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Optimising contract design in modern food supply chains: The case of paprika sector in Central Malawi

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Abstract

Contract farming remains one of the most efficient tools for integrating small-scale farmers into modern food markets. However, the literature lacks evidence on best practices in designing contracts for food supply chains in developing countries. The purpose of this study is to analyse the design of an existing contract in the emerging Malawian paprika sector using a qualitative analytical approach. The study compared a contract design in Malawi's paprika supply chain with four similar contracts from the horticultural sector in Malawi, India, Zambia and Cape Verde. This study employed a thematic qualitative analysis and developed 17 categories for analysing contracts. The findings showed that the Malawian contract contained in total eleven defined clauses. There were missing clauses that influenced the risk and power distribution between parties in the contract. The comparison of the Malawian contract with other contracts revealed that none of the analysed contracts included all clauses necessary for a sustainable and fair relationship. The study proposed improved contract design and future actions to contribute to decreasing inequalities between parties engaged in the Malawi's paprika supply chain. The implications of the study include initiation of changes in public policies related to contract farming strategies as the findings suggest that vulnerable small-scale farmers might be left unprotected and generate low gains through supply contracts due to poorly formulated contract clauses.

Keywords: contractual arrangements, developing country, small-scale farmers, thematic analysis

1 Introduction

Contract farming is an institutional arrangement that integrates farmers into modern food supply chains through an agreed set of formal rules and informal constraints (Minot & Roy, 2007; Narayanan, 2012). The primary role of contracts is to overcome existing market imperfections by providing inputs, credit and extension services to farmers (Jia & Bijman, 2013; Cai *et al.*, 2014). Also, contracts might serve to distribute the production and marketing risks between the contractor and farmers (Barrett *et al.*, 2012). Contracts oblige farmers to supply buyers with a particular product of certain specifications (Will, 2013). Contracts often establish terms for product purchase in advance, such as expected quantities, quality and price (Vermeulen & Cotula, 2010; Barrett *et al.*, 2012).

Contracting can be organised through five different models depending on the parties involved: centralised (processor/packer and farmers); nucleus estate (contractor, estate and farmers); multipartite (contractor, public entity, cooperative and farmers); informal (contractors and farmers) or intermediary (contractor, intermediary and farmers) (Eaton & Shepherd, 2001). Furthermore, Bijman (2008) and Will (2013) described three types of contract farming arrangements. First, in the market specification contracts, the farmer and contractor agree on the terms of delivery, such as quantities,

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qualities and timing. The farmer bears most of the production risk but retains control over the majority of the production-related decisions. The marketing risk is distributed between the parties. Second, the production-management contracts involve transferring a substantial amount of decisions regarding production processes from the farmer to the contractor. The farmer agrees to follow the production and input regime suggested by the contractor as the contractor assumes the most of the marketing risk. Third, in the resource-providing contracts, the contractor secures the market and the key inputs for the production. The inputs are offered as in-kind credit and their value is recovered upon product delivery through deduction from the final price. The degree of control can vary widely in this type of contract.

Recent studies show that contracting increases farmers' incomes, encourages technology adoption and improves the quality of produce (Jones & Gibbon, 2011; Fréguin-Gresh & Anseeuw, 2013; Girma & Gardebroek, 2015). In contrast, being under contract can increase gender imbalance in the household, result in small farmers' indebtedness or enable contractors to turn small-scale farmers into dependent labourers (Birthal *et al.*, 2008; Prowse, 2012). In addition, farmers in developing countries often lack access to suitable land and related facilities, such as irrigation and roads needed for efficient contract farming (Reardon *et al.*, 2009; Valipour, 2015a,b). Depending on the contract design, the parties could receive benefits or carry the risks. For example, Warning & Hoo (2000) and Narayanan (2012) found food supply contracts in developing countries ambiguous and one-sided, lacking fairness and farmers' participation in the design stage. Contracts are often written in an incomprehensible technical language and can be designed to favour buyers (Maertens, 2006; Cotula, 2011; Pultrone *et al.*, 2012). Thus, even if the farmer increases productivity and the quality levels of the product, the contractor might capture the entire premium, depriving the farmer of any meaningful benefits.

More specifically related to the formulation of contract clauses, Pultrone (2012) stated that benefits from contract farming could diminish if a contract offered unclear, incomplete and misguiding contract clauses. Narayanan (2012) questioned whether farmers even comprehend commitments contained in the clauses. Barrett *et al.* (2012) argued that contracting companies designed and offered contracts to more profitable farmers to reach expected profit levels. In the empirical literature, Schipmann & Qaim (2011) assessed contracts for pepper in Thailand and concluded that clauses providing inputs and credits increased the attractiveness of the contract for farmers. Abebe *et al.* (2013) explored preferences of potato farmers in Ethiopia and found that farmers opted for written contracts, which secured inputs, technical assistance and seeds, and had variable quality and price options.

Current research does not provide sufficient evidence on the best practices in designing contracts for small-scale farmers in developing countries. The empirical examples mentioned above refer only to one part of the contract (preferences for provisions) but do not consider the whole contract. Thus, there is a lack of research on how companies design contracts (Brousseau, 2008). According to Smalley (2013), exit options that are given to small-scale farmers in contracts should be further explored. Sykuta & Parcell (2002) argued that access to contract documentation and the privacy surrounding contracts hindered a better understanding of contracting issues. Notwithstanding the comprehensive studies on contract clauses by Prowse (2012) and Pultrone (2012), and the Legal Guide by UNIDROIT/FAO/IFAD (2015) that serves as a reference point, the up-to-date, in-depth empirical research on contract design challenges in developing countries is scarce. To bridge the existing knowledge gap, this current study addresses the problem of contract design in food supply chains using an authentic case from the field and synthesises the available materials to make inferences. The purpose of this study is to analyse, through comparison, contract design in the Malawian sector of paprika (*Capsicum annuum* L.) using a qualitative analytical approach. The study answers the following research questions: (i) What is the structure of the Malawian contract? (ii) What is the content of the contract under study? and (iii) How does the Malawian contract differ from similar food supply contracts and how can it be improved? In this study, contract design is defined as the structure and content of the contract (Furlotti, 2007).

This work contributes to the existing knowledge in three aspects. First, the study identifies weaknesses of the contract design and discusses how to improve it to better serve the needs of small-scale farmers. Second, the study uses a qualitative research approach, which is underutilised in developmental and agricultural studies (Locke & Lloyd-Sherlock, 2011). Third, the study adds needed empirical evidence to the field by analysing the design of the entire contract in Malawi and enhances the overall understanding of contract formulation.

The remaining part of this introductory section focuses on the economic profile of Malawi and positioning of contract farming in the context of the Malawian

paprika sector. The Republic of Malawi is a low-income country with a population of around 16.7 million and US$ 255 GDP *per capita* (World Bank, 2015a,b). About 84 % of the population lives in rural areas, while 49 % of the country's area is devoted to agricultural land (FAO, 2013; UN, 2016). The most important food crops grown in Malawi between 2011 and 2013 were: cassava, maize and potatoes (CountrySTAT Malawi, 2016). The crops with the highest export value in Malawi in 2014 were: tobacco, sugar, tea and coffee (NSO, 2015). Large landowners produced significant export commodities and small-scale farmers in Malawi cultivated mainly food crops and rarely engaged in high-value cash crop production. The research has more recently focused on the significance of the paprika sector, which reached US$ 1.9 million in export value in 2014 and has the potential to further contribute to Malawi's trade (Agar & Chiligo, 2008; NSO, 2015). Rising international demand for paprika made it an attractive export commodity for Malawian small-scale farmers due to their comparative advantage in the use of low-input technology (Kumwenda & Madola, 2005; Makoka *et al.*, 2010). However, Makoka *et al.* (2010) found that Malawian small-scale farmers faced many challenges that constrain them from linking with high-value markets and these included: lack of finance, low productivity, poor quality and little value addition.

Contract farming was introduced to Malawian small-scale farmers in the 1980s (UNIDROIT, 2014). Despite multiple efforts, Malawi does not have an official strategy for contract farming. Evidence from Malawi on contract farming's impact is so far limited and mixed. Chirwa & Kydd (2009) reported that small-scale farmers in the tea sector had insufficient voice and power to enforce contracts, while Kumwenda & Madola (2005) found that side-selling represented a significant issue reported by companies. Hence, one of the main reasons why contract farming has not been successfully established in Malawi is due to small-scale farmers' opportunistic behaviour in side-selling (CYE Consult, 2009). Agar & Chiligo (2008) explored contract farming in Malawi's cotton, sugar, tea, tobacco and paprika sector and concluded that contracting increased small-scale farmers' income and improved their productivity. Nevertheless, the authors identified two issues that severely hindered contract farming operationalisation: small-scale farmers perceived the contract price as intentionally too low and contractors complained about a breach of contract terms (Agar & Chiligo, 2008).

The general paprika supply chain in Malawi involved contractors, farmers as suppliers, input providers, vendors, processors, retailers and further customers. The enabling environment consisted of institutional elements (Government) and supporting services (Universities, consultancy sector, NGOs, civil society, aid organisations and farmers' associations). In Central Malawi, fresh paprika was sold on the green market by local farmers and in city supermarkets, which sourced paprika from South African suppliers or local small-scale farmers on a seasonal basis and through oral agreement. This present study focused on dried paprika for export regulated via contract farming. Small-scale farmers entered the contract mainly as individuals, while to a lesser extent, others joined the contract as members of a farmers' association since the contractor wanted to obtain higher volumes of paprika from established farmers' associations. The product flow of dried paprika chain consisted of three phases. First, small-scale farmers delivered whole dried paprika pods to the contractor. Second, the contractor exported whole dried paprika pods to the processor in South Africa. In the final phase, the processor extracted oleoresin from paprika and supplied customers in South Africa and Germany.

The structure of the paprika supply chain in Central Malawi was similar to paprika chains in neighbouring Zambia. Stevens (2004) explored the paprika supply chain in Zambia and found that small-scale farmers were selling their paprika to the contractor while the enabling environment involved donor groups and the Government. The paprika was processed into oleoresin and further exported to South Africa and Spain (Stevens, 2004). Kabungo & Jenkins (2016) reported that the contractor in Zambia had a dual role. The contractor was buying paprika from outgrower small-scale farmers and further selling it on the international export markets. The contractor was also providing extension services to small-scale farmers. A similar pattern can be observed in both export paprika supply chains in Malawi and Zambia. It is likely that the described pattern occurs in other south-eastern African countries, which provides a foundation for the generalisability of this study's findings in the form of learned lessons that can be applied in neighbouring countries.

2 Materials and methods

This study analysed the design of a contract used in Malawi's paprika supply chain through comparison with four other contracts. The study uses the terms *studied contract* and *Malawian contract* interchangeably to denote the contract that is the subject of the paper and to distinguish among different contracts. Due to confidentiality, the study refers to the contractor using the term Company.

The total of five contracts were analysed for the study. The emphasis of this paper is on the design of the paprika contract physically obtained during the interview with the Company's senior extension officer in Malawi in November 2014 [1]. The remaining four contracts were retrieved as secondary data from the FAO contract farming online database (FAO, 2016a,b,c,d). Since food supply contracts are unique in their context, the sample of contracts used for comparison had to resemble similar conditions as the studied contract. The selection criteria for the contracts obtained from the FAO database included: (i) the contract had to be administered in a developing country; (ii) the contract had to involve farmers and buyers; and (iii) contract had to relate to a horticultural crop. The number of contracts from the FAO database was restricted to four to allow for an in-depth analysis and comparison. The FAO online database already contained a sample of the Company's contract for paprika in Malawi used in 2010/11 season, but in practice, it was replaced by a new contract received during fieldwork. The remaining three contracts originated from Zambia (between a group of farmers and a purchaser of paprika for the 2003/04 season), India (between an individual farmer and a processing and exporting company for fruits and vegetables) and Cape Verde (between an individual farmer and a buyer of fruits and vegetables).

2.1 Contract setting

The studied contract outlines the relationship between the Company and the small-scale paprika farmers. The Company was established in 2008 and started commercial paprika farming in 2010 after the acquisition of a Malawi-based company that previously dealt with paprika. The Company offered its contracts for cultivating paprika to small-scale farmers (outgrowers) in 2010 and building on the existing outgrower programme from the acquired company. The main motivating factors to start contracting with paprika involved: suitable climatic conditions for growing paprika; market demand for paprika; suitable infrastructure in place from the previous company; and the suitability of paprika farming for small-scale farmers unlike other cash crops (tea, coffee and sugar) that require plantations. Apart from its own estates, the Company sourced paprika from 10,000–15,000 small-scale farmers across Malawi. Small-scale farmers produced 65 % more volume of paprika compared to the amount grown on the Company's estates. Paprika is the Company's biggest export cash crop and it accounts for 15–20 % of Company's net sale. The importance of paprika stems from its potential to generate high income from small land area. The Company has a long-term trading relationship with the processing company in South Africa where it sells the majority of dry paprika from Malawi. The Company sells paprika to other traders in South Africa in smaller volumes. During the course of the study, the Company was the only official contractor for dried paprika in Malawi's Central Region. The Company offered a written, nucleus estate model, production-management outgrower contract type. The purpose of the contract was to ensure a reliable supply of quality dry paprika from the small-scale farmers who followed precise production guidelines. The two-page contract in English was distributed on behalf of the Company through extension officers.

[1] The fieldwork addressed numerous issues beside the contract design but the topics are beyond the scope of this paper.

2.2 Analytical framework

The design of the five contracts was analysed using a template style of thematic qualitative analysis. A qualitative approach was applied due to characteristics of the material: contracts represent rich textual data, which reflect economic relationships through words, patterns and subtle meanings. Thematic analysis was used to identify, analyse and report themes emerging from selected contracts (see Braun & Clarke (2006) for the six phases followed in thematic analysis). A particular type of thematic analysis employed in this study was the template analysis, which combines a relatively high degree of structure in analysing the textual data and the possibility to adapt to a specific study (King, 2012). The coding template was developed using the Company's contract and it was then applied, revised and re-applied to the remaining four contracts, providing the consistency and direction in the overall analysis. The study used both inductive and deductive approaches to coding (see Fereday & Muir-Cochrane, 2006). NVivo™ 10 software facilitated the organisation and codification of the data. Contracts were first coded openly and focused on categories identified in the raw data and afterwards categories were refined to align with categories found in the literature.

The template analysis resulted in identification of contract categories (clauses), which were interpreted and developed into themes. The themes were divided in three main groups: (i) contract structure, (ii) contract content and (iii) comparison of designs. The theme labelled as contract structure was further classified in three sub-themes: defined, partially defined and missing clauses. The Company's contract was analysed in-depth while the other four contracts served primarily for comparison purposes.

3 Results

3.1 Contract structure

Central features of the contract were the Company's and the small-scale farmer's obligations and general conditions. The Company's obligations included: organising purchasing points; purchasing the crop; determining grades; paying for the crop; and training the small-scale farmers. The small-scale farmer's obligations included: cultivating the crop; adhering to chemical usage instructions; grading; and selling the crop. General conditions were defined around quality failure, breach of contract and liability clauses. Table 1 displays the main contract clauses.

3.1.1 Defined clauses

The first part of the studied contract (2013/14 season) identified parties who had entered into an agreement. The contract continued with an outline of the nature of the relationship between parties and the exact duration of the contract. Under the general conditions, the contract defined the following clauses: consequences in the case of quality failure, clarification of breach of contract and the Company's disclaimer of liability regarding the price guarantee, input provisions and any incidents that might occur. The amount of paprika expected from small-scale farmers was emphasised several times throughout the contract. The contract specified the payment conditions and mandatory instructions on crop cultivation for small-scale farmers. The contract concluded with signatures of parties and their representatives.

3.1.2 Partially defined clause

The contract examined in this study partially defined the price. The clauses related to the price were mentioned twice in the contract: under the Company's obligations and within general conditions. In both cases, the amount to be reimbursed to small-scale farmers was not specified. However, clauses indicated the procedure for price determination. The delimitation of the Company's responsibility for price guarantee was explicitly stated in the contract.

3.1.3 Missing clauses

The clause that defined different grades for delivered paprika was not included in the studied contract. In addition, the contract did not specify conditions for termination of the agreement. Reference to the applicable law and options for settling possible disputes between parties were not contained in the contract. The contract also did not involve the clause that clarified responsibilities in the case of *force majeure* events.

3.2 Contract content

The preamble of the contract defined that the outgrower entered the contract with an aim of growing contracted paprika for, and on behalf of, the Company. The agreed contract lasted for one season, which started on the day of purchase of the seeds and continued until the last part of the crop was sold. The seeds were the only input supplied through the contract and the Company sold packets of seeds to outgrowers on a cash basis. The crop in the contract was defined as all paprika that was produced from the purchased seeds packets. The contract stipulated that the outgrower was obliged to sell the entire crop exclusively to the Company. Grading was determined on the marketing day, where a complete description for each grade was provided (but not contained in the written contract), and parties agreed on the identified grades. The Company retained the right to determine the price. The price was influenced by the world market price, fluctuation in exchange rates and demand for paprika. The Company was obliged to make cash payments to the outgrower on the day of purchase or within two weeks. In addition, the Company organised central purchasing points not more than 30 kilometres from the original growing area if outgrowers delivered at least three tonnes of paprika.

The contract included training on cultivation and grading practices provided by the Company and the Ministry of Agriculture. The outgrower agreed to follow the Company's instructions, especially on recommended chemical usage. The failure to deliver the agreed quality of the crop was regulated through the contract by the Company's right to reduce the price of the crop, downgrade the crop or reject the crop. Moreover, the contract defined two cases for breach of contract. First, the outgrower breached the contract if paprika was not sold to the Company. Second, the Company breached the contract if the contracted paprika was not purchased.

The liability clauses were defined in the form of a disclaimer. The Company claimed no responsibility for an outgrower's injury, health issues or death during the growing and transporting processes. The Company was not liable for the supply of inputs, such as chemicals, fertilisers or finances. The Company did not guarantee the price at which the paprika would be purchased. The signatory clause required the contract to be signed under the condition that each party had read and fully understood the content. The signing parties included the chairperson and secretary of the farmers' association, one of the Company's representatives and a witness.

Table 1: *A comparison of the design of selected supply contracts*

Clause	*Malawi (2013/14)*	*Malawi (2010/11)*	*Zambia*	*India*	*Cape Verde*
Crop	Paprika	Paprika	Paprika	Fruits and vegetables	Fruits and vegetables
Type	Production-management	Production-management	Resource-providing	Resource-providing	Production-management
Parties	Outgrower (individual or group), the Company	Outgrower (individual or group), company	Small-scale growers (group), purchaser	Farmer (individual), company	Seller (individual), buyer
Preamble	Outgrower grows paprika for, and on behalf of, the Company	Outgrower grows paprika for, and on behalf of, company	Purchaser contracts the grower to produce the crop	Farmer desires to enter into agreement with company	Seller offers to supply buyer, and buyer agrees to purchase the goods
Applicable law	X	X	X	Defined	Defined
Duration	One season	One season	One season	One year; extendable by company	Indicated number of years
Termination	X	X	X	Inputs misuse, quality failure in two consecutive seasons	Failure to supply or purchase, *force majeure*, breach
Input provision	Seeds only; cash in advance	Seeds only; cash in advance	Optional: seeds, chemicals and credit	Seeds, fertilisers and plant protection chemicals; written proof	X
Quantity	All crop grown using seeds sold by the Company	All crop produced by the outgrower	All crop, including surpluses above agreed quantity	All crop produced on agreed acreage	Amount/kg defined
Description of grades	X *	Four grades described	Four grades described	X *	Seven grades described
Payment method	Cash; immediately or within two weeks	Cash; immediately or within two weeks	Deduction + interest; within 15 work days	X	Cash, cheque, or bank transfer

Table 1: *A comparison of the design of selected supply contracts* (continued)

Clause	*Malawi (2013/14)*	*Malawi (2010/11)*	*Zambia*	*India*	*Cape Verde*
Price	Company's decision; based on the prevailing market prices, currency fluctuation, and demand; split by grade; not explicitly defined; no bargaining	Defined; fixed minimum amount/kg; split by grade; no bargaining	Defined; fixed amount/kg; no bargaining	Company's decision; amount/kg; split by grade; not explicitly stated; no bargaining	Defined; fixed amount/kg, but dependent on grade; mutual negotiation in case market price changes ± 10 % compared to contract price
Training	Instructions by the Company and third party, especially on grading and cultivation	Instructions by company and third party, especially on grading and cultivation	Instructions, newsletters, and educational visits by purchaser	Instructions by company	X
Quality failure	Downgrading; price reduction; rejection	Downgrading; price reduction; rejection	Downgrading; price adjustment; rejection; charging	Contract termination and return of provided inputs	X
Breach	Side-selling; purchase refusal	Side-selling	Side-selling (monetary penalty)	Side-selling (implicitly)	X
Liabilities	Outgrower: cultivation, chemical usage, grading, selling; Company: purchase	Outgrower: cultivation, chemical usage, grading, selling; company: purchase	Grower: cultivation, chemical usage, delivery, selling; purchaser: purchase	Farmer: cultivation, grading, selling; company: input provision, purchase	Seller: cultivation, delivery, selling; buyer: purchase
Disputes	X	X	X	Amicably; arbitration	Amicably; mediation
Force majeure	X	X	X	No party is liable; farmer must repay the loan	No party is liable; contract can be terminated
Signatory	Association, Company, witness	Company, outgrower, witness	Purchaser, grower, witness	Farmer, company, witness	Seller, buyer, witness

* The price in the contracts was spilt by grades but grades' characteristics were not described in the contract.

3.3 Comparison of contracts

In this section, the clauses of the studied contract are compared with clauses in selected contracts from Malawi, Zambia, India and Cape Verde. The first part of this section emphasises the differences in two Malawian contracts.

3.3.1 Differences in the contract structure of two Malawian contracts

The structure of the compared contracts varied considerably in four key aspects. First, the contract from the 2010/11 season outlined the minimum price for each of four grades listed in the contract. As noted earlier, the studied contract partially defined the clause on price and did not include grades. Second, regarding breach of contract, the studied contract expanded on the contract from 2010/11 and included the statement that the Company breaches the contract if it does not purchase the contracted crop. Third, the studied contract contained the clause specifying English as the working language. Fourth, while the contract in 2010/11 was signed between the Company and the outgrower as an individual, the 2013/14 contract required the signatures of representatives of the farmers' association. The rest of the clauses appeared in both Malawian contracts and remained similar in their content, thus the recent contract (2013/14 season) is the subject of further analysis.

3.3.2 Comparison of the studied Malawian contract with three similar contracts

The contracts from Malawi and Cape Verde were classified as production-management contracts while the Zambian and Indian contracts were resource-providing contracts. Table 1 shows that the Malawian contract did not differ from similar food supply contracts regarding the parties involved - all contracts were made between companies and individuals or groups. The preamble of both the Malawian and Zambian contracts emphasised the farmers' obligations to cultivate the crop for the contractor, while contracts from India and Cape Verde defined the contractual relationship through an offer and acceptance form, i.e. the farmer offered to cultivate the crop and the company accepted the offer.

All contracts explicitly defined the duration of the agreement. Only the Indian contract included the possibility to extend the contract. The contracts showed specific variations in the provision of inputs as a result of different types of contracts and their purposes. The Malawian contract included the provision of seeds exclusively and the contract from Cape Verde did not involve any inputs. The contracts from Zambia and India involved seeds, fertilisers, chemicals and cash credit. The required crop quantities differed across contracts. The Malawian and Zambian contracts demanded the whole crop to be delivered to the contractor. In the Zambian case, even surpluses above the determined quantity had to be sold to the contractor. In the Indian contract, farmers were obliged to deliver the entire crop produced on an agreed acreage, while the Cape Verde contract defined the expected quantity in kilogrammes.

Price and grade clauses also varied among contracts. The Malawian and Indian contract did not describe grades. In contrast, the contracts from Zambia and Cape Verde provided detailed descriptions of four and seven grades respectively. The price in the contracts was either depended on market conditions or defined as fixed amount per kilogrammes. In the cases of Malawi and India, the contracting companies decided on the price, and although not explicitly defined in the contract, the price was split by grades. Only the Cape Verdean contract included a clause on mutual renegotiation if the market price declined or increased 10 % compared to the contract price.

Different payment methods were found in the compared contracts. The contracts from Malawi and Cape Verde provided cash payments to the farmers. While the Indian contract did not define any payment method, the Zambian contract involved the principle where the final price was subject to deductions based on input costs and interest rate. The Malawian and Indian contracts provided training on good agricultural practices. The contract in Zambia included newsletters and educational visits for outgrowers. If the delivered crop did not satisfy quality standards, contractors in Malawi, Zambia and India had the option to downgrade the crop, adjust the price, reject the crop or automatically terminate the contract. The Cape Verdean contract did not define actions in the case of quality failure.

Side-selling was considered as a breach of contract in the Malawian, Zambian and Indian contracts. In Zambia, side-selling incurred monetary repercussions for the grower. Within all contracts, farmers had obligations to cultivate and sell the crop. All contracts obliged the contractor to purchase the contracted crop under agreed quality standards. In the Indian contract, the company was liable for input provision.

The Malawian and Zambian contracts did not define clauses related to the applicable law, contract termination, dispute settlements and *force majeure*. In contrast, the Indian and Cape Verdean contracts included those clauses. The company in India had the right to terminate

the contract if the outgrower failed to deliver a quality crop for two periods or misused the provided inputs. In the contract from Cape Verde, each party could terminate the contract if one party failed to deliver or purchase the crop, in the case of breach of contract and if *force majeure* events occurred. In the case of India and Cape Verde, disputes between the parties were first resolved amicably, while the second stage of the settlement involved arbitration and mediation respectively. In the Indian and Cape Verdean contracts, neither party was considered liable for the *force majeure* events. In India, the outgrower had to repay a given loan, while in Cape Verde *force majeure* was a valid foundation for contract termination.

The signatory clauses in the contracts from Zambia, India and Cape Verde required signatures from the company, the outgrower and at least one witness. In contrast, the Malawian contract did not require the outgrower to directly sign the contract, as the signatory clause referred to the representatives of the farmers' association.

4 Discussion

4.1 Contractual completeness

The Malawian contract did not include clauses covering grades, applicable law, dispute settlement, exit options and *force majeure*. Thus, the Malawian contract had a certain degree of incompleteness, which is inevitable in almost all the contracts. The incompleteness in many contracts occurs mostly due to *ex-ante* and *ex-post* transaction costs related to drafting and enforcing contracts, asymmetric information and parties' bounded rationality (Hart, 1988; Hart & Moore, 2008). According to Hart (2010), the reason for leaving a contract incomplete might be to take advantage of an agent's cognitive limitations. Nevertheless, omitting some clauses in the contract is justified when the excluded clauses do not introduce additional risks or inequalities for the parties involved.

Defining the price of paprika in the studied contract involved some challenges for the Company. As an export commodity, the price of paprika is influenced by international prices and currency fluctuations. The comparison of the two contracts from Malawi revealed that the contract from 2010/2011 season included the definition of the price clause, which was not done in the contract from 2013/2014 season. Apart from identifying the parties and the objectives of the agreement, general contract law does not impose any requirements regarding the contract form (UNIDROIT/FAO/IFAD, 2015). One may infer that contracts do not necessarily need to include the price clause. In the Malawian contract, the Company retained the right to decide solely on the price based on market conditions. By doing so, the Company reduced its marketing risk and increased small-scale farmer's vulnerability to fluctuations on the international market. The Malawian contract required the entire crop to be sold to the Company at the market price corrected for currency fluctuations. Thus, the contract provided a secure outlet for small-scale farmer's produce but did not offer a stable or premium price. In addition, the contract did not involve the possibility to bargain over the price. According to the existing price clause, the small-scale farmer signing the Malawian contract accepted the risk that volatile international prices would shape the final price paid by the Company.

The literature on contracts provides further explanations on the price clause. In some cases, the contractors may outline the pricing mechanism in the contract. However, the pricing formula might be too complex and the real extent of the price premium for the small-scale farmer can be disguised (Pultrone, 2012). Small-scale farmers rarely participate in price determination and their bargaining power is often reduced since they cannot assess whether the price paid represents an appropriate remuneration (Echánove & Steffen, 2005). In cases where the price is not stated and is left to be shaped by the market as in the Malawian contract, the companies might closely track market trends to set delivery dates to favour low prices (da Silva, 2005). The consequences of inadequately defined and paid price via the contract might result in side-selling or cessation of production of that commodity (Baumann, 2000).

Omitting grades impacted the fairness of the Malawian contract to the least extent. International traders in the paprika sector tend to follow existing American Spice Trade Association (ASTA) guidelines that specify industry standards for spice quality and are known for ASTA colour values (ASTA, 2016). Therefore, the grades for paprika do not change as often as the price. Even though the contractor is usually familiar with ASTA specifications, small-scale farmers may lack access to essential information concerning grade levels. In this regard, the Malawian contract included training on grading for small-scale farmers and reduced the information asymmetry between the parties.

Nevertheless, it is argued in the literature that clauses on quality and grades are open to manipulation, which often causes disputes between companies and farmers (Eaton & Shepherd, 2001; Echánove & Steffen, 2005). There are three main reasons why companies

might want to control these clauses. First, by arbitrarily controlling classification of commodities, companies might downgrade some proportion of the high-quality commodity into a second grade to obtain more quality products at a lower price (Baumann, 2000). Second, the price of the commodity on the market might be lower and companies could be tempted to supply the produce from the open market or export; thus, companies may 'invent' rigorous quality standards and reject a small-scale farmers' commodity (Pultrone, 2012). Third, in some cases the market for the commodity might be saturated and to reduce the risk of buying a contracted commodity with an uncertain market, companies might raise the quality standards to create a barrier for farmers' produce with an intention to reject it (Imbruce, 2008).

The Malawian contract did not define applicable law governing the contract. Hence, it is unclear which jurisdiction applied when interpreting and enforcing the contract. Also, the contract did not describe procedures for dispute settlement, so it was not possible to determine each parties' rights and responsibilities if disagreements arose. The Company is likely to have an advantage in directing dispute settlements by influencing either arbitration or mediation due to higher financial and information capacities. Small-scale farmers and even farmers' associations may be reluctant to pursue legal claims because of the costs involved in taking legal actions against the Company. The Legal Guide by UNIDROIT/FAO/IFAD (2015) confirms that the dispute settlement clause is among the ones most prone to manipulation in agricultural contracts. Pultrone (2012) further highlighted the importance of a clear definition of both dispute settlement clause and the law guiding the contract by suggesting that the contract should be explicit about which national law will govern the dispute settlement if parties come from different countries. Since the Malawian contract remained silent on the applicable law and the disputes clauses, the more powerful party gained the opportunity to determine rules *ad hoc*.

The termination clause was not indicated in the Malawian contract. As shown in Table 1, in some food supply contracts, the relationship can be automatically terminated in the case of any or a particular type of breach. The Malawian contract described acts that classify as a breach, without implying immediate termination as the consequence of the breach. On the other side, the Malawian contract did not specify conditions for terminating the agreement by either party's free will. Therefore, if any party intended to exit the contract in an amicable way, the contract did not define the required procedures, such as prior notice and the remaining liabilities.

Since the studied contract omitted the termination clause, it was left to each party's interpretation whether the contract locked-in the parties or gave the right to exit the contract arbitrarily. A similar case applied to *force majeure* events. The contract did not foresee natural disasters, which can result in delays in the delivery, reduced quality or complete destruction of the crop. It was unclear how costs related to crop damage would be distributed between parties. If the *force majeure* clause is not defined, it can be implied that risks and responsibilities associated with unpredictable events are borne by the farmer (Echánove & Steffen, 2005). The Malawian contract as designed could introduce the risk of disputes if natural disasters occur since each party could try to claim indemnity rights. Possible disputes could not be easily settled due to the lack of dispute settlement and applicable law clauses in the Malawian contract.

One of the peculiarities of the Malawian contract was the signatory clause. In the introductory part, the contract addressed the 'outgrower', which could be interpreted as either the individual farmer or a member of the farmers' association. Nevertheless, the contract required the signature of the association's representatives to conclude the agreement. This suggests that the Company preferred to establish a relationship with the farmers' association due to numerous advantages of collective action, such as the joint price negotiation, new production practices, information sharing, better input provision options and collective marketing of paprika (Abebaw & Haile, 2013; Wanglin & Abdulai, 2016). However, the membership in the farmers' association was not a condition to join the contract since the Company also contracted individual small-scale farmers.

This study's findings corroborate to conclusions from two recent studies. Prowse (2012) argued that companies often fail to incorporate even basic information in the contract, leaving farmers without an accurate idea of the nature of the agreement they signed. The author noted that often farmers signed contracts that could give away their rights over the crop to the company (Prowse, 2012). Moreover, Pultrone (2012) analysed key elements of typical agricultural contracts and concluded that more complete contracts would help each party perform their obligations in a more efficient and effective manner and avert misunderstandings. In particular, the inclusion of clauses on price, quantity and quality, *force majeure*, termination and dispute settlement clauses add to contract's clarity and certainty (Pultrone, 2012).

4.2 *Learned lessons for improved contract design in Malawi*

None of the contracts analysed in Table 1 included all the clauses needed for fair and sustainable relationships. Some contracts reflected 'more equal' relationship than others and this study suggested how to improve the existing Malawian contract based on examples from the compared contracts. The four main learned lessons from the contract design are outlined below.

First, as the production-management type of contract, the Malawian contract included only paprika seeds as the provided input. If the inclusion of the entire input package (seeds, fertilisers, pesticides and chemicals) guaranteed an increase in quality and volumes of the crop, then it would be justified to provide more inputs via the Malawian contract. By providing more inputs, the Malawian contract would resemble resource-providing contract type such as in the example of the Zambian and Indian contracts. Nevertheless, the threat of small-scale farmers defaulting in repaying loans and the higher costs for the Company might exceed the perceived benefits of including the entire input package. In this sense, additional input provision in the current contract would require a thorough assessment of costs and benefits for both parties.

Second, the Malawian contract could include an appendix with simple guidelines for grades and therefore reduce uncertainties among small-scale farmers. Indeed, the final CYE report (2009) on the Malawian paprika sector recommended the development of a unique guide for grades. The study reported on three different grading systems operating in the same marketing area, which only increased small-scale farmers' mistrust towards the companies (CYE Consult, 2009).

Third, the pricing mechanism from the Cape Verdean contract could be adjusted to serve the Malawian contract. The Company could reduce small-scale farmers' marketing risk by indicating the expected average price for paprika in the contract. Furthermore, the price for paprika could be modified for different grades. The Company could include the clause where additional renegotiation of the price could take place if the market price fluctuates over or under a certain percent, which would reduce the Company's marketing risk. In addition, the Company could set the new expected average price every season, referring to the general market trends and previous experiences.

Fourth, the contract in Malawi should explicitly refer to the applicable law and determine rules for contract termination, disputes and *force majeure*. These clauses could be defined as part of the contract that could be negotiated when the need arises. Contracts from India and Cape Verde provide an example of all four clauses defined with no ambiguity. The proposed amendments would mean a lengthier Malawian contract and, as Cotula (2011) argued, longer contracts are more likely to efficiently tie down financial and social aspects.

The findings showed that the Malawian contract was designed as a production-management contract and had eleven defined, one partially defined and five missing clauses. The content of the Malawian contract was in part vague and incomplete. In particular, the clauses that were omitted from the contract influenced the risk and power distribution and potentially weakened the small-scale farmer's position in the relationship. Although the contract required the signatures of the representatives of the farmer's organisation, their presence did not guarantee better bargaining power for the small-scale farmers since the joint negotiation of the contract terms was not enabled by any contract clause. This study concludes that the Malawian and other similar food supply contracts should unambiguously include (but not be limited to) the following clauses: parties, duration, inputs provided, grades, price and payment, quantity, quality and delivery terms, breach and consequences, liabilities, termination, dispute settlement, *force majeure*, applicable law and signatory.

The findings of the study involve implications for supply chain management and policy-making.

First, the responsibility to improve the current contract design in Malawi's paprika supply chain belongs to both the Company and contracted small-scale farmers. To form complete and sustainable contracts, the Company and small-scale farmers should interact and negotiate terms that reasonably represent mutual and individual interests. Third parties, including non-governmental and aid organisations, could enhance the farmer's position through advocating for transparency in the contract design and by including neutral parties in assessing the fairness of the contract.

Second, the Malawian Government can play a part in directing policies towards more inclusive contract designs. Key recommendation for the policy change is to develop and implement criteria of minimum requirements for contract design regarding agricultural commodities, especially in cases where contracts involve vulnerable groups. The Government could incorporate the guidelines for contract design in emerging National Contract Farming Strategy to promote better-designed contracts.

Third, researchers and practitioners have a role in providing the evidence and learned lessons that enable

adoption of advanced contract features. Based on this study's outputs, future research should move in several directions. First, to estimate how the combination of different attributes in contract design (e.g. more input provision and stricter enforcement mechanisms) impacts on the small-scale farmers from a financial and social perspective. Second, there is a need to explore contracting companies' perspectives on issues of contract formulation. Third, to analyse countries' policies and strategies regarding contract design and examine the level of alignment with the Legal Guide by UNIDROIT/FAO/IFAD (2015) and the Sustainable Development Goals. Finally, to pursue the UN Agenda 2030 that seeks to enable inclusive and sustainable economic growth through wealth sharing and decreasing inequalities (UN, 2015), contracts should be designed and carefully formulated for more balanced relations, particularly where small-scale farmers are involved in markets.

Due to context-specific conditions, caution is advised when generalising findings on contract farming. Nonetheless, this study compared contract samples from Zambia, Cape Verde and India, and suggested that the contract design in Malawi's paprika supply chain can be improved by learning the lessons from other countries. The findings from this study are relevant to agricultural policymakers and development practitioners for advancing contract design that will legally protect and ensure fair conditions for small-scale farmers.

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