

**Factors influencing participation in contract farming among smallholder tobacco
producers in Malawi**

by

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DECLARATION OF ORIGINALITY

I, Donnex Joseph Chibisa, declare that the dissertation, which I hereby submit for the degree of Master of Science in Agriculture (Agricultural Economics) at the University of Pretoria, is my work and has not been previously submitted by me for a degree at this or any other institution of higher learning.

Signature: 

Date: 7th July 2022

DEDICATION

I dedicate this dissertation to the Lord, Almighty God, who has made it possible for me to accomplish this milestone. I also dedicate this achievement to my dad, Mr Joseph Watson Chibisa Buza, who always encourages me to pursue my dreams and makes invaluable sacrifices in the process.

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ABSTRACT

This paper used cross-sectional survey data from 132 contract and 64 non-contract smallholder tobacco farmers drawn from Kasungu district in Malawi to determine factors that influence their participation in contract farming schemes. We find systemic differences in the socio-economic characteristics of the two farmer types. Household head gender ($Z=1.786$, $p=0.074$) and education level ($Z=2.043$, $p=0.041$), household size ($Z=2.232$, $p=0.026$), land size allocated to tobacco cultivation ($Z=3.016$, $p=0.003$), and access to guaranteed markets ($Z=2.102$, $p=0.036$) increase the probability of contract participation. Farmers' perception that some contract terms are not known at the point of contract signing ($Z=-2.922$, $p=0.003$) reduces the probability of contract participation. The majority of the farmers are dissatisfied with the current contracts on account of high rates of tobacco rejection and low tobacco prices at the selling floors. Deliberate policies to increase land ownership by women, reduce illiteracy levels, and ensure transparency and fair trade would not only increase contract participation but also lower dropout rates, hence sustainability of the tobacco contract farming scheme.

Keywords: Contract farming, participation, Malawi, smallholder tobacco farmers, satisfaction

TABLE OF CONTENTS

DECLARATION OF ORIGINALITY	I
DEDICATION	II
ACKNOWLEDGEMENTS	III
ABSTRACT	IV
TABLE OF CONTENTS	V
LIST OF TABLES	VI
LIST OF ACRONYMS AND ABBREVIATIONS	VII
CHAPTER 1: INTRODUCTION	1
1.1 Introduction and background	1
CHAPTER 2: METHODOLOGY	7
2.1 Study area and data sources	7
2.2 Analytical framework and estimation techniques	8
CHAPTER 3: RESULTS AND DISCUSSIONS	10
3.1 Socio-economic characteristics of smallholder tobacco farmers	10
3.2 Smallholder tobacco farmers' perceptions about contract farming	15
3.3 Determinants of contract farming participation	22
3.4 Smallholder tobacco farmers' satisfaction with contract farming	24
CHAPTER 4: CONCLUSIONS AND POLICY RECOMMENDATIONS	27
REFERENCES	28
APPENDICES	33
Appendix A: Market shares of tobacco leaf companies in Malawi	33
Appendix B: Maps of Kasungu district and Kasungu Agriculture Development Division (KADD)'s districts	34
Appendix C: Smallholder burley tobacco production estimates for Kasungu District Agriculture Office (KDAO) (2019/20 season)	35
Appendix D: Production of different types of tobacco grown in Malawi (2018/19 season)	36
Appendix E: Malawi tobacco sales (2018/19 season)	37
Appendix F: Questionnaire A (Contract Participants)	38
Appendix G: Questionnaire B (Non-Participants)	45

LIST OF TABLES

Table 3-1: Distribution of the sampled farmers across the EPAs	10
Table 3-2: Socio-economic characteristics of smallholder tobacco farmers	11
Table 3-3: Household income characteristics for smallholder tobacco farmers in Kasungu District, 2020	14
Table 3-4: Motivations for participating in contract farming	16
Table 3-5: Preferred contracting companies	17
Table 3-6: Perceived positive impact on livelihoods	18
Table 3-7: Perceived success stories from contract farming.....	18
Table 3-8: Perceived challenges with contract farming	19
Table 3-9: Other concerns related to contract farming	20
Table 3-10: Binomial probit estimation of smallholder tobacco farmers' participation in contract farming.....	22
Table 3-11: Smallholder tobacco farmers' satisfaction with contract farming.....	25
Table 3-12: Pearson's product-moment correlation tests between contract satisfaction and tobacco income per hectare (in MWK)	26

LIST OF ACRONYMS AND ABBREVIATIONS

ADD	Agricultural Development Division
ADMARC	Agricultural Development and Marketing Corporation
APES	Agricultural Production Estimates Survey
CFS	Contract Farming Strategy
CFTC	Competition and Fair Trading Commission
DAENR	Director of Agriculture, Environment and Natural Resources
DAO	District Agriculture Office
EPA	Extension Planning Area
FAO	Food and Agriculture Organisation
FMB	Farmers Marketing Board
GDP	Gross Domestic Product
GoM	Government of Malawi
HH	Household
IPS	Integrated Production System
JTI	Japan Tobacco Incorporation
KDAO	Kasungu District Agriculture Office
LR	Likelihood Ratio
MGDS	Malawi Growth and Development Strategy
MoFS	Ministry of Agriculture and Food Security
MWK	Malawi Kwacha
NAIP	National Agricultural Investment Plan
SAPs	Structural Adjustment Programs
TAMA	Tobacco Association of Malawi
TCC	Tobacco Control Commission

CHAPTER 1: INTRODUCTION

1.1 Introduction and background

The rapid transformation of the agricultural value chains is increasingly recognized for its role in triggering economic growth and reducing poverty (Swinnen and Kuijpers, 2020, Byerlee et al., 2009). One of the policy options in that regard is contract farming which is believed to be an efficient system of linking smallholder farmers to higher value chains (Nguyen et al., 2015, Swinnen and Kuijpers, 2020). Contract farming is defined as an arrangement between farmers and agribusiness companies for the production and supply of commodities under forward-agreements (Eaton and Shepherd, 2001). The basis of contractual arrangements is the commitment of the contracting farmer to supply a specific agricultural product in predetermined quantities and qualities, and the commitment of the contracting company to provide production support and purchase the commodity at predetermined prices (Eaton and Shepherd, 2001). Thus, contract farming provides smallholder farmers with access to production inputs and extension services. It also offers access to reliable and stable markets as smallholder farmers get integrated into higher value chains (Prowse, 2012).

Smallholder participation in contractual arrangements with downstream firms (e.g., processors, and agro-exporters) is a result of the shift from macroeconomic and sectoral adjustment policies toward micro-level and institutional policies which aim at stimulating rural economic growth and alleviating poverty (Grosh, 1994, Barrett et al., 2012). Thus, from a policy perspective, contract farming is a means of addressing several significant risks and uncertainties associated with spot markets which often lead to market failures. Furthermore, contract farming acts as an incentive for increased smallholder investments which lead to higher productivity and increased incomes (Ruml and Qaim, 2020, Simmons et al., 2005, Eaton and Shepherd, 2001).

Empirical studies provide two strands of literature regarding contract farming's impact on smallholder agriculture. One strand talks about the positive impact that contract farming has on production and the general welfare of the participating households. The empirical evidence shows that from an economic perspective, participating farmers benefit from increased productivity (Jones and Gibbon, 2011), yield (Brambilla and Porto, 2011, Champika and Abeywickrama, 2014), quality of farm products (Shaba et al., 2017), income (Wang et al., 2014a, Tripathi et al., 2005, Bellemare, 2012), and revenues (Bolwig et al., 2009). In one of the review studies, cases of positive productivity and income effects were found in 92% and 75% of empirical studies respectively (Wang et al., 2014b). Nevertheless, another strand proves

that the arrangements of contract farming are tricky in the sense that they involve parties with economically unequal powers (Gereffi, 2005). On one hand, there are companies and entrepreneurs, and on the other, there are economically weaker farmers. The obvious inequality of these relationships is viewed, by some contract farming critics, as essentially benefiting the stronger side of the contracting companies, by enabling them to obtain cheap labour and transfer most of the associated risks to the contracting farmers (Eaton and Shepherd, 2001). Unequal power relations also entail unfair terms of contracts evidenced by asymmetric information and a lack of transparency between the contracting partners (Shaba et al., 2017, Repar et al., 2017, Ruml and Qaim, 2020). In some instances, smallholder farmers lose their authority in terms of production processes to the contracting companies which turn them into quasi-employees and not as exchange partners (Kirsten and Sartorius, 2002).

Consistent with the aforementioned contradictions and uncertainty on the welfare of the participating farmers, smallholder participation in contract farming has been subject to significant reversals (Barrett et al., 2012). In other words, there have been reports of high dropout rates of smallholder farmers from contractual arrangements despite the economic benefits which initially attracted them to enter into the contracts (Andersson et al., 2015, Ochieng et al., 2017, Ruml and Qaim, 2020). This pattern of contract participation resembles the patterns of smallholder farmers' adoption and dis-adoption of agricultural innovations and technologies (Foster and Rosenzweig, 2010). It follows from the above, that while the important implications of contract farming on economic growth, poverty reduction, and rural development are increasingly recognized by policymakers, there is a need to have a better understanding of what smallholder farmers' participation in the contracts entails and the drawbacks associated with this policy option.

According to Barrett et al. (2012), contract participation is a process of four stages that happens sequentially. Firstly, a contracting company chooses a location based on a high chance of procuring adequate quantity and satisfactory quality of a commodity in question. Secondly, the company chooses some specific contract terms and farmers to whom the contract is offered. Land size, experience, and technical ability are some of the factors that a firm looks into to strategically choose the farmers. Thirdly, the farmer may decide to accept the offer if his or her subjective perception of his or her expected welfare level is at least as high as that of non-participation or may turn it down if it is inferior to the opportunity cost of entering into the contract. There are several ways that contracting firms can alter the farmer's subjective expected welfare level. These include assurance of stable prices, guaranteed markets, and

provision of loans, inputs, and extension services which may resolve market failures. However, it should also be noted that the acceptance of the contract offer by the farmer, and his or her subsequent participation, does not indicate that he or she perceives it to be fair, but expects to be better-off than non-participation. Lastly, once the contract has been accepted and the contracted commodity is ready for delivery, both the contracting farmer and company choose to fulfill the pre-agreed contract terms based on the shocks of supply and demand. Thus, the farmer may decide to side-sell or the company may hold up the farmer. Suffice to say, socio-economic characteristics of the potential contracting farmers such as age, gender, education, household size, etc. may also determine their probability to accept the contract offers or being targeted by the contracting company (Akumu et al., 2020, Simmons et al., 2005, Hung Anh et al., 2019, Muroiwa et al., 2019).

Small-scale farmers operating on cultivable land that is less than 2 hectares constitute about 90 percent of the total farm households in Malawi (Government of Malawi, 2017a). Food insecurity and poverty levels are high among them (World Bank, 2018). Lessons are being drawn from the Asian green revolution which was a small-farm phenomenon whereby a smallholder-led agricultural growth contributed greatly to rural poverty reduction (Mellor, 1995, Muyanga et al., 2020). Consequently, the Government of Malawi identifies contract farming, with its inherent advantages, as having a huge potential to increase land productivity, and production, and improve the marketing of agricultural commodities hence contributing to poverty reduction (Government of Malawi, 2016a).

The trajectory of smallholder farmers' participation in contract farming in post-independent Malawi can be put into two (2) phases of pre-and post-market liberalization. In the pre-market liberalization phase (1964 to mid-1980s), the involvement of smallholder farmers in contract farming followed the pattern established by the estates (medium and large-scale farms) and later taken up by government parastatals (Government of Malawi, 2016a). Initially, contractual arrangements were only between the estate farmers and the government (Repar, 2017). Smallholder farmers were essentially not permitted to grow strategic export crops such as tobacco, coffee, and tea. So individuals with small farms were only participating through the tenancy system which was being practiced on the estates, predominantly for tobacco production (Government of Malawi, 2016a). A tenancy system of farming is whereby a landlord (a landowner) provides a tenant (a person who occupies the land) with basic inputs, food, and housing to grow a particular crop. After harvesting, the tenant sells all the produce to the landlord (Food and Agriculture Organisation of the United Nations, 2003).

Later on, tobacco and other crops were allowed to be grown on small farms. Sole-buyer markets were provided to the smallholder farmers together with agricultural extension services. Inputs were also provided on credit. Smallholder farmers were only allowed to sell their produce to the Farmers Marketing Board (FMB), a government parastatal that re-branded to the current Agricultural Development and Marketing Corporation (ADMARC) (Kumwenda and Madola, 2005, Government of Malawi, 2016a). Smallholder farmers' produce was being sold at prices set by the parastatal itself, in effect, making smallholder farmers mere price-takers (Government of Malawi, 2016a).

In the mid-1980s, the Malawi government started to pursue market liberalization policies as a result of the Structural Adjustment Programs (SAPs). At a sector level, agricultural markets' liberalization policy entailed allowing the private sector, including the smallholder farmers, to participate in the agricultural inputs and output markets targeting cash crops such as burley tobacco, tea, coffee, cotton, and sugarcane (Kumwenda and Madola, 2005, Government of Malawi, 2016a). In the 1990s, both formal and informal contracts started to spread without a clear policy framework and legislation. The contracts were mainly specified in terms of production quotas and were not necessarily specifying or predetermining prices (Government of Malawi, 2016a). The buyers were issuing the quotas to secure, in advance, the needed quantities of a particular commodity. Consequently, there were incompatibilities in contractual arrangements and some commodity enterprises, and smallholder farmers were also exposed to considerable risks of dubious contracts.

In 2016, the Government of Malawi developed its first contract farming policy framework known as Contract Farming Strategy (CFS). The CFS is a market-based strategy that aims at facilitating efficient, competitive, and fair contract farming in the country. Thus, it guides all stakeholders engaged in contract farming arrangements (Government of Malawi, 2017b). Its specific objectives include increased access to and appropriate utilization of productivity-enhancing inputs, promotion of competitiveness of agricultural marketing value chains, achievement of fair prices, and increased profitability of agricultural commodities. Ultimately, the CFS is a mechanism for incorporating smallholder farmers into higher agricultural value chains and achieving a bigger policy agenda of transforming the agricultural sector (Government of Malawi, 2016b), thereby creating wealth, reducing poverty and inequality through increased access to profitable markets by both farmers and agricultural commodities' buyers (Government of Malawi, 2017b).

Tobacco has been a major cash and export crop in Malawi since the 1980s and the commodity contributes between a quarter and half of the total exports (Government of Malawi, 2018). It contributes about 50 percent of the total agricultural Gross Domestic Product (GDP) (Tobacco Control Commission, 2021, Government of Malawi, 2018) and 60 percent of the country's foreign exchange earnings (Zant, 2019). Smallholder tobacco farmers' production accounts for about 95 percent of the total production (Government of Malawi, 2018). The tobacco industry is of key importance for rural households' income and indirectly contributes to the national food security agenda due to its positive spillover effects. A significant proportion of tobacco income is used to purchase basic foodstuffs and invest in critical inputs for the production of maize which is the main staple food crop thereby improving its yields. In general, the industry is paramount in the entire economy and will continue to be so in the unforeseeable future. Smallholder tobacco farmers in Malawi enter into resource-providing contracts with tobacco buying companies and the arrangement is locally known as Integrated Production System (IPS) (Government of Malawi, 2016a). The market structure itself is oligopsonistic. Thus, it has a small number of buyers for all available tobacco volumes. One study found that two (2) tobacco buying companies, Alliance One Tobacco (Malawi) Limited and Limbe Leaf Tobacco Company had a combination of about 60 per cent of the total market share (Appendix A) (Makoka et al., 2016).

There has been a negative market trend for tobacco supply in the past decade. The total area under tobacco has declined from 148,278 to 95,485 hectares in 2010 and 2019 respectively. The trend in aggregate production mirrors that of the area because the average yields under the smallholder sub-sector have been relatively stable at an average of 1,500kg per hectare which is lower than the crop's potential of 4,000kg per hectare (Government of Malawi, 2017a, Wineman et al., 2022). Tobacco is mainly produced in the following six (6) out of the country's 28 districts: Rumphi in the Northern region, Kasungu, Ntchisi, Dowa, Mchinji, and Lilongwe in the Central region (Government of Malawi, 2017a). Despite the global efforts to reduce tobacco consumption due to associated health issues, the world demand for the leaf has continued to increase. This includes Malawi's burley tobacco which has a world reputation as a flavorless "filler" (Prowse and Moyer-Lee, 2014). Recently, Malawi has been failing to meet its buyers' 140 million kilograms annual demand. The country produced 114 and 123 million kilograms in 2020 and 2021 respectively (Tobacco Control Commission, 2021). Tobacco production in Malawi is largely driven by the export market hence most of the tobacco is grown for export. Cigarette manufacturing is done at a very small scale as compared to production.

Ironically though, its domestic consumption is supplemented by imports (Makoka et al., 2016). This study could not establish how much tobacco is consumed domestically but the trend of smoking rate has declined from 16% to 12.8% in 2010 and 2018 respectively in the past decade (Macrotrends, 2020).

Evidence from empirical research shows that tobacco contract farming has positive economic impacts on the participating households (Kumwenda and Madola, 2005, Makoka et al., 2016, Shaba et al., 2017). Nevertheless, there have been reports of unfair market practices or acts that are deceptive, fraudulent, or may cause losses to any of the contracting partners. These include collusion among tobacco buyers, high tobacco rejection rates, and low prices at the selling floors (Government of Malawi, 2016a). Furthermore, there are rampant cases of side-selling (selling of the commodity out of contractual agreements) and strategic default on the part of the contracting farmers (Makoka et al., 2016, Shaba et al., 2017). In their study, Makoka et al. (2016) found that about 31% of the contracted farmers sold their tobacco out of the contracts. As a result, there are high rates of dropout among contract participating farmers. Despite these controversies and subsequent significant dropouts from the contracts, there are inadequate empirical research studies in the country and hence arguably scanty literature that would guide better policy formulation. This is crucial for not only increased smallholder participation but also for building sustainable relationships between smallholder farmers and agribusiness firms thereby achieving the broader national goal of alleviating rural poverty.

Therefore, the objective of this paper is to determine factors that influence smallholder farmers' participation in contract farming. We used an example of tobacco contract farming in Kasungu district, Malawi, and deployed socio-economic differentiation of contract and non-contract farmers to model their probability of entering into contractual agreements. We also attempt to provide statistics on the farmers' perceptions, satisfaction, and problems related to contract farming which may explain their dropout behavior. The rest of the paper is presented as follows: We present the methodology in section 2, while section 3 contains results and discussions, and we conclude and make recommendations based on the findings in section 4.

CHAPTER 2: METHODOLOGY

2.1 Study area and data sources

The data comes from a cross-sectional survey that was conducted in Kasungu district, in the central region of Malawi, in December 2020 targeting the 2019/2020 production and marketing season. The district is one of the long-time leaders in tobacco production in the country (Government of Malawi, 2017a). Kasungu District Agriculture Office (KDAO) falls under Kasungu Agricultural Development Division (KADD) within the Ministry of Agriculture and Food Security (MoAFS) and it has eight (8) Extension Planning Areas (EPAs) as shown in the appendices (Appendix B and C). A semi-structured household questionnaire was administered to a total of 196 smallholder burley tobacco farmers of which 132 were contract farmers and 64 were non-contract farmers. The sample size was adapted from De Vos and Strydom (1998) who suggested a sample size of 200 from a population of about 10,000 and the population of smallholder farmers producing the crop in the district was estimated to be 9,090 (Kasungu District Agriculture Office, 2020). The sample size is comparable with similar studies. For instance, Musara et al. (2011) and Simmons et al. (2005) used sample sizes of 100 and 200 respectively. Burley is a type of tobacco that is mostly produced in Malawi as shown in Appendix D. The ratio of contract and non-contract farmers in this study is consistent with the Tobacco Control Commission (TCC)'s sales statistics for the 2018/19 season which shows that about 70% of the burley tobacco was sold under contract system (Appendix E).

Before the identification of the final participating farmers, efforts were made to ensure that the sample is representative and unbiased. Therefore, a three-stage sampling method was used for that purpose. This method involves randomly drawing a sample from a population using smaller and smaller groups at each stage (Leedy and Ormrod, 2018). Firstly in this study, two (2) Extension Planning Areas (EPAs) namely: Chulu and Santhe, were purposively selected from the district's 8 EPAs due to their predominance in tobacco production in the district (Appendix C). Secondly, a simple random sampling technique via Microsoft Excel's Sampling Tool was used to select three (3) smaller groups (sections) from complete lists in each of the two EPAs. Thus, six (6) sections were selected in total. Lastly, a final list of participating farm households (sampling units) was also randomly selected, as in stage 2 above, from separate complete registers of contract and non-contract tobacco farmers. The farmers' registers were provided by agricultural extension officers from the study area. The two sub-groups of contract and non-contract farmers who formed a sample for this study were comparable in the sense that they were all smallholder burley tobacco farmers, reside in the study area with similar

agro-climatic conditions, and sold their commodity through formal marketing channels (contract and auction system).

2.2 Analytical framework and estimation techniques

Participation in contract farming by tobacco farmers is a binary dependent variable. Farmers may choose to participate or not hence binary logistic or probit regression models are appropriate for analytical purposes. A tobacco farmer’s participation or non-participation in contract farming is a decision that can be modeled based on the Random Utility Theory Model Framework, which is mainly used to analyze the adoption of innovations under uncertainty (Pannell, 2003). An innovation is adopted if the expected benefits (utility) are significantly higher than the costs of operating under that innovation. Likewise, a farmer’s decision to participate in the contracts is analyzed using binary choice models. The models describe the probability of the farmers’ choices between two mutually exclusive options: participation or non-participation based on their assessments of the utilities obtained from these available options as put by Wainaina et al. (2012). Therefore, the utility function of a farmer, which is a binary choice denoting whether a farmer participates in contract farming or not would be presented by the following equation:

$$U_i(Y_i, X_i) \dots\dots\dots \text{Equation 1}$$

Where:

Y_i is a binary variable denoting whether a farmer participates in contract farming or not. The binary choices would, therefore, be 1 if a farmer participated or 0 if not.

X_i is a vector of the explanatory (dependent) variables.

U_i is the actual utility level of an individual farmer and it is unobserved.

The observed part of a utility function can be represented as a function of the vector of the explanatory variables and a vector of parameter, β to be estimated. The farmer would choose to participate in the contracts if such a choice gives a hint of obtaining a higher utility level than that of not participating. Thus:

$$U_i(Y_i = 1, X_i) > U_i(Y_i = 0, X_i) \vee U_i(Y_i = 1, X_i) - U_i(Y_i = 0, X_i) \dots\dots\dots \text{Equation 2}$$

The probability of a farmer who is participating in the contracts is then given by:

$$\Pr(U_i < \beta^{xi}) \dots\dots\dots \text{Equation 3}$$

This probability can be estimated using either probit or logit models. Therefore, in this study, the probability of participation in tobacco contract farming was estimated using a probit model to the assigned socio-economic characteristics as follows:

$$\Pr(Y_i = 1) = \Pr(U_i < \beta^{xi}) = \beta^{xi+ui} \dots\dots\dots \text{Equation 4}$$

Where:

$$Y_i = 1 \text{ if } U_m > U_n \text{ and } Y_i = 0 \text{ if } U_m < U_n$$

The vector X_i includes household and farm characteristics such as gender of the household head, household size, hectarage, etc. Part of the farmers' utility which is unobserved is represented by an error term, u_i . The farmer chooses to participate in the contracts if the utility, U_m derived from participation in contract farming is greater than the utility, U_n derived from non-participation. There are a lot of studies related to participation in this context (Dubbert, 2019, Akumu et al., 2020).

Empirically, the probit regression model depicts the relationship between the dependent and independent variables as follows:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + e_i \dots\dots\dots \text{Equation 5}$$

Where:

Y_i = Participation or non-participation in tobacco contract farming by the i th farmer;

β_0 = Constant coefficient;

$\beta_1, \beta_2, \beta_3, \dots, \beta_n$ = Regression coefficients to be estimated;

$X_1, X_2, X_3, \dots, X_n$ = Vector of determinants of participation; and

e_i = Error term

CHAPTER 3: RESULTS AND DISCUSSIONS

3.1 Socio-economic characteristics of smallholder tobacco farmers

The sample comprised 67% contract and 33% non-contract farmers drawn from Santhe and Chulu Extension Planning Areas (EPAs) of Kasungu District Agriculture Office (Table 3.1).

Table 3-1: Distribution of the sampled farmers across the EPAs

Extension Planning Area (EPA)	All Farmers	Contract Farmers (CF)	Non-Contract Farmers (NCF)
Chulu	90	66	24
Santhe	106	66	40
Total	196	132	64

Source: Survey Data

Out of the total sampled contract farmers shown in Table 3.1, 57 farmers (43%) were contracted by Limbe leaf Tobacco Company while 50 farmers (38%) were contracted by Japan Tobacco Incorporation (JTI) Malawi. Thus, the two (2) companies account for 81% of the market share in the study area. The remaining 19% was shared among three (3) companies, namely: Alliance One Tobacco (Malawi) Limited, Premium TAMA Tobacco Limited, and Malawi Leaf Company with 19 farmers (14%), 5 farmers (4%), and 1 farmer (1%) respectively.

Table 3.2 provides the sample's descriptive characteristics by whether farmers are contract or non-contract.

Table 3-2: Socio-economic characteristics of smallholder tobacco farmers

Variable description	Contract Farmers (CF)	Non- Contract Farmers (NCF)	x ² /t-stat	P-Value
<i>1. Household (HH) characteristics:</i>				
1.1. HH head gender (number)				
Female	17/20	3/20		
Male	115/176	61/176		
1.2. HH head average age (years)	44.23	43.20	0.553	0.581
1.3. HH head average education level (years)	7.56	6.52	2.393	0.017**
1.4. HH head ability to read and write (%)	93.18	97.50	0.405	0.524
1.5. Average HH size (persons)	6.73	6.09	1.768	0.079*
<i>2. Tobacco farming characteristics:</i>				
2.1. Average farming experience (years)	14.15	13.84	0.304	0.762
2.2. Training in tobacco grading (%)	96.97	85.94	6.783	0.009***
2.3. Average land size (hectares)	1.86	1.42	3.456	0.001***
2.4. Land tenure:				
Customary	61.36	76.56	4.458	0.035**
Rented	21.21	17.19	0.438	0.508
Leased	12.88	4.69	3.156	0.076*
Mixed	4.55	1.56	0.416	0.519
2.5. Average yield (Kgs/hectare)	1,511	1,066	5.135	0.000***
2.6. Average gross income (MWK/hectare)	903,980	629,474	4.600	0.000***

Source: Survey data NB: *Significant at 10%, **Significant at 5%, ***Significant at 1%

Table 3-2 shows that there are fewer female-headed households growing tobacco under contract farming relative to male-headed households. These findings are consistent with Makoka et al. (2016) who observed that in most African countries, the production and control of high-value cash crops are dominated by men. Table 3-2 also shows that there are more female-headed households under contract than their non-contract farming counterparts. Furthermore, Table 3-2 shows that there is a higher likelihood to find educated household heads under contract farming, having at least some level of primary education, than those under non-contract farming. Literacy is important in any farm business and more particularly so in contract farming. Potential contract farmers are expected to read and understand contract documents which assist in making informed decisions (Shaba et al., 2017). Table 3-2 also shows that households under contract farming are more likely to have larger families relative to their non-contract farming counterparts. Muroiwa et al. (2019), observed that tobacco production is highly labour-intensive and the shortage of labour was ranked the second major constraint of the enterprise. This makes tobacco contract farming more attractive to households with larger families, which often implies an increased labour force.

Consistent with Makoka et al. (2016), Table 3-2 shows that contract farmers are more likely to assign more cultivable land to tobacco production relative to non-contract farmers. Makoka et al. (2016) observed that farmers' participation in contractual arrangements increases their chances of accessing the much-needed production inputs which would otherwise be inaccessible outside the contract system. Furthermore, contracting companies prefer to engage farmers who can allocate at least one hectare of their land to tobacco production. Contract farming brings about skills transfer among other advantages which in turn gives participating farmers an upper hand over their counterparts (Eaton and Shepherd, 2001). One of the skills that tobacco farmers learn through contracting is tobacco grading. Thus, there is a higher likelihood for a farmer to receive tobacco grading training under contract farming, which is consistent with the results in Table 3-2.

Table 3-2 further shows that contract farmers have higher average tobacco yields per hectare as well as average gross incomes relative to non-contract farmers. The average yield for contract farmers in this study is in line with the national average while that of non-contract farmers is below by about 29% of the national average which is estimated to be 1,500kg per hectare (Government of Malawi, 2012). These results are consistent with Champika and Abeywickrama (2014), who found that maize contract farmers in Sri Lanka registered higher yields than non-contract farmers because the input delivery system of the contracting company

was efficient. Shaba et al. (2017) also reported that contract farmers earned higher incomes than non-contract farmers because they were more likely to sell their tobacco at a higher price than selling through an auction system (non-contract).

Table 3-3 shows a distinction in sources of household income between contract and non-contract tobacco farmers. Contract farmers consider income from tobacco contract farming as very important but do not put as much importance on income from non-contract tobacco farming while non-contract farmers consider income from non-contract tobacco farming as very important. These statistically significant differences are consistent with the results of Shaba et al. (2017), who found that tobacco farmers under contract farming in Malawi earned higher incomes than their fellow tobacco farmers who were not involved in any contractual arrangements. Further results in Table 3.3 show that there are no significant differences in other sources of household income between contract and non-contract tobacco farmers. This entails that, beyond getting more income from tobacco contract farming than from non-contract tobacco farming, the importance of other aspects of getting income is not affected. In other words, both contract and non-contract farmers placed equal importance on incomes from other sources other than tobacco farming. Thus, the only variation in the sources of household income between contract and non-contract farmers is based on whether a farmer grows his/her tobacco under a contract or non-contract system. This suggests that the prospect of getting a higher income under contract than otherwise could be the main driver of the smallholder tobacco farmers' participation in the contract scheme.

Table 3-3: Household income characteristics for smallholder tobacco farmers in Kasungu District, 2020

Sources of income and their importance		Percentage (%)			X ²	P-Value
		All Farmers n=196	Contract Farmers (CF) n=132	Non-Contract Farmers (NCF) n=64		
Income from tobacco contract farming	Very Important	45	66			
	Neutral	8	12			
	Less important	30	17			
Income from non-contract tobacco farming	Very Important	32	9	78	0.305	0.000* **
	Neutral	12	12	11		
	Less important	28	36	11		
Income from other types of farming (Other crops, livestock, etc.)	Very Important	77	75	81	0.006	0.858
	Neutral	11	11	11		
	Less important	4	5	3		
Income from regular work	Very Important	26	26	25	0.006	0.997
	Neutral	5	5	5		
	Less important	29	29	28		
Income from part-time work	Very Important	10	8	14	1.443	0.486
	Neutral	7	6	8		
	Less important	39	40	38		
Income from trade	Very Important	37	37	38	0.705	0.703
	Neutral	5	6	3		
	Less important	20	21	19		
Grants & Remittances	Very Important	16	17	16	1.822	0.402
	Neutral	6	5	9		
	Less important	35	36	33		
Investments & Savings	Very Important	26	27	25	0.008	0.996
	Neutral	5	5	5		
	Less important	26	27	25		

Source: Survey Data

NB: ***Significant at 1%

The results presented in Tables 3-2 and 3-3 discussed above, show that there exist some systemic differences in the socio-economic attributes of contract and non-contract farmers. These results are supported by both theory and other empirical studies. Therefore, the null

hypothesis that there are no systemic differences between the socio-economic attributes of contract and non-contract smallholder tobacco farmers is rejected.

3.2 Smallholder tobacco farmers' perceptions about contract farming

To study smallholder tobacco farmers' perceptions about contract farming, we assessed whether the contract and non-contract farmers had systematically different subjective views regarding different aspects of tobacco contract farming including factors that motivate farmers' participation in the contracts, preference of contracting companies as well as the impact of the contracts on their livelihoods. The study also assessed success stories, challenges, and concerns related to smallholder farmers' participation in contract farming. The null hypothesis is that contract farmers' perceptions about contract farming do not systematically differ from those of non-contract farmers.

We began by investigating whether there are differences between contract and non-contract tobacco farmers on what motivates them to sign up for contract farming. To study these differences, we measured their perceptions on access to improved inputs, extension services, guaranteed market, cash advances, and stable prices. On one hand, we asked farmers in the contract farming sub-group to mention factors that initially motivated them to sign up for the contracts. On the other hand, their counterparts were asked to mention factors that they think motivate a farmer who has never participated in contract farming to enter into the contractual agreements.

Table 3-4: Motivations for participating in contract farming

Description	Percentage (%)			P-Value
	All Farmers' Responses (Total=319)	Contract Farmers (CF) (Total=203)	Non-Contract Farmers (NCF) (Total=116)	
Improved inputs	42	41	42	0.069*
Extension services	11	11	11	0.532
Guaranteed market	34	39	24	0.034**
Cash advance/loan	4	2	9	0.004***
Stable prices	9	7	14	0.009***

Source: Survey Data NB: *Significant at 10%, **Significant at 5%, ***Significant at 1%

Table 3.4 shows that tobacco farmers are more likely to participate in contract farming if they have access to a guaranteed market. This is consistent with Abdulai and Al-hassan (2016), who observed that the provision of markets is the major aim of contracting. Table 3.4 also shows that tobacco farmers who are not in contracts have a higher likelihood to be motivated to enter into contracts to have access to improved inputs, cash advances, and stable prices. This is also in line with the findings of other studies. Improved inputs such as seed, chemicals and inorganic fertilizers are costly and not widely available in most rural areas where tobacco is mostly grown and hence bringing uncertainties among smallholder tobacco farmers. Abebe et al. (2013) found that input market uncertainty is an important motivating factor for smallholder potato farmers' decision to join contracts in Ethiopia. In China, farmers identified price stability as one of the main drivers of their participation in contract farming (Guo et al., 2005). There has been a trend of price instability in the tobacco industry due to a worldwide campaign to reduce tobacco use. Cash advances, which are used to cover upfront cash expenses such as hired labour, were found to be one of the highly ranked reasons for tobacco farmers' engagement in contract farming in the Philippines (Briones, 2015). Tobacco is a labor-intensive crop and having many workers at the farm demands adequate food and other essentials which usually fall short in the middle of the growing season. Contracting companies, therefore, meet the farmers, right at the point of need.

Table 3-5: Preferred contracting companies

Contracting firm	Percentage (%)			X ²	P-Value
	All Farmers	Contract Farmers (CF)	Non-Contract Farmers (NCF)		
Japan Tobacco Incorporation (JTI) Malawi	89	38	51	2.656	0.103
Limbe Leaf Tobacco Company	62	43	19	9.678	0.002***
Alliance One Tobacco (Malawi) Limited	27	14	13	0.044	0.834
Premium TAMA Tobacco Limited	16.8	3.8	13	4.088	0.043**
Malawi Leaf Company	4.6	0.8	3.8	2.156	0.142

Source: Survey Data

NB: ***Significant at 1%, **Significant at 5%

Next to be examined were the farmers' preferences for contracting firms from the point of view of both contract and non-contract farmers. Table 3.5 shows that there are significant differences between contract and non-contract farmers' preferences for contracting firms. In other words, all the existing tobacco contracting firms were not equally perceived as positive or negative by the potential tobacco contract farmers. Thus, some contracting firms are preferred over others. For example, Table 3.5 shows that tobacco farmers were more attracted to Limbe Leaf Tobacco Company than the other contracting companies. This suggests that the more preferred firms have some desirable characteristics relative to other firms. While these results show that not every contracting firm will be liked by the potential tobacco farmers, we did not go into detail in examining the perceived desirable characteristics of the contracting firms. Looking forward, it will be imperative to work with the farmers to understand what characteristics they desire to see in potential contracting firms for them to get attracted to a particular firm. This is important in the design and implementation of policies and strategies which aim at not only increasing the farmers' participation in tobacco contract farming but also creating a sustainable contract farming scheme.

We further went on to examine the positive impacts as well as success stories related to contract farming from the viewpoint of both participating and non-participating farmers. Table 3-6 shows that both contract and non-contract farmers perceived that tobacco contract farming had no positive impact on their livelihoods. The likelihood of holding such a perception, however, is higher among contract farmers than their counterparts.

Table 3-6: Perceived positive impact on livelihoods

Response (%)	All	Contract	Non-Contract	X ²	P-Value
	Farmers (n = 196)	Farmers (CF) (n = 132)	Farmers (NCF) (n = 64)		
Yes	29	29	28		
No	63	66	56	5.942	0.051*
Don't know	9	5	16		

Source: Survey Data

NB: *Significant at 10%

Table 3-7: Perceived success stories from contract farming

Description	Percentage (%)			P-Value
	All Farmers (n = 196)	Contract Farmers (CF) (n = 132)	Non-Contract Farmers (NCF) (n = 64)	
Bought household assets (Cars, Bikes, TVs, Solar power, Radios) - %	12	14	9	0.393
Bought farm Assets (Land, Livestock, Ploughs) - %	14	17	8	0.092*
Built modern houses - %	13	16	8	0.117

Source: Survey Data

NB: *Significant at 10%

Tobacco farmers' achievements from contract farming are not perceived the same among smallholder tobacco farmers. Table 3.7 shows that non-contract farmers are less likely to perceive the procurement of farm assets like land and livestock as success stories. This significant difference could be because such assets are mostly acquired for free through inheritance and gifting within the smallholder farming communities. Customary land which is a dominant land tenure system among smallholder farmers is a good example. Therefore, those who acquire such assets via other ways may not be given much credit or recognition. However, we are unable to make affirmative conclusions from the results in Tables 3.6 and 3.7 because it requires a thorough impact assessment study to come up with robust conclusions on such

matters which could not be possible with the amount of data available for this study. Therefore, these results must be taken with a grain of salt.

Table 3-8: Perceived challenges with contract farming

Description	Percentage (%)			P-Value
	All Farmers (n = 196)	Contract Farmers (CF) (n = 132)	Non-Contract Farmers (NCF) (n = 64)	
High cost of inputs & loan (interest rates)	23	23	25	0.725
Low & unstable tobacco prices	59	67	41	0.000***
Low profitability	16	16	16	0.959
Low quota allocations, tobacco rejections & other challenges	15	17	11	0.289
Unfair contract terms & conditions	47	49	42	0.353

Source: Survey Data

NB: ***Significant at 1%

Table 3.8 shows the results of some perceived problems associated with tobacco contract farming. While most of the reported problems are not statistically different between the sub-groups, the results show that contract farmers are more likely to perceive low and unstable tobacco prices as a more pressing problem than their counterparts. This is consistent with Makoka et al. (2016), who reported that most of their sampled contract farmers were unsatisfied with the prices they were offered and eventually sold their tobacco at the selling floors.

Table 3-9: Other concerns related to contract farming

Description	Percentage (%)			P-Value
	All Farmers (n=196)	Contract Farmers (CF) (n=132)	Non-Contract Farmers (NCF) (n=132)	
Understanding of contract terms				
Understands	67	82	36	0.000***
Doesn't understand	33	18	64	
The terms of the contract were unknown at the beginning				
Yes	52	47	61	0.067*
No	48	53	39	
Matching of grades at the farm & the selling floors				
Match	51	48	56	0.263
Do not match	49	52	44	
Farmers' satisfaction with prices				
Unsatisfied	82	83	80	0.883
Neutral	14	14	16	
Satisfied	4	4	5	
Transparency of the contracting company				
Not transparent	39	39	39	0.792
Average	14	14	17	
Transparent	46	47	44	
Farmers' bargaining power				
Weak	69	70	66	0.746
Fair	18	17	19	
Strong	13	12	16	
Relationship with the contracting company				
Unsatisfied	52	52	53	0.581
Neutral	24	22	27	
Satisfied	25	27	20	
Farmers' satisfaction with contract benefits				
Unsatisfied	77	78	75	0.561
Neutral	16	17	16	
Satisfied	7	5	9	
General satisfaction with the contract				
Unsatisfied	52	52	52	0.237
Neutral	20	17	27	
Satisfied	28	30	22	

Source: Survey Data

NB: *Significant at 10%, ***Significant at 1%

Table 3-9 also shows some statistically insignificant differences between contract and non-contract farmers' perceptions about some concerns related to contract farming. However, the results show that non-contract farmers perceive that their counterparts are less likely to understand contract terms and conditions than the way contracted farmers themselves perceive it. The significant negative perception about the understanding of contract terms is consistent with the results of other studies which found that written contracts are sometimes phrased in languages that farmers cannot read and/or understand (Ruml and Qaim, 2020, Cahyadi and Waibel, 2016). The results also show that more of the non-contract than the contracted farmers hold the perception that there are some terms of the contracts which are not known to the farmers before they enter into agreements with the contracting companies. This is also consistent with some contract farming literature which puts into the spotlight that farmers are mostly unaware of the costs of inputs, output prices, and other terms and conditions of the contracts (Makoka et al., 2016, Simmons et al., 2005).

Although the results show some statistically insignificant differences between contract and non-contract farmers' perceptions on various aspects related to contract farming, on one hand, there are also some significant differences on the other hand. Some perceptions of the contracting farmers on the motivational factors to contract participation, and preferences of the contracting companies, just to mention a few, are significantly different from the non-contract farmers. We, therefore, reject the null hypothesis that there are no significant differences between contract and non-contract smallholder tobacco farmers' perceptions about contract farming.

3.3 Determinants of contract farming participation

Table 3-10: Binomial probit estimation of smallholder tobacco farmers' participation in contract farming

Variables	Coef.	Std. Err.	Z	Pr(> z)
<i>Household demographic characteristics:</i>				
Gender (1=Female, 0=Male)	0.709*	0.397	1.786	0.074
Age of HH head (years)	0.005	0.009	0.507	0.612
Education of HH head (years)	0.075**	0.037	2.043	0.041
Household size (number)	0.101**	0.045	2.232	0.026
<i>Tobacco farming characteristics:</i>				
Tobacco land size (hectares)	0.378***	0.125	3.016	0.003
Tobacco farming experience (years)	-0.006	0.017	0.351	0.726
<i>Perceptions and motivational factors to contract participation:</i>				
Terms of contract not known at the beginning (1=Yes, 0=No)	-0.623***	0.213	-2.922	0.003
Access to a guaranteed market (1=Yes, 0=No)	0.435**	0.207	2.102	0.036
Intercept	-1.603***	0.558	-2.875	0.004
Observations	196.0			
LR Chi2	0.006			
Prob>Chi2	0.003			
Pseudo R2	0.141			
Log-likelihood	-123.812			

Source: Survey Data NB: *Significant at 10%, **Significant at 5%, ***Significant at 1%

Table 3.10 presents results of the binomial probit estimation method which was used to determine the socio-economic factors which influence smallholder tobacco farmers'

participation in contract farming. The selection of the explanatory variables was influenced by a thorough literature review, data availability, and model fitness. From the results, we fail to reject the hypothesis that socio-economic factors significantly determine smallholder tobacco farmers' participation in contract farming with $\text{Prob} > \text{Chi}^2 = 0.003$. Table 3.10 shows that gender, education, household size, and land size significantly determine the probability of smallholder tobacco farmers' participation in contract farming. The significance of gender in this model is consistent with the findings of Alene et al. (2008) who found that female-headed households were more likely to participate in maize markets than male-headed households. This could suggest that with equal opportunities, access, and control over the means of production, female-headed households may be more likely to participate in tobacco contract farming than their male counterparts. The results also show that the level of education of the household head positively influences smallholder tobacco farmers' involvement in contract farming. Muroiwa et al. (2019) found similar results among tobacco farmers in Zimbabwe and it was attributed to the ability to make rational decisions. Contractual arrangements demand some level of literacy to read and understand contract documents and be able to make informed decisions (Makoka et al., 2016).

Table 3.10 also shows that household size, a proxy for the household labor force, has a positive influence on the smallholder tobacco farmers' decisions to enter into the contracts. The most probable reason is that tobacco production is a labor-intensive enterprise and the quality of the leaf determines the ultimate compensation to the growers hence the need for more hands per unit production than other similar enterprises (Muroiwa et al., 2019). Thus, farmers with an adequate labor force are more likely to enter into tobacco contractual arrangements. Furthermore, the results also show that land allocated for tobacco production had a positive influence on the tobacco farmers' participation in the contracts. This is consistent with the findings of Akumu et al. (2020), who reported that sunflower contracting companies in Uganda demanded at least two hectares of land as a prerequisite for engaging a farmer in contractual agreements. Similarly, Makoka et al. (2016) reported that tobacco contracting companies in Malawi prefer to enter into contractual agreements with farmers who could allocate at least one hectare of their land to tobacco production.

Consistent with Ruml and Qaim (2020), our data revealed that some terms of the contract such as costs of inputs and produce prices are not known at the time farmers enter into contracts and hence reduce the probability of potential farmers signing up for the contracts (Table 3.10). This might imply a lack of transparency and give an impression of opportunistic behavior among

the contracting firms. Table 3.10 also shows that access to a guaranteed market increases the probability of potential farmers entering into contractual agreements. Contract farming offers reliable and stable markets (Prowse, 2012) and hence acts as a motivational factor for smallholder farmers' participation.

3.4 Smallholder tobacco farmers' satisfaction with contract farming

In this study, we also wanted to know what experiences smallholder tobacco farmers have with the current contractual arrangements. Thus, the focus of this sub-section was on the current tobacco contract farmers only to draw some lessons which would encourage or deter non-contract farmers to join contract farming. For this reason, we posed two hypothetical questions to the respondents to determine their satisfaction with contract farming. In the event of a negative response to any of the questions, the farmers were asked to give a reason or two for their responses. Table 3.11 presents the mean values of the contract farmers' responses to the hypothetical questions. The majority of the farmers indicated that they could not have joined the current contract scheme if they were offered similar support from the government and other actors such as commercial banks. They further revealed that they do not intend to continue participating in the current contracts for the unforeseeable future if the existing terms and conditions remain unchanged. While a simple "no" to both or any of the questions may not necessarily be a good indicator of dissatisfaction, but, the high percentages in this study may indicate some level of dissatisfaction among the participating farmers. These results are in line with the findings of a study by Ruml and Qaim (2020) in Ghana whereby smallholder oil palm farmers revealed their dissatisfaction with the contracts they were offered. The reasons for the smallholder tobacco farmers' dissatisfaction in this study centered on unfair contract terms and conditions as well as low profitability. Specifically, farmers complained about late delivery and high costs of inputs, high tobacco rejection rates, and low tobacco prices which they get at the selling floors. They further indicated that the contracting companies dictate the minimum wages and living conditions to which the contracted farmers must subject their farmworkers (casual laborers). They complained that this tendency coupled with the fact that both inputs and tobacco selling prices are determined by the contracting companies reduces them to mere tenants (workers) of the contracting companies.

Table 3-11: Smallholder tobacco farmers' satisfaction with contract farming

n = 132	Yes	No	Proportion
Going back in time before you signed your first contract, would you still have decided to participate in the current contract scheme, assuming the government offered similar support or you had access to a bank loan?	28	104	0.21
Unfair contract terms and conditions		60	
Low profitability (High costs of inputs and Low tobacco prices)		41	
Do you intend to continue with contracts for a prolonged number of years (unforeseeable future), assuming the contract terms and conditions remain the same (unchanged)?	55	77	0.42
Low profitability (High costs of inputs and Low tobacco prices)		78	
Unfair contract terms and conditions		22	

Source: Survey Data

Furthermore, we also wanted to find out if the responses to the hypothetical questions may correlate with the economic benefits derived from the farmers' participation in contract farming. Significant correlations could mean that farmers' satisfaction or lack thereof may be linked to the benefits they get from the same contracts. In this study, gross income per hectare which is an objectively verifiable economic indicator was used as a proxy for the economic benefits of contract farming.

Table 3-12: Pearson's product-moment correlation tests between contract satisfaction and tobacco income per hectare (in MWK)

n = 132	Corr. Coef.	P-Value
Going back in time before you signed your first contract, would you still have decided to participate in the current contract scheme, assuming the government offered similar support or you had access to other support such as bank or microfinance loans?	-0.1322	0.1309
Do you intend to continue with contracts for a prolonged number of years (unforeseeable future), assuming the terms and conditions of the current contracts remain the same (unchanged)?	-0.2661	0.0020***

Source: Survey Data

NB: ***Significant at 1%

Table 3.12 reports the Pearson's Product-Moment Correlation Test results. The results show that the correlation coefficient of the first question is not significant. Thus, the sampled farmers' regrets about their participation in the current contracts do not correlate with the gross incomes they get from their tobacco sales. Hence, this result may be loosely interpreted that the farmers' dissatisfaction with the current contracts may not be directly related to the economic benefits they had been getting. This is consistent with the findings of Ruml and Qaim (2020), who found that oil palm farmers' dissatisfaction with contracts is regardless of the economic benefits. However, the correlation coefficient in the second question is statistically significant. This shows that the tobacco gross incomes are negatively correlated with the stated willingness to continue with the current contracts for the unforeseeable future. Thus, looking forward, the issues of low prices, and high rejection rates on one hand and dissatisfaction, on the other hand, might be seen to be highly associated and probably reinforce each other.

However, it cannot be concluded whether the farmers will, soon, cease to participate in the current contracts or not. In a similar study, Makoka et al. (2016) reported that 43% of the tobacco farmers in their study sample considered switching to other alternative crops and/or other means of livelihood. However, the current national tobacco statistics do not show any significant drop in the number of tobacco farmers and production because tobacco is widely perceived to be the only viable cash crop in the country (Makoka et al., 2016).

CHAPTER 4: CONCLUSIONS AND POLICY RECOMMENDATIONS

This study sought to determine factors that influence smallholder tobacco farmers' participation in contract farming using cross-sectional survey data collected in Kasungu district, Malawi. An initial analysis of the data using chi-square and t-tests revealed that there are some systemic differences in the socio-economic characteristics of the farmers who are participating in contract farming and their non-participating counterparts. Probit analysis was then done, and the results showed that household head gender and educational level, household size, land size allocated to tobacco cultivation, and access to guaranteed markets increase the probability of contract participation. However, farmers' perception that some terms of the contracts are not known at the point of signing the contract agreements reduces the farmers' probability of participating in the contracts. Furthermore, this study's data showed that the majority of the farmers expressed their dissatisfaction with the current contracts on account of high rates of tobacco rejection and low tobacco prices at the selling floors. This may explain the smallholder farmers' behavior in contract participation and the resultant high dropout rates.

The empirical results of this study highlight some important factors which would increase the participation of smallholder farmers as well as ensure the sustainability of the contract farming schemes. Therefore, the government of Malawi and its development partners should increase efforts that would increase land ownership by women, and investments in basic education to increase literacy levels among rural households. Furthermore, the authorities should strengthen the institutional and legal framework of the relevant regulatory bodies such as the Competition and Fair Trading Commission (CFTC) to ensure transparency and fair trade between the contracting partners. There is a need to strengthen the technical capacity and increase funding as well as ensure the independence of the commission. There is also a need to collaborate with global fair trading organizations to provide the much-needed backstopping exercises. These results show that it would be interesting, in the future, to do thorough research on contract transparency and smallholder farmers' satisfaction with the contracts. Furthermore, it would also be interesting to do comparative assessments with other countries with documented success stories of contract farming to achieve smallholder-led economic growth.

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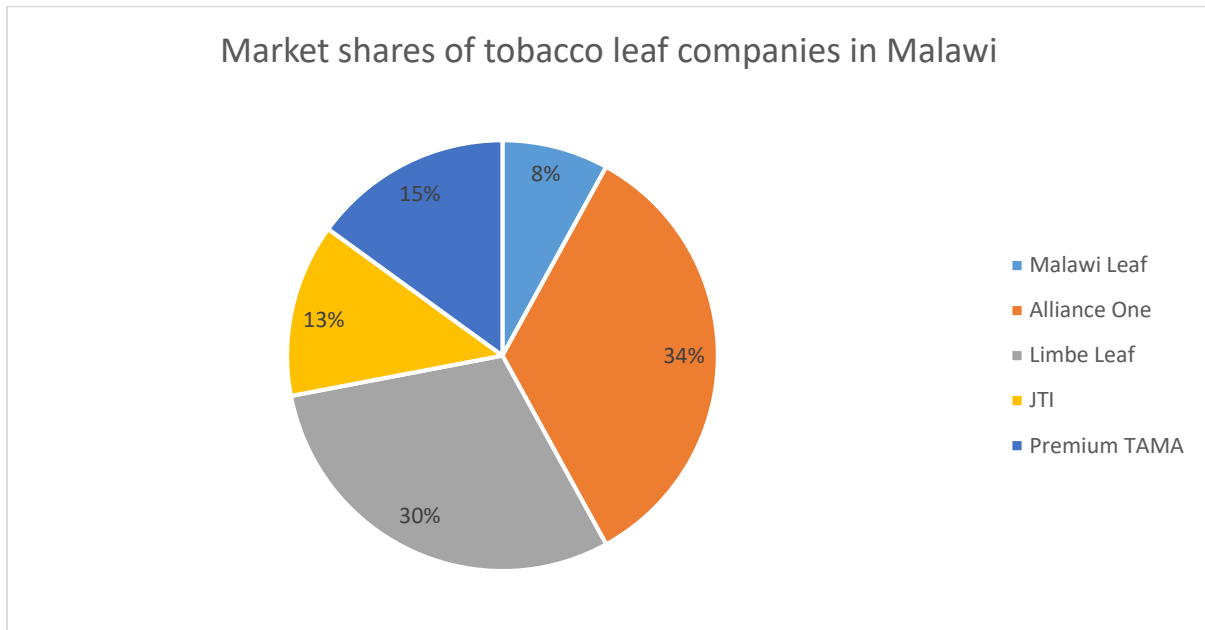
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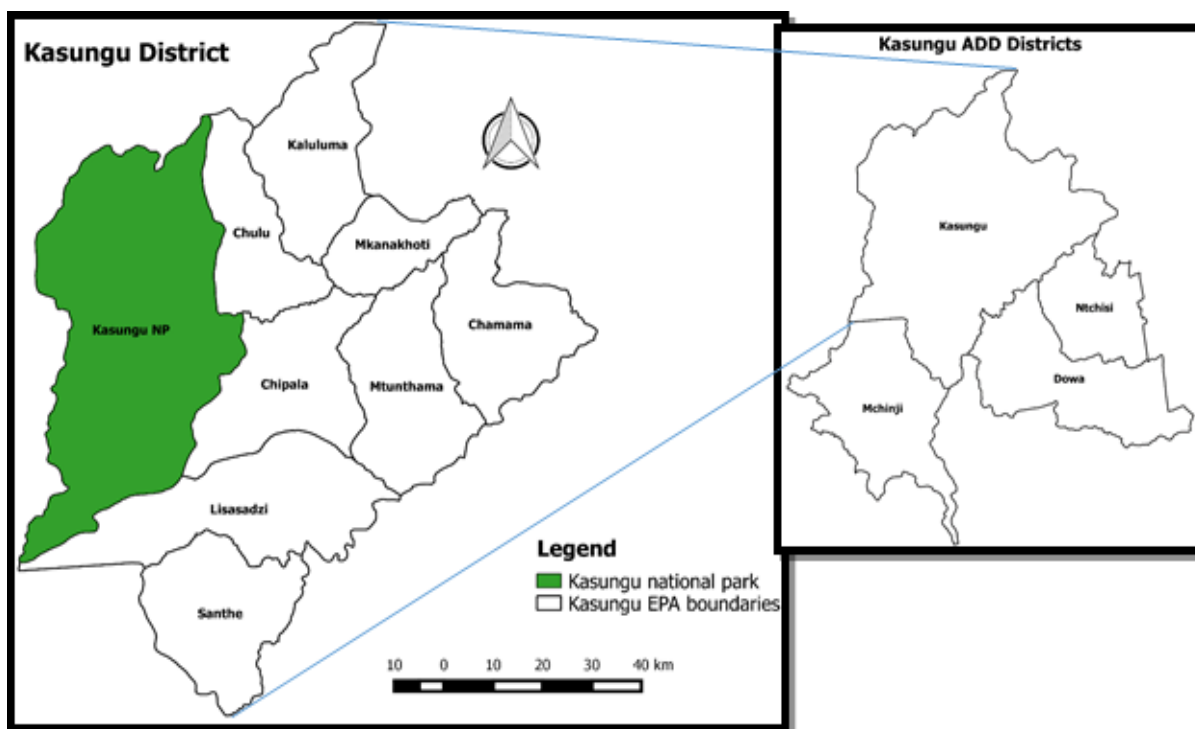
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APPENDICES



Appendix A: Market shares of tobacco leaf companies in Malawi

Source: Makoka et al. (2016) citing Moyer-Lee and Prowse (2012)



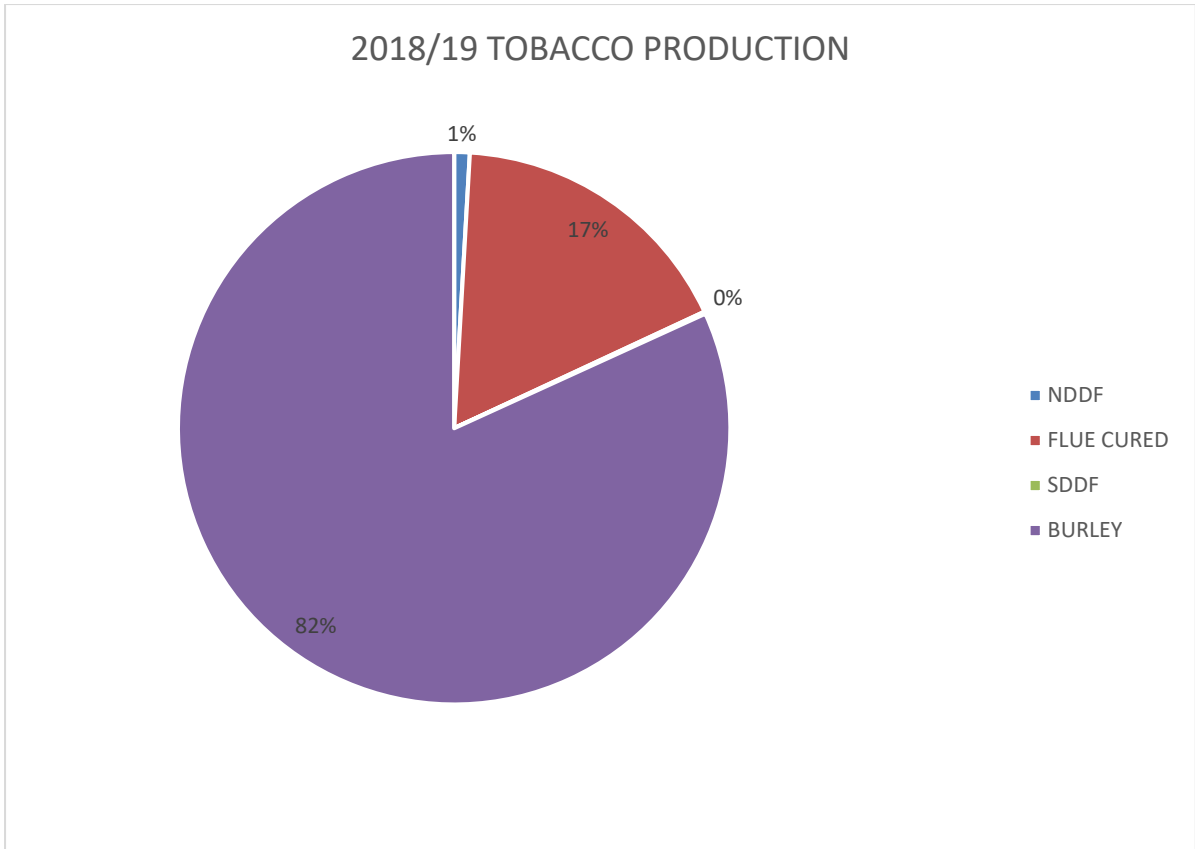
Appendix B: Maps of Kasungu district and Kasungu Agriculture Development Division (KADD)’s districts

Source: (Kasungu District Agriculture Office, 2020)

**Appendix C: Smallholder burley tobacco production estimates for Kasungu District
Agriculture Office (KDAO) (2019/20 season)**

EXTENSION PLANNING AREA (EPA)	SECOND ROUND 2019/2020		
	AREA (Ha)	YIELD (Kg/Ha)	PROD (Mt)
Chulu	1,322	1,365	18,04,969
Kaluluma	527	1,111	5,85,497
Nkanakhoti	101	1,198	1,20,998
Chipala	419	1,386	5,80,710
Chamama	781	1,158	9,04,398
Mtunthama	905	1,120	10,13,600
Lisasadzi	956	918	8,77,608
Santhe	1,261	965	12,17,260
DISTRICT TOTAL	6,272	1,133	71,05,040

Source: (Kasungu District Agriculture Office, 2020)



Appendix D: Production of different types of tobacco grown in Malawi (2018/19 season)

Source: Government of Malawi (2019)

Appendix E: Malawi tobacco sales (2018/19 season)

Malawi TOBACCO SALES (2018-2019 Season) - Figures in kilograms (Kgs)							
TOBACCO TYPES	MARKETING SYSTEM	LILONGWE FLOORS	LIMBE FLOORS	CHINKHOMA FLOORS	MZUZU FLOORS	KABWAFU FLOORS	NATIONAL TOTALS
BURLEY	AUCTION	15116416	2895515	4898442	5233074	0	28143447
	CONTRACT	24982255	4821707	17215822	18438094	0	65457878
FLUE	AUCTION	293174	23887	0	91536	0	408597
	CONTRACT	8870364	3178045	0	2033264	1146979	15228652
NDDF	AUCTION	2282	0	0	0	0	2282
	CONTRACT	812483	155991	0	1247171	0	2215645
SDF	AUCTION	0	301813	0	0	0	301813
	CONTRACT	0	246681	0	0	0	246681
ALL TYPES	AUCTION	15411872	3221215	4898442	5324610	0	28856139
	CONTRACT	34665102	8402424	17215822	21718529	1146979	83148856
ALL TYPES	BOTH	50076974	11623639	22114264	27043139	1146979	112004995

Source: Tobacco Control Commission (2019)

Appendix F: Questionnaire A (Contract Participants)

Factors influencing participation in contract farming among smallholder tobacco producers in Malawi

INFORMED CONSENT FORM

(Must be read to every respondent before the interview commences)

Purpose of study: This research study is being carried out as part of the requirements of a Master's Degree at the University of Pretoria (UP) in South Africa. The research is about tobacco farming and contracts. The results are envisaged to be useful in the formulation of future contract farming policies.

Selection: You have been randomly selected and hereby asked to participate because you are an important source of information.

Participation: Your participation is voluntary and there will be no penalty or loss of benefit if you decide not to take part in this study.

Withdrawal: You have the right to withdraw from the research at any time without explaining any reason.

Anonymity: Your name, contacts or any clue of your identity will not appear in the final report (dissertation) or any presentation of this study.

Confidentiality from third parties: Complete, accurate, and in shape data will be kept confidential. Thus, both in electronic and paper forms. Upon completion of the study, the stored data will only be retrieved for official audit purposes.

Study results: The results will be presented in a dissertation and may be published in a research journal.

Risks: There are no negative consequences envisaged if you decide to participate in this research.

Approval: Research Ethics Committee at UP as well as the Kasungu District Agriculture office approved this study before commencement.

Procedure: The study involves responding to questions and your responses will be recorded in a form. The approximate time it may take is 35 minutes.

Questions: You have an opportunity to ask questions about the proposed study before you consent to it.

Documenting consent: If you agree to participate, your consent is going to be recorded in the form.

Participant's Consent Status (Circle one): (1) Agrees (2) Didn't Agree

The research overview and consent indicators were read and explained to the participant before the interview. The participant has some knowledge of the research project and appeared to understand it.

Time of the call: _____ Name of the caller: _____ Sign: _____

Date of Interview: _____.

Extension Planning Area (EPA): _____.

Interviewer's Name & Phone Number: _____.

Interviewee's ID Number: _____.

SECTION 1A: HOUSEHOLD AND FARM CHARACTERISTICS

1.1. Gender: (a) Male (b) Female (c) Other (Specify): _____.

1.2. How old are you? (Years) _____.

1.3. Education level completed (Years):

- (a) None
- (b) Primary level _____
- (c) Secondary level _____
- (d) Tertiary level _____
- (e) Other (Specify): _____

1.4. Household size: _____.

1.5. How long have you been growing tobacco? (Years): _____.

1.6. What size of land did you cultivate tobacco in the 2019/20 season?
(Ha) _____.

1.7. Do you own the land you cultivated tobacco in the 2019/20 season?

- (a) Yes (Permanent lease)
- (b) No (Temporary lease/rent)
- (c) Family land (Customary)

1.8. If "No" in Q1.7 above, what size of land under tobacco production did you rent in the 2019/20 season? (Ha) _____.

1.9. What is the importance of the below-listed income sources for your household? (*Shade all that apply*)

- (a) Tobacco contract farming :Not important (1) (2) (3) (4) (5) Very important
- (b) Tobacco non-contract farming :Not important (1) (2) (3) (4) (5) Very important
- (c) Other farming (crop & livestock):Not important (1) (2) (3) (4) (5) Very important
- (d) Wages (Regular work) :Not important (1) (2) (3) (4) (5) Very important
- (e) Wages (Part-time work) :Not important (1) (2) (3) (4) (5) Very important
- (f) Trade :Not important (1) (2) (3) (4) (5) Very important
- (g) Grant & remittances :Not important (1) (2) (3) (4) (5) Very important
- (h) Investments & savings :Not important (1) (2) (3) (4) (5) Very important
- (i) Other(Specify)_____ :Not important (1) (2) (3) (4) (5) Very important

SECTION 2A: TOBACCO CONTRACT FARMING EXPERIENCE, UNDERSTANDING, AND PERCEPTIONS

2.1 How long have you been participating in contract farming? (*Years*)_____.

2.2 Which is your current contracting company?

- (a) Limbe Leaf
- (b) JTI
- (c) Premium TAMA
- (d) Alliance One
- (e) Malawi Leaf
- (f) Other (Specify):_____

2.3 Have you ever changed your contracting company?

- (a) Yes (*Go to Q2.5*)
- (b) No

2.4 If “No” in 2.3 above, have you ever had a break(s) (out of contract) with your contracting company under the period stated in Q2.1?

- (a) Yes
- (b) No

2.5 If “Yes” in Qs 2.3 & 2.4 above, please indicate the years of participation with different contracting companies or break with the same company:

- (a) Company 1:_____
- (b) Company 2:_____
- (c) Company 3:_____

2.6 What was the reason(s) for changing the contracting company or having a break(s) in between the contract participation years?

2.7 In what language(s) are the contract documents written? (*Please shade all options that apply*)

- (a) English
- (b) Chichewa
- (c) Other (Specify):_____.

2.8 Can you read and write the language(s) mentioned in Q2.7 above?

- (a) Yes
- (b) No (*Go to Q2.10*)

2.9 How good are you, in the language(s) mentioned in Q2.7 above?

- (a) English : Very bad (1) (2) (3) (4) (5) Very good
- (b) Chichewa : Very bad (1) (2) (3) (4) (5) Very good
- (c) Other_____ : Very bad (1) (2) (3) (4) (5) Very good

2.10 Do you fully read and understand the terms of the contract you do sign?

- (a) Yes
- (b) No (*Go to Q2.13*)

2.11 If “Yes” in Q2.9 above, how do you rate your understanding of the contract terms?
Very bad (1) (2) (3) (4) (5) Very good

2.12 Would you briefly explain two (2) crucial terms of the contract you signed in the 2019/20 season?

- (a) _____

(b) _____

2.13 What was your loan package of the contract comprised of?

Package (<i>Shade applicable options</i>)	Unit	Unit Price	Quantity/Amount
(a) Seed	_____	_____	_____
(b) Fertiliser	_____	_____	_____
(c) Chemicals	_____	_____	_____
(d) Hessian sacks	_____	_____	_____
(e) Cash advance (loan)— <i>Interest rate on price</i>	_____	_____	_____
(f) Tobacco transportation	_____	_____	_____
(g) Farm implement/equipment	_____	_____	_____
(h) Other (Specify)	_____	_____	_____

2.14 How much was your total loan under contract farming in 2019/20 season?

(MK)_____.

2.15 Were there other things or terms of the contract which you did not know when signing the contract and were realised later in the 2019/20 season?

- (a) Yes (b) No (*Go to Q2.17*)

2.16 If “Yes” in Q2.15 above, what were these things or terms?

- (a) _____
(b) _____

2.17 What size of your land was under tobacco contract farming in 2019/20 season?

(Ha)_____.

2.18 How many hectares under contract farming were under the following land tenure systems?

- (a) Permanent lease: _____
(b) Rent (Temporary lease/One year): _____
(c) Family land (Customary): _____

2.19 Do you know how to grade/classify tobacco for marketing?

- (a) Yes (b) No (*Go to Q2.22*)

2.20 Have you ever been trained in tobacco grading/classification?

- (a) Yes (b) No (*Go to Q2.22*)

- 2.21 If “Yes” in Q2.20 above, which organisation provided the training?
- (a) Government
 - (b) Contracting company
 - (c) ARET
 - (d) Growers’ Association/cooperative
 - (e) Other (Specify):_____
- 2.22 If “No” in Q2.19 above, who provides you with grading services?
- (a) Local graders (fellow farmers)
 - (b) Grading company
- 2.23 Does your grading/classification of tobacco or that of your agent(s) match with the grading/classification at the selling floors?
- (a) Yes (b) No
- 2.24 How often does or doesn’t it match during the three (3) market periods?
- | <u>Early Market Period</u> | <u>Mid Market Period</u> | <u>End Market Period</u> |
|----------------------------|--------------------------|--------------------------|
| (a) Always | (a) Always | (a) Always |
| (b) Often | (b) Often | (b) Often |
| (c) Sometimes | (c) Sometimes | (c) Sometimes |
| (d) Rarely | (d) Rarely | (d) Rarely |
| (e) Very rarely | (e) Very rarely | (e) Very rarely |
- 2.25 In general, how satisfied are you with the prices that your contracting company offered for various grades/classifications of your tobacco in the 2019/20 season?
- Very unsatisfied (1) (2) (3) (4) (5) Very satisfied
- 2.26 How would you rate the transparency of your contracting company with the terms of the contract?
- Not transparent (1) (2) (3) (4) (5) Very transparent
- 2.27 To what extent do you think you as a contracted farmer or your representatives have bargaining power over the contracts?
- Very weak (1) (2) (3) (4) (5) Very strong
- 2.28 Please rate your relationship with your current contracting company
- Very unsatisfying (1) (2) (3) (4) (5) Very satisfying

SECTION 3A: CONTRACT MOTIVATION AND SATISFACTION

- 3.1 What was your main motivation(s) for participation in contract farming? *(Options below don’t have to be read out to the participant but ease the recording of the responses & tick/circle all that apply!!!)*
- (a) Access to improved inputs
 - (b) Access to agricultural extension services
 - (c) Access to a ready/guaranteed market
 - (d) Access to cash advances
 - (e) Stable prices

(f) Others (Specify)_____

3.2 Going back in time before you signed your first contract, would you still have decided to participate in the current contract scheme, assuming the government offered similar support or you had access to a bank loan?

- (a) Yes
- (b) No

3.3 If “No” in Q3.2 above, why would you make a decision not to participate?

- (a) _____
- (b) _____

3.4 Do you intend to continue with contracts for a prolonged number of years (unforeseeable future), assuming the contract terms remain the same (unchanged)?

- (a) Yes
- (b) No

3.5 If “No” in Q3.4 above, why would you make a decision not to continue?

- (c) _____
- (d) _____

3.6 How satisfied are you with the **benefits** you are getting from your current participation in tobacco contract farming?

Very unsatisfied (1) (2) (3) (4) (5) Very satisfied

3.7 In general, how satisfied are you with tobacco contract farming?

Very unsatisfied (1) (2) (3) (4) (5) Very satisfied

SECTION 4A: CONTRACT CHALLENGES AND SUCCESS STORIES

4.1 How much of tobacco (in total) did you yield from contract farming in 2019/20 season? (Kgs)_____.

4.2 How much money (in total) did you earn from tobacco under contract farming in 2019/20 season? (MK)_____.

4.3 Does your participation in contract farming have a positive impact on your livelihood?

- (a) Yes (b) No (c) Don't know

4.4 If “Yes” in Q4.3, what are the main things that have changed in your livelihood since you started participating in contract farming?

- (a) _____
- (b) _____
- (c) _____

4.5 What are the main terms of the current contracts you would like to be changed or done differently to have your ideal contract?

- (a) _____
- (b) _____
- (c) _____

4.6 What are the main challenges you face as a contracted farmer?

- (a) _____
- (b) _____
- (c) _____

THE END

THANK YOU VERY MUCH!!!!

INTERVIEWER ONLY

I _____, hereby certify that the information in the questionnaire was collected from the head of the sampled household and it has been recorded in a way it was answered, with nothing changed, added, or subtracted. The data herein are true to the best of my knowledge.

Signature: _____.

Appendix G: Questionnaire B (Non-Participants)

Factors influencing participation in contract farming among smallholder tobacco producers in Malawi

INFORMED CONSENT FORM

(Must be read to every respondent before the interview commences)

Purpose of study: This research study is being carried out as part of the requirements of a Master's Degree at the University of Pretoria (UP) in South Africa. The research is about tobacco farming and contracts. The results are envisaged to be useful in the formulation of future contract farming policies.

Selection: You have been randomly selected and hereby asked to participate because you are an important source of information.

Participation: Your participation is voluntary and there will be no penalty or loss of benefit if you decide not to take part in this study.

Withdrawal: You have the right to withdraw from the research at any time without explaining any reason.

Anonymity: Your name, contacts or any clue of your identity will not appear in the final report (dissertation) or any presentation of this study.

Confidentiality from third parties: Complete, accurate, and in shape data will be kept confidential. Thus, both in electronic and paper forms. Upon completion of the study, the stored data will only be retrieved for official audit purposes.

Study results: The results will be presented in a dissertation and may be published in a research journal.

Risks: There are no negative consequences envisaged if you decide to participate in this research.

Approval: Research Ethics Committee at UP as well as the Kasungu District Agriculture office approved this study before commencement.

Procedure: The study involves responding to questions and your responses will be recorded in a form. The approximate time it may take is 35 minutes.

Questions: You have an opportunity to ask questions about the proposed study before you consent to it.

Documenting consent: If you agree to participate, your consent is going to be recorded in the form.

Participant's Consent Status (Circle one): (1) Agrees (2) Didn't Agree

The research overview and consent indicators were read and explained to the participant before the interview. The participant has some knowledge of the research project and appeared to understand it.

Time of the call: _____ Name of the caller: _____ Sign: _____

Date of Interview: _____.

Extension Planning Area (EPA): _____.

Interviewer's Name & Phone Number: _____.

Interviewee's ID Number: _____.

SECTION 1B: HOUSEHOLD AND FARM CHARACTERISTICS

1.10. Gender: (a) Male (b) Female (c) Other
(Specify): _____.

1.11. How old are you? (Years) _____.

1.12. Education level completed (Years):
(a) None
(b) Primary level _____
(c) Secondary level _____
(d) Tertiary level _____
(e) Other (Specify): _____

1.13. Household size: _____.

1.14. How long have you been growing tobacco? (Years): _____.

1.15. What size of land did you cultivate tobacco in the 2019/20 season?
(Ha) _____.

1.16. Do you own the land you cultivated tobacco in the 2019/20 season?
(d) Yes (Permanent lease)
(e) No (Temporary lease/rent)
(f) Family land (Customary)

1.17. If "No" in Q1.7 above, what size of land under tobacco production did you rent in the 2019/20 season? (Ha) _____.

1.18. What is the importance of the below-listed income sources for your household? (*Shade all that apply*)

(j) Tobacco contract farming	:Not important (1) (2) (3) (4) (5) Very important
(k) Tobacco non-contract farming	:Not important (1) (2) (3) (4) (5) Very important
(l) Other farming (crop & livestock)	:Not important (1) (2) (3) (4) (5) Very important
(m) Wages (Regular work)	:Not important (1) (2) (3) (4) (5) Very important
(n) Wages (Part-time work)	:Not important (1) (2) (3) (4) (5) Very important
(o) Trade	:Not important (1) (2) (3) (4) (5) Very important
(p) Grant & remittances	:Not important (1) (2) (3) (4) (5) Very important
(q) Investments & savings	:Not important (1) (2) (3) (4) (5) Very important
(r) Other (Specify) _____	:Not important (1) (2) (3) (4) (5) Very important

SECTION 2B: TOBACCO FARMING EXPERIENCE, UNDERSTANDING, AND PERCEPTIONS OF CONTRACTS

2.1 How long have you known about tobacco contract farming? (Years)_____.

2.2 If you were to participate in tobacco contract farming today, which contracting company would you join?

- (a) Limbe Leaf
- (b) JTI
- (c) Premium TAMA
- (d) Alliance One
- (e) Malawi Leaf
- (f) Other (Specify):_____

2.3 Do you know the language which is used in the tobacco contract documents?

- (a) Yes
- (b) No (*Go to Q2.7*)

2.4 If “Yes” in Q2.3 above, mention the language(s)? (*Please shade all options that apply*)

- (a) English
- (b) Chichewa
- (c) Other (Specify):_____.

2.5 Can you read and write the language(s) mentioned in Q2.4 above?

- (a) Yes
- (b) No (*Go to Q2.7*)

2.6 How good are you at reading and writing the language(s) mentioned in Q2.4 above?

- (a) English : Very bad (1) (2) (3) (4) (5) Very good
- (b) Chichewa : Very bad (1) (2) (3) (4) (5) Very good
- (c) Other_____ : Very bad (1) (2) (3) (4) (5) Very good

2.7 Do you think contract participating farmers read the contract documents in full and understand the terms of the contract they sign?

- (c) Yes
- (d) No (*Go to Q2.9*)

2.8 If “Yes” in Q2.7 above, how do you rate their understanding of the contract terms?

Very bad (1) (2) (3) (4) (5) Very good

2.9 Do you have any knowledge of the loan packages that contract farmers get?

- (a) Yes
- (b) No (*Go to Q2.11*)

2.10 If “Yes” in Q2.9 above, please give a breakdown of what packages are comprised of:

Package (<i>Shade all applicable options</i>)	Unit	Unit Price	Quantity/Amount
(a) Seed	_____	_____	_____
(b) Fertiliser	_____	_____	_____
(c) Chemicals	_____	_____	_____
(d) Hessian sacks	_____	_____	_____
(e) Cash advance (loan)— <i>Interest rate on price</i> _____	_____	_____	_____
(f) Tobacco transportation	_____	_____	_____
(g) Farm implement/equipment	_____	_____	_____
(h) Other (Specify)	_____	_____	_____

2.11 Are there other things or terms of the contract which you think the contract participating farmers don’t know when signing the contract and are realised later in the season?

- (a) Yes
- (b) No (*Go to Q2.13*)

2.12 If “Yes” in Q2.11 above, what are these things or terms?

- (a) _____
- (b) _____

2.13 How would you rate the transparency of contracting companies with the terms of the contracts?

Not transparent (1) (2) (3) (4) (5) Very transparent

2.14 To what extent do you think contracted farmers or their representatives have bargaining power over the contracts?

Very weak (1) (2) (3) (4) (5) Very strong

2.15 How would you rate the relationship between contracting companies and their contracted farmers?

Very unsatisfying (1) (2) (3) (4) (5) Very satisfying

2.16 Do you know how to grade/classify tobacco for marketing?

- (a) Yes
- (b) No (*Go to Q2.19*)

2.17 If “Yes” in Q2.16 above, have you ever been trained in tobacco grading?

- (a) Yes
- (b) No (*Go to Q2.20*)

2.18 If “Yes” in Q2.17 above, which organisation provided the training?

- (a) Government
- (b) Tobacco buying company
- (c) ARET
- (d) Growers’ Association
- (e) Other (Specify): _____

2.19 If “No” in Q2.16 above, who provides you with grading services?

- (a) Local graders (fellow farmers/farm employees)
- (b) Grading company

2.20 Does your grading of tobacco match with the classification at the tobacco selling floors?

- (a) Yes
- (b) No

2.21 How often does or doesn’t it match during the three (3) market periods?

<u>Early Market Period</u>	<u>Mid Market Period</u>	<u>End Market Period</u>
(f) Always	(a) Always	(a) Always
(g) Often	(b) Often	(b) Often
(h) Sometimes	(c) Sometimes	(c) Sometimes
(i) Rarely	(d) Rarely	(d) Rarely
(j) Very rarely	(e) Very rarely	(e) Very rarely

2.22 In general, how satisfied are you with the prices that the buying companies offered for various grades/classifications of your tobacco in the 2019/20 season?

- Very unsatisfied (1) (2) (3) (4) (5) Very satisfied

SECTION 3B: CONTRACT MOTIVATION AND SATISFACTION

3.1 What do you think could be the main motivating factor(s) for participating in contract farming? *(Options below don’t have to be read out to the participant but ease the recording of the responses & tick/circle all that apply!!!!)*

- (a) Access to improved inputs
- (b) Access to agricultural extension services
- (c) Access to a ready/guaranteed market
- (d) Access to cash advances
- (e) Stable prices
- (f) Others (Specify)_____

3.2 Going back in time before they signed their first contracts, do you think they would still have decided to participate in contract farming if the government offered similar support or if they had access to a bank loan?

- (a) Yes *(Go to Q3.4)*
- (b) No

3.3 If “No” in Q3.2 above, why do you think they would not opt to participate?

- (a) _____
- (b) _____

3.4 Do you think contract farmers will continue participating in the contracts in the coming years, assuming the contract terms remain the same (unchanged)?

- (a) Yes
- (b) No

3.5 If “No” in Q3.4 above, why do you think they would make a decision not to continue participating in the contracts?

- (a) _____
- (b) _____
- (c) _____

3.6 How satisfied do you think are the participating farmers with the **benefits** they get from their participation in the contracts?

Very unsatisfied (1) (2) (3) (4) (5) Very satisfied

3.7 In general, how satisfied with the contracts do you think the participating farmers are?

Very unsatisfied (1) (2) (3) (4) (5) Very satisfied

SECTION 4B: TOBACCO & CONTRACT CHALLENGES AND SUCCESS STORIES

4.1 How much of tobacco (in total) did you harvest in the 2019/20 season?

(Kgs)_____.

4.2 How much money (in total) did you earn from your tobacco in 2019/20 season?

(MK)_____.

4.3 Do you think participation in contract farming has a positive impact on the livelihoods of participating farmers?

- (a) Yes
- (b) No
- (c) Don't know

4.4 If “Yes” in Q4.3, what are the main things that have changed in the livelihoods of participating farmers since they started participating in contract farming?

- (a) _____
- (b) _____
- (c) _____

4.5 What are the main terms of the contracts would you like they can be changed or done differently to have your ideal contract?

- (a) _____
- (b) _____
- (c) _____

4.6 What do you think are the main challenges that contracted farmers face with the contracts?

- (a) _____
- (b) _____
- (c) _____

4.7 What are the main challenges you face as a tobacco farmer?

- (d) _____
- (e) _____
- (f) _____

THE END

THANK YOU VERY MUCH!!!!

INTERVIEWER ONLY

I _____, hereby certify that the information in the questionnaire was collected from the head of the sampled household and it has been recorded in a way it was answered, with nothing changed, added, or subtracted. The data herein are true to the best of my knowledge.

Signature: _____.