivity and livelihoods. However, the absence of extension services for indigenous rural farmers involved in oil palm production indicates a barrier within the institutional framework of the MoA. This barrier restricts farmers' rights to access crucial information and support necessary for optimising benefits from their agricultural activities.

It can, therefore, be concluded that there was limited provision of extension services to the indigenous rural farmers involved in oil palm production in the Karonga District, Malawi. Again, oil palm was characterised

as a minor crop, despite its envisaged importance that could trigger the national economy as has been the case in countries such as Malaysia and Indonesia.

8.4. Chapter Summary

The Ministry of Agriculture (MoA) of Malawi plays a pivotal role in driving socio-economic development through agricultural policies and initiatives. Guided by the National Agricultural Policy (2016) and the Malawi National Agricultural Investment Plan (2018), MoA aims to support national goals such as food security, poverty alleviation, and overall economic growth. Despite these policy frameworks, specific mention of oil palm production was lacking, suggesting a gap in national-level recognition and support. However, efforts at the district level, as highlighted by Gonthi, a crop development officer, demonstrated localised initiatives to promote oil palm cultivation. These included engaging farmers through agricultural fairs to showcase their products and advocating for policy alignment to elevate oil palm as a main crop.

However, despite these grassroots efforts, the lack of initiatives for value addition in oil palm products at both district and national levels remains a critical gap. Value addition, such as processing oil palm into higher-value products such cooking oil and soap, could significantly boost market demand, create employment opportunities, and improve livelihoods for rural communities. Again, the delayed recognition of oil palm as a main crop at the national level points to missed opportunities for economic development and poverty alleviation.

9.0. CHAPTER NINE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

9.1. Overview

This chapter provides a summary of the entire study by giving attention to major findings as well as drawing the main conclusion from the data analysed. Suggestions for further study and contributions to broader knowledge have also been presented. A working conceptual framework for the indigenous rural farmers involved in oil palm production has been proposed in this study.

9.2. Summary

The background of the study has acknowledged the importance of agriculture, with particular interest in oil palm production, in addressing social and economic challenges in developing countries that rely on it, such as Honduras, Indonesia, Malaysia, Ghana, and Nigeria, by drawing attention to the multifaceted aspects of the crop.

This study was guided by following objectives;

1. Examine the importance of oil palm production to the livelihood of indigenous rural farmers in Karonga District;
2. Assess challenges confronting oil palm production by farmers;
3. Analyse gender dynamics shaping oil palm production; and,
4. Examine the role of Malawi's Ministry of Agriculture in promoting oil palm production.

Ribot and Peluso's (2003) Theory of Access and how it applies to this study Right-based, structural, and relational mechanisms as ways for people to get benefits from oil palm production have also been discussed. The current intellectual discourse on the socio-economic benefits and challenges of oil palm

production among rural farmers has been reviewed. The mixed-methods approach has been explained. This uses simple random, purposeful, and convenience sampling, a questionnaire, in-depth interviews, and focus group discussions to gather data.

9.3. Major Findings

In this study, the data gathered on the socio-economic benefits and challenges of oil palm production among indigenous rural farmers in Karonga district, Malawi, based on the developed objectives, revealed the following findings:

1. In examining the importance of oil palm production for sustaining the livelihoods of indigenous rural farmers in the Karonga District, Malawi, this study found that oil palm served as a vital source of food for households, addressing issues of hunger and malnutrition through the production of cooking oil. Secondly, oil palm production created employment opportunities within the community, albeit often temporary or sporadic, particularly for the youth and women-headed households. Moreover, oil palm production mitigated social challenges, by providing income to meet essential needs such as healthcare and education expenses. This multifaceted role of oil palm underscored its importance in rural livelihoods and aligned with broader development goals such as poverty alleviation and sustainable economic growth.
2. In assessing challenges confronting oil palm production by indigenous rural farmers in the Karonga District, the study found that indigenous rural farmers in Karonga District, Malawi, faced several critical challenges limiting their ability to maximise benefits from oil palm

production. Limited access to markets emerged as the most pressing issue, impacting farmers and making them vulnerable to exploitative pricing and constrained market options. Additionally, farmers reported limited access to farm equipment and machinery, which restricts productivity. Limited access to credit affected, indicating that capital limitations hinder investments in essential resources. Finally, limited access to information, also posed a challenge, although it was less prevalent.

3. In analysing gender dynamics shaping oil palm production among indigenous rural farmers engaged in oil palm production in the Karonga District, this study found that there existed a perceived gendered division of labour within households, with men primarily engaged in physically demanding tasks like plucking fruit bunches, while women undertook labour-intensive activities such as boiling fruits and producing cooking oil. Secondly, while there was collective decision-making regarding oil palm production, men often controlled the proceeds from oil palm sales, perpetuating traditional power dynamics and limiting women's economic empowerment. Thirdly, gender disparities were evident in access to land practices, reflecting entrenched patriarchal norms and disadvantaging women's access to land and economic opportunities. Statistical analyses further confirmed these gender-based disparities, revealing significant differences through the Mann-Whitney U test between gender and acres of land owned, with men typically having greater access to and control over land resources.

4. In examining the pivotal role of the Malawi Ministry of Agriculture (MoA) in promoting oil palm production, this study found that the MoA plays a crucial role in driving the country's socio-economic development through policies outlined in the National Agricultural Policy (2016), and Malawi National Agricultural Investment Plan (2018). Although some progress was observed at the district level with initiatives promoting oil palm, challenges such as lack of value addition, technical assistance, and provision of extension services persisted.

9.4. Conclusions

In this study, the following conclusions have been made;

1. Oil palm production has potential in in sustaining the livelihoods of indigenous rural farmers in Karonga District, Malawi. It served as a key source of food, addressing hunger and malnutrition, while also creating employment opportunities, particularly for youth. Additionally, oil palm production provides income that helped the indigenous rural farmers to meet other essential needs such as healthcare and education, thereby mitigating socio-economic challenges in their localities.
2. Despite the potential benefits of oil palm production, this study had revealed challenges faced by indigenous rural farmers in oil palm production in the Karonga District limiting their ability to fully benefit from this agricultural activity. Limited access to markets emerged as the most significant issue. Additionally, limited access to farm equipment and machinery and credit were identified as major obstacles, hampering productivity and investment capacity. Furthermore, although less

prevalent, limited access to information still poses a noteworthy challenge.

3. Also, the analysis of gender dynamics shaping oil palm production among indigenous rural farmers in the Karonga District revealed a pronounced gendered division of labour, with men performing physically demanding tasks and women focusing on labour-intensive activities like oil production. Although decision-making was collectively shared, men predominantly controlled the financial proceeds, reinforcing traditional power imbalances and limiting women's economic empowerment. Furthermore, gender disparities in land access were evident, with men owning and controlling more land than women, as confirmed by the Mann-Whitney U test.
4. Finally, while some progress has been made at the district level through initiatives supporting oil palm production, persistent challenges such as insufficient value addition, inadequate technical support, and limited extension services continue to impede the full realisation of oil palm's potential in enhancing livelihoods and economic growth.

9.5. Recommendations

From the findings of this study, the following recommendations were worth considering:

1. The Malawi Ministry of Agriculture should incorporate oil palm production into the National Agricultural Policy, recognising its significant potential to contribute to the country's economic development and rural livelihood improvement. By including oil palm as a key focus area within the policy framework, the government could

create a conducive environment for the growth of the sector, ensuring that it receives adequate attention, support, and investment.

2. The Ministry of Agriculture (MoA) should provide extension services to indigenous rural farmers engaged in oil palm production. These services should include regular outreach programs that deliver up-to-date information on best agricultural practices, and optimal oil palm cultivation techniques.
3. Financial institutions operating within Malawi's agricultural sector, including organizations such as One Acre Fund, should enhance their support for indigenous rural farmers involved in oil palm production by extending tailored credit facilities. These financial services should be designed to address the specific needs of oil palm farmers, offering affordable loans with flexible repayment terms.
4. The Ministry of Local Government should take initiatives that promote gender equality in resource access and financial control. Programs should focus on empowering women land ownership policies, providing targeted training and support for women's economic participation, and encouraging shared decision-making and financial control within households in as far as oil palm production.

9.6. Contribution of the Study to Knowledge

This study has brought the novelty of oil palm production into the discourse of agriculture in Malawi. This is the case, as there has been little or no study that looked at oil palm production in the country, hence filling the literature gap. The study also contributes to the tapping of the resource as a mitigation to the realisation of the Malawi 2063 Vision. It advocated for tapping

into a resource that has been neglected over time yet is essential for the economic growth of the country.

The researcher proposed a new conceptual framework for indigenous rural farmers involved in oil palm production by considering key factors that would necessitate the ability to benefit from oil palm production. The proposed conceptual framework was as a result of seeing that the initial was static, yet it had to be flexible as the access mechanism were subject to change over time.

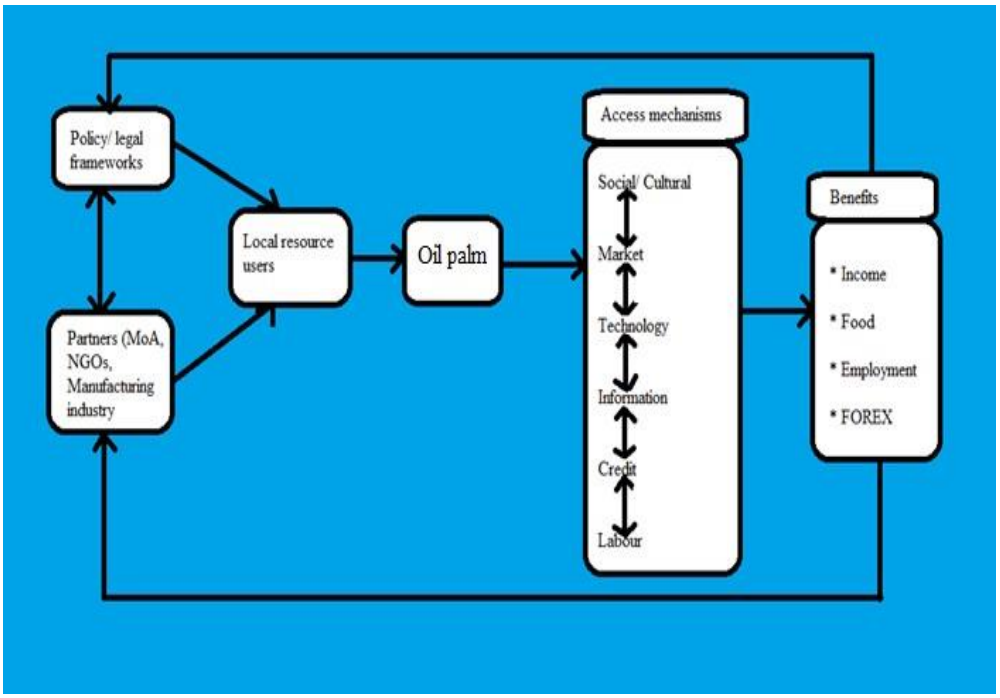


Figure 3: A proposed conceptual framework for indigenous rural farmers

Source: Authors construct based on findings, 2023

The revised conceptual framework highlighted key access mechanisms identified in this study and has emphasised that the ability to benefit from the resource depends on the policy and legal frameworks, actors in manufacturing, and other institutions such as non-governmental organisations (NGOs). Ribot and Peluso (2003) describe two different types of mechanisms: rights-based, structural and relational. These were found to overlap. In this study, some of

these were useful for oil palm production among indigenous rural farmers, but not all of them were.

The accrued benefits, such as income, food, employment, and foreign exchange revenue (forex), will enable the realignment of the NAP as well as the National Agricultural Investment Plan (NAIP), working in collaboration with partners in the agriculture sector to invest in indigenous rural farmers, hence unlocking the potential benefits of oil palm.

9.7. Suggestions for Further Studies

In pursuit of possible further studies, research on value addition and the value chain of the production of oil palm would have to be given a premium. This should take into account the quantitative methods and techniques used to ascertain the significance of the crop at the national level.

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APPENDICES

APPENDIX A: Questionnaire

My name is Noel Mweta, and I am currently studying at the University of Cape Coast, Ghana, under the Department of Sociology and Anthropology. I am conducting a study on ***Socio-economic Benefits and Challenges of Oil Palm Production among Indigenous Rural Farmers in Karonga District, Malawi.*** This questionnaire primarily focuses on the **"*importance of oil palm production to the livelihood of indigenous rural farmers."*** I will be grateful if you could make time out of your busy schedules to answer the questions below. You are assured that any information provided will be treated as confidential and used for academic purposes only. Kindly tick ( ) the appropriate box or write your responses in the space provided where applicable.

(Dzina langa ndi Noel Mweta, ndipo padakali pano ndikuphunzira ku sukulu ya Cape Coast, mdziko la Ghana. Ndikufuna kupanga kafukufuku oona za ubwino wa mawese ndi zipsyinjo zomwe alimi amakumana nazo. Cholinga chenicheni ndi kufufuna kuziwa ubwino wolima mawese pa moyo wa anthu komanso phindu lomwe anthu angamapeze. Ndikhala osangalala ngati mungatenge kanthawi kochepa poyankha mafunso omwe ali munsiwa pochonga mukabokosi kayandikana ndi mfunso.)

Section A. Demographic Data *(Kuziwa za munthu)*

1.Age *(Tchulani dzaka zanu)*……

2.Gender: Male ☐ Female ☐

(Mwamuna) *(Mkazi)*

3.Marital Status: Never married ☐ Married ☐ Divorced ☐

(zokhuza banja) *(osakwatiwa)* *(Okwatira)* *(Banja linatha)*

Widowed ☐ Cohabitant ☐

(Wamasiye) *(Okhala mongosungana)*

4.Family Size *(Chiwerengero chapa banja)*:…….

5.Educational level: Never attended ☐ Standard 1- 8 ☐

(Maphunziro) *(Sanapite ku sukulu)* *(Olekezera pulaimale)*

Form 1-4 ☐ Vocational certificate ☐ Tertiary ☐

(sekondale)(sukulu ya ntchito za manja) (ku koleji)

6.Weekly income: MK5,000.00 – MK10,000.00 ☐

(Phindu la ndalama pa sabata) MK11,000.00 – MK20,000.00 ☐

7.Status in Palm oil Production: Producer ☐ Processor ☐

Munthu amapanga pa ulimi *(mulimi)* *(ogula ndikugulisa)*

8.Number of Years involved in palm oil production:……

(Dzaka zomwe mwakhala mukupanga ulimi wa mawese)

9.Farm ownership: Individual ☐ Family ☐ Group ☐

(Kalimidwe ka Munda) *(munda wa ndekha)* *(munda wapabanja)* *(wagulu)*

10.Religion (*Chipembedzo*):……..

11.Number of acres (*Kukula kwa munda*):…….

Section B: Information on Palm Oil Production *(Zokhuzana ndikuziwa za ulimi wa mawese)*

12.From which of the following sources, did you come to know about palm oil production?

(Sankhani njira yomwe munaziwira za ulimi wa mawese zili musimu)

Source of information ***(Njira yoziwira mawese)***	
Family members and friends *(Kuzera mwa achibale ndi anzathu)*	
Workshops and seminars for farmers *(Kuzera ku msonkhano wazaulimi)*	
Non-governmental organisations *(Kuzera ku mabungwe olimbikisa za ulimi)*	
Any other, specify *(Tchulani njira ina kupatula zili pamwambazi)*	

13.Why did you start palm oil production? ***(Munanya chifukwa chani ulimi wa mawese?)***

Due to attendance in agricultural training and workshops *(Chifukwa chosankhana ku msonkhano wa zaulimi)*	
Business agricultural mind-set *(Chifukwa chokahala ndi maganizo a bizinesi)*	
Learned from neighbours *(Chifukwa ndinaphunzira kwa anthu oyandikana nawo)*	
Inherited from the family *(Ndinatengera kwa achibale)*	
Knowledge of palm oil trees easily accessed *(Chifukwa ndili ndi upangiri okhuza mitengo ya mawese)*	

Section C: Reasons for Palm Oil Cultivation (Zifukwa zolimira mawese)

		Yes ***(Inde)***	**No** ***(Ayi)***
14.	I find it easy to farm and manage *(Mawese ndiosavuta kulima)*		
15.	I find it stable farming *(Ulimi wa mawese ndiokhazikika)*		
16.	Oil palm does not require big piece of land *(Mawese safunika munda waukulu kwambiri)*		
17.	I find oil palm production more profitable *(Mu ulimi wa mawese muli phindu lochuluka)*		
18.	I find oil palm as readily available and commonly used *(Mitengo ya mawese imapezeka mosavuta)*		
19.	I perceive oil palm as a perennial crop *(Mawese amakhala kwa chaka chonse)*		
20.	I perceive oil palm as weather resistance/drought-resilient *(Mawese ndiopilira ku chilala)*		
21.	I find oil palm as cheaper to produce *(Mawese savuta kusamala)*		
22.	I find palm oil markets to be readily available *(Misika ya mawese ndiyosavuta kupeza)*		

23.	I find easy to access credits/capital for oil palm production *(Kuzera mu ulimi wa mawese, ndi kosavuta kupeza ngongole ya ulimi)*		

Section D: Socio-Economic Benefit of Palm Oil Production *(Phindu la mawese pa moyo wa Munthu)*

	1 = Lightly; 2 = Moderately; 3 = Highly *(Mochepera) (theka) (mochuluka)*	**1**	**2**	**3**
24.	Oil palm has improved income levels to my family *(Ulimi wa mawese wabweresa phindu la chuma pabanja panga)*			
25.	Oil palm production has created job opportunities for my family *(Ulimi wa mawese wathandiza kuzesa anthu ntchito pabanja panga)*			
26.	Palm oil has been a source of food to my family *(Ulimi wa mawese wathandiza kupeza chakudya pabanja panga)*			
27.	Because workers make some money from the farm, it reduces rural-urban migration *(Ulimi wa mawese wachepesa anthu kupita tu tauni kukayang'ana ntchito)*			

28.	Oil palm production helps you in paying educational charges for wards *(Ulimi wa mawese wathandiza kuti ndizilipila ana anga ku sukulu)*			
29.	As a farmer, oil palm production proceeds helps me in hiring labour for farming *(Ngati mulimi, phindu lochokera ku mawese limandithandiza kulemba anthu ena ntchito yakumunda)*			
30.	As a farmer, oil palm proceeds help me in buying machinery for making palm oil products *(Phindu lochokera ku mawese, limandithandiza kugula zipangizo za ulimi)*			
31.	As a farmer, I am able to pay all health care charges of the family form the proceeds I make *(Phindu la mawese limandithandiza kulipila kuchipatala ndikadwala)*			
32.	As a farmer, I am able to purchase basic needs for household (*Ngati mulimi, phindu la mawese limandithandiza kugula zosowekera pabanja panga)*			
33.	As a farmer, I am able to save money in banks *(Kuzera mu ulimi wa mawese, ndimasunga ndalama zina ku banki)*			

Section E: Gender dynamics shaping palm oil production *(Zomwe amayi ndi abambo amapanga zopitisa patsogolo ulimi wa mawese)*

		Yes ***(Inde)***	**No** ***(Ayi)***
34.	In oil palm production, men and women make decisions equally in my community *(Amuna ndi akazi amapanga maganizo mofanana pa nkhani ya mawese)*		
35.	There is division of labour in oil palm production within my family in relation to palm oil production *(Pabanja, pali kugawana ntchito pakati pa abambo ndi amayi)*		
36.	Land is possessed equally regardless of gender in my community *(Malo olima, amayi ndi abambo amakhala nawo mofanana)*		
37.	Both men and women are able to access land *(Ngati mwamuna kapena mkazi, ndamakhala ndi ufulu kutenga munda kwa azibale anga)*		

Section F: Role of Ministry of Agriculture *(Ndondomeko za boma zothandizira ulimi wa mawese)*

		Yes (Inde)	**No (Ayi)**
38.	The government has made available information about palm oil production *(Boma limapereka nkhani yokhuzana ndi ulimi wa mawese)*		
39.	The government encourages farmers to work together as a corporate *(Boma limalimbikisa alimi kupanga magulu olima mawese)*		
40.	The government provides agricultural extension services to oil palm farmers *(Boma limatumiza alangizi oona za ulimi wa mawese)*		
41.	The government provide workshops to oil palm farmers *(Boma limaitanisa misonkhano yolimbikisa ulimi wa mawese)*		
42.	The government supplies farmers with palm seedlings *(Boma limathandiza alimi ndi mbewu ya mawese)*		
43.	There are funds available to oil palm farmers from the government *(Boma limathandiza alimi ndi ndalama za ngongole ya ulimi wa mawese)*		

Section G: Challenges Associated with Palm Oil Production *(Mavuto alimi amakumana nawo pa ulimi wa mawese)*

	1 = Lightly; 2 = Moderately; 3 = Highly *(Mochepera) (theka) (mochuluka)*	**1**	**2**	**3**
44.	There is lack of funds (credit or capital) for me as a farmer *(Ngati mulimi, ndimasowa mwayi wangongole)*			
45.	As a farmer, I do not have the requisite skills to farm oil palm *(Ngati mulimi, ndilibe upangili okwanira wa mawese)*			
46.	As a farmer, I lack adequate information about oil palm *(Ngati mulimi, ndimasowa mfundo zenizeni za ulimi wa mawese)*			
47.	As a farmer, I face poor market prices and networks *(Ngati mulimi, ndimasowa kuziwa za mitengo yogulisira mawese)*			
48.	As a farmer, I lack technology including machinery *(Ngati mulimi, ndimasowa zipangizo za ulimi)*			
49.	As a farmer, I do not have adequate land *(Ngati mulimi, ndilibe malo okwanira olima)*			
50.	As a farmer, I do not have access to workshops *(Ngati mulimi, ndilibe mwayi wokhala nawo pa msonkhano wa zaulimi)*			
51.	As a farmer, I face transportation challenges *(Ngati mulimi, ndimavutika mayendedwe pokagulisa mawese ku mtsika)*			

52.If you have any other issue that you feel has not been captured, what would you add?

(Ngati muli ndi funso lina lomwe mukuona kuti ndilothandiza koma silinafunsidwe, muli omasuka kunena funsolo)

……

……

……

Thank you for participating in this study

(Zikomo kwambiri potenga nawo gawo pakafukufukuyi)

APPENDIX B: Interview Guide for Key Informants

My name is Noel Mweta, and I am currently studying at the University of Cape Coast, Ghana, under the Department of Sociology and Anthropology. I am conducting a study on ***The Socio-economic Benefits and Challenges of Oil Palm Production among Indigenous Rural Farmers in Karonga District, Malawi.*** I will be grateful if you could make time out of your busy schedules to have an interview with me on the subject matter. You are assured that any information provided will be treated as confidential, and anonymity will be accrued. The information you will provide will be used for academic purposes only.

1. Tell me about your position in the community.
2. Does palm oil production promote the livelihood of your family?
3. Does the proceeds from palm oil help you meeting basic needs of your family?
4. How do you sustain your farming abilities? For example, how do you get seedlings?
5. Does palm oil production help you to have some savings? For example, do you keep some money in the bank or any other saving institution?
6. Which social pros and cons created the palm oil production in your community?
7. Are there gender dynamic issues in relation to palm oil production?
8. What social inclusions are there among men and women in palm oil production, and associated products?
9. Are there land based issues in the community? For example, access to land for both men and women.

10. Do you get support from Malawi Ministry of Agriculture?
11. What have been the challenges in relation to palm oil production in the community?
12. What should be done to address challenges affecting palm oil production?

Thank you for taking part in this study.

APPENDIX C: Interview Guide for Ministry of Agriculture

My name is Noel Mweta, and I am currently studying at the University of Cape Coast, Ghana, under the Department of Sociology and Anthropology. I am conducting a study on ***Socio-economic Benefits and Challenges of Oil Palm Production among Indigenous Rural Farmers in Karonga District, Malawi.*** I will be grateful if you could make time out of your busy schedules to have an interview with me on the subject matter. You are assured that any information provided will be treated as confidential, and anonymity will be accrued. The information you will provide will be used for academic purposes only.

1. Tell me about your position in the ministry.
2. What would you say about the importance of palm oil production as an agriculture activity?
3. What has been the role of Malawi Ministry of Agriculture in crop production, in relation to palm oil production?
2. Does the Ministry send agricultural extension workers to visit communities that are involved in palm oil production? If yes, how regular do they? If no, what is the problem?
3. What do you think the government should do in promoting palm oil production in Malawi?
4. Considering palm oil as a minor crop, yet it has potential benefits, would you think Malawi is losing a lot from tapping from the resource which is key in socio-economic development?
5. How do you see the future of palm oil production in Malawi in relation to economic benefits in the country, Malawi?

APPENDIX D: Discussion Guide for Discussants

My name is Noel Mweta, and I am currently studying at the University of Cape Coast, Ghana, under the Department of Sociology and Anthropology. I am conducting a study on ***Socio-economic Benefits of and Challenges of Oil Palm Production among Indigenous Rural Farmers in Karonga District, Malawi.*** I will be grateful if you could make time out of your busy schedules to have an interview with me on the subject matter. You are assured that any information provided will be treated as confidential, and anonymity will be accrued. The information you will provide will be used for academic purposes only.

1. In what ways does palm oil production promote the livelihood of your family?
2. Does the proceeds from palm oil help you meeting basic needs of your family?
3. What do you think are the advantages of palm oil production? Are there perceived reasons for this agricultural activity?
4. How do you sustain your farming abilities? For example, how do you get seedlings?
5. What are the social issues that promote palm oil production within the community?
6. Are there gender dynamic issues in relation to palm oil production?
7. What social inclusions are there among men and women in palm oil production?
8. Are there land based issues in the community? For example, access to land for both men and women.

9. Do you get support from Malawi Ministry of Agriculture?
10. What have been the challenges in relation to palm oil production in the community?
11. What should be done to address challenges affecting palm oil production?

Thank you for taking part in this study.