


Article

Stakeholders' Preferences towards Contract Attributes: Evidence from Rice Production in Vietnam

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Abstract: Contract farming is typically considered an appropriate measure for small-scale farmers to solve their constraints and problems. However, despite positive effects, low participation in and high dropout rates from contract farming schemes remain challenges. Therefore, this study objects to evaluate preferences for contract attributes and attribute levels among contracting buyers, farmers, and government officials through data triangulation from key informant interviews, focus group discussions, and participant observations. Based on Henry Garrett Ranking, Rank Based Quotient, and Rank Based Sum methods, results indicate that the most important attributes were price options, payment, delivery arrangement, input provision, input-use requirements, and product quality standards. Despite a consensus on the ranking of the contract attributes, the preferences for the attribute levels among the stakeholders were heterogeneous. It is recommended that attributes and their levels should be pertinent in contract agreements. Thus, contract design with an adjusted or premium price, 50% of estimated payment before harvesting and the rest after delivery three to five days or lump-sum immediate payment, delivery after harvesting, inputs provision by the contractors through the representative branches or stores located at the local areas or cooperatives, banning active-ingredients or flexible use of inputs from the contractors to produce Good Agricultural Practices or organic products are considerable options.

Keywords: contract farming; contract attributes; attribute levels; preferences; ranking; rank based quotient; Vietnam



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1. Introduction

Contract farming (CF) plays a core role in sustainable development, especially under the situation of agricultural-cultivated area reduction, serious impacts of climate change, and the COVID-19 pandemic [1–6]. In addition, food consumption markets are growing towards high-quality products with safety standards and sustainable certifications [7,8]. To developing countries, CF has been proposed as a suitable measure to remedy the constraints and problems of the smallholders [9–12].

An emerging body of literature, mainly quantitative methods, posits that CF has positive effects on the production and welfare of the relative stakeholders. Farmers under CF have higher benefits such as higher yields [13–15], higher production efficiency [16–20], higher revenues [21–23], higher incomes [11,24–33], higher profits [34–38], and better food security [39–41]. Likewise, the contractors also gain benefits from CF including quality consistency, reducing input and labor costs [42]; assured supply of quality material at a competitive price [43]; better earnings; and higher profit [44].

Despite the benefits from CF participation, empirical studies found a high dropout rate among farmers after their initial engagement [45–49]. Contract farming agreements (CFAs) are unsuccessful up to 70–80% because of both farmers and contractors [50]. Moreover,

besides the socio-economic determinants and perception, contract attributes affect farmers' decisions to participate in CF [26,51–58]. Selecting participation in a CF entails trade-offs between incentives and risks, so poorly or well-designed contracts can divulge farmers to extra risks or be more attractive to a larger number of farmers [59–61].

A main strand of literature has explicitly examined contract attributes such as duration, input provision, credit arrangement, form, quantity, price option, payment, etc. Most of these empirical studies utilize quantitative methods to investigate farmers' preferences [51–53,55,62–65]. In addition, Schelle and Pokorny [66] also explored farmers' expectations and preferences for contract attributes offered by the contractors by examining the compatibility of these attributes using the decisive and desirable percentage. These authors have examined the contractual preferences of farmers, but the same issues remain unresolved for buyers and policymakers. This is important because the similarities and differences between the contractual interests among them are not known. Moreover, based on better information on preferences, agribusiness enterprises can design better contracts, and policymakers can develop or create an enabling institutional environment for CF performance [51,64].

In reviewing the CF literature about preferences for contract attributes, we note several gaps. First, even though many empirical studies document the importance of contract attributes [51,53,57,62,64,65,67–69], surprisingly quite little attention has been paid to rank these attributes. Our study goes a step further by using the ranking methods to order the contract attributes and attribute levels. Second, the majority of authors mention many contract attributes, but some include all of them, the most attributes in one study being twelve in the study of Abebe, Bijman, Kemp, Omta and Tsegaye [51]. Third, a large number of authors investigate the preferences for contract attributes mainly from farmers' perspectives, but only few mention perspectives from buyers and, especially, from government officials.

The objective of our study is to explore the preferences for all contract attributes and attribute levels among farmers, contractors, and government officials by using a qualitative approach. This research examined and ranked the importance of the contract attributes and the preference for the attribute levels to enable the emerging agribusiness firms and policymakers to develop a suitable governance structure of CF that copes with the business purpose of different farmer's groups. This study is one among the series of studies about perception, preferences, and participation in CF in Vietnam.

2. Conceptual Framework

There are various contract attributes examined by the different authors (Table 1). In the conceptual framework, nineteen (19) contract attributes were employed (Figure 1) and examined individually.

Table 1. The typical studies on preferences for contract attributes.

No.	Authors	PublishedYear	Commodities (Study Site)	Methods/Approaches	Contract Attributes
1	Oliveira, Martino, Ciliberti, Frascarelli and Chiodini [57]	2021	Durum wheat (Italy)	- Discrete choice experiment (DCE) - Conditional logit model (CL), and Nested CL	Price, rules of production, rules of quality, forms of payment, renegotiation
2	Ihli, Seegers, Winter, Chiputwa and Gassner [62]	2021	Tree fruit (Rwanda)	- DCE - Mixed logit model (MXL)	Models, payment schedule, input/service provision, forms of contract, relation to the purchasers, investment costs
3	Widadie, Bijman and Trienekens [53]	2020	Vegetable (Indonesia)	- CE - MXL	Price, payment, quality, sale place, quantity

Table 1. Cont.

No.	Authors	Published Year	Commodities (Study Site)	Methods/Approaches	Contract Attributes
4	Hamed Al Ruqishi, Gibreel, Akaichi, Zaibet and Zekri [54]	2020	Vegetable (Oman)	- DCE - MXL - Latent class model	Type of partner, cropping decision rights, quality specifications, technical assistance, duration, price
5	Ochieng [64]	2020	Cotton and tea (Malawi)	- Choice experiment (CE) - MXL	Price, delivery point, quality, payment, benefits
6	Lemeilleur, Subervie, Presoto, Souza Piao and Saes [70]	2020	Coffee (Brazil)	- CE - CL and MXL	Sustainable practice, technical assistance, forms of contract, price
7	Martino and Polinori [71]	2019	Poultry (Italia)	- CE - CL	Duration, income, degree of autonomy, disinfection practices, price
8	Fischer and Wollni [61]	2018	Pineapple (Ghana)	- DCE - MXL - Latent class CL	Price, agreement timing, quality requirements, transparency of quality control, payment schedule
9	Guentang [72]	2018	Jatropha (Ghana)	- DCE - MXL	Price setting, forms, support from the buyer, renegotiation option
10	Permadi, et al. [73]	2018	Pulpwood (Indonesia)	- CE - CL	Duration, labor participation, timber insurance, training, road improvement, income
11	Arouna, Adegbola, Zossou, Babatunde and Diagne [65]	2017	Rice (Benin)	- CE - MXL	Duration, credit provision, models, control over the production activities, agreement on quality, payment, product quality specification, price
12	Ochieng, Veettil and Qaim [67]	2017	Vegetables (Kenya)	- CE - MXL	Price, sale place, sale forms, sale timing, payment
13	Van den Broeck, Vlaeminck, Raymaekers, Vande Velde, Vranken and Maertens [74]	2017	Rice (Benin)	- DCE - MXL - Latent class model	Herbicide use, chemical fertilizer use, child labor, fair-trade premium, input provision, price
14	Sauthoff, et al. [75]	2016	Sugar beets (Germany)	- DCE - Generalized multinomial logit model	Duration, contract acreage, price, spring harvest
15	Vassalos, et al. [76]	2016	Tomato (USA)	- DCE - CL - MXL	Price, quantity, penalty, certification cost
16	Abebe, Bijman, Kemp, Omta and Tsegaye [51]	2013	Potato (Ethiopia)	- DCE - Analytical Hierarchy Process (AHP) - CL - Alternative-specific CL	Price, forms, duration, quantity; seed quality specification, product quality specification, quality control mechanism, place of quality inspection; input provisions, technical assistance, delivery arrangement, credit arrangement

Table 1. Cont.

No.	Authors	Published Year	Commodities (Study Site)	Methods/Approaches	Contract Attributes
17	Schipmann and Qaim [68]	2011	Sweet pepper (Thailand)	- Contingent CE - MXL	Price, payment, input provision, relation to the trader
18	Kumar, Chand, Dabas and Singh [69]	2010	Wheat seed (India)	- Pair-wise ranking technique (for ranking order of contract attributes)	Ratio of contract and open market price, quantity, payment, reimbursement of transport cost, timely certification procedure, timely seed take off by firm, technology backup to farmers, adequate financial support
19	Roe, et al. [77]	2004	Hog (USA)	- CE - Unweighted and weighted model by a linear function	Organizational structure of contract issuer, base price formula, floor and ceiling price, quality premium schedule, duration, minimum quantity delivery requirements, ledger provisions

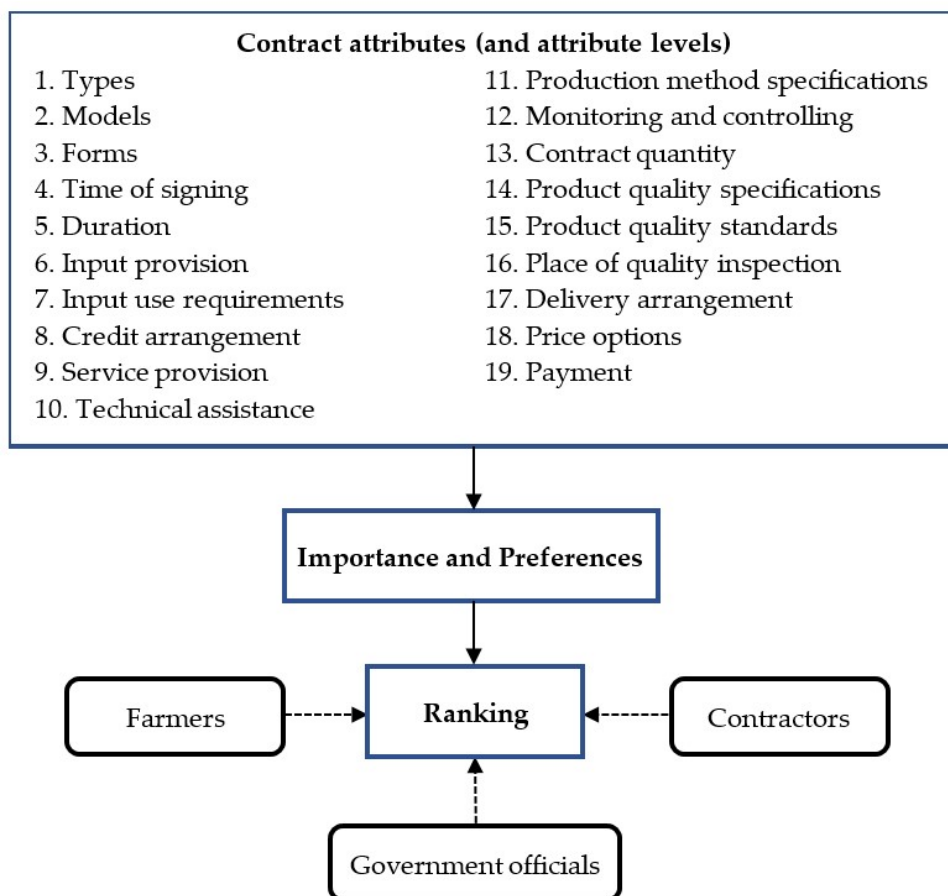


Figure 1. Conceptual framework of preferences for contract attributes and levels. Note: Solid arrows represent associations between components. Square-dot arrows represent associations between stakeholders and components.

Types: This attribute refers to the level of cooperation between contractors and farmers, which can be either a market-specifying contract (MC), resource-providing contract (RC), or production-management contract (PC) [78]. The MCs just focus on the output with quality specification, contract quantity, and price, while RCs mention the input with information about input provisions, types of input, and input-use requirements; on the other hand, PCs cover all issues relating to input, output, and production process.

Models: This attribute refers to the actors in contracts. In most of the literature, there are five models of CF including the centralized model, nucleus estate model, multipartite model, informal model, and intermediary model [79–81]. Arouna, Adegbola, Zossou, Babatunde and Diagne [65] indicate that contracts in Benin are signed between companies and individuals or groups of farmers, while in Oman the contracts are agreed between farmers and retailing firms or farmers' organizations, or processing firms [54].

Forms: Contracts can be in the forms of verbal and written agreement, of which written contracts are expected to have more preferences because of the formal and agreed way in terms and provisions of contracts as well as penalties for breaking or breaching contracts [51,62].

Time of signing: This attribute refers to the specific time to achieve agreement or sign contracts. The time of signing can be before cultivation or before harvest [61,65].

Duration: This attribute can indicate the healthy relationship and trust level between contractors and producers. The contract length is counted by years [70,71] or by a season of the crop [65].

Input provision: This attribute refers to suppliers and types of inputs [51,68]. Inputs are arranged to provide or not to farmers, in case providing inputs, who are the suppliers, the contractors or the private firms or stores selected by the contractors, the agricultural cooperatives, or the government. Inputs are provided to farmers in kind of cash, seed, fertilizers, agricultural chemicals (pesticides, herbicides . . .), or and use of agricultural equipment.

Input-use requirements: This attribute is quite important to contracts for high-quality products, especially Good Agricultural Practices (GAP) and organic certificates or exporting commodities. Van den Broeck et al. [74] mention that two attributes corresponding to input use requirements are herbicide use and chemical fertilizer use with three levels of each attribute comprising forbidden, training and precise dose or reduce dose, and no restrictions.

Credit arrangement: Limited access to credit is the main constraint of smallholder farmers in developing countries [82–84]. Farmers may be unable to put money into production inputs which include fertilizer, seeds, and agricultural technologies necessary to boost productivity and competitiveness due to lack of credit [62].

Service provision: This attribute refers to the types of services supplied for farmers. Ihli, Seegers, Winter, Chiputwa and Gassner [62] combine service provision and input provision into one attribute, including inputs (seedlings, fertilizer), credit and training access.

Technical assistance: Commonly, this attribute refers to the specific agents or stakeholders assisting techniques to producers such as buyer firms or governmental or non-governmental organizations [51,54]. Besides, this attribute is also considered as the yes/no option [70].

Production method specifications: There is a small body of literature review mentioning production methods. In the study of Lemeilleur, Subervie, Presoto, Souza Piao and Saes [70], a sola study, this attribute refers to sustainable practice with three levels.

Monitoring and controlling: Monitoring and controlling can be a control over the production activities [65] or quality control mechanism [51].

Quantity: This attribute refers to the quantity delivered to the buyers. There are different measurements for the levels of this attribute, they can be flexible and fixed quantity [53], or the specific numbers at each attribute level [76], or minimum number [77], or just a yes or no option on the quality agreement [65].

Product quality specifications: This attribute refers to the quality requirements, which have a huge impact on contract enforcement. Many empirical studies ascertain the common

appearance of this attribute in contract design. Ochieng [64] and Widadie, Bijman and Trienekens [53] specify the quality of products into specific grades or types (i.e., grade A, B; or handling 1, 2, 3, 4), while Arouna, Adegbola, Zossou, Babatunde and Diagne [65] examined quality specifications in options of yes or no. In this study, we consider product quality specifications in two options including minimum quality requirements and variable quality requirements (with variable prices).

Product quality standards: This attribute refers to the standards of products. There are very few studies that mentioned product quality standards. In the study of Hamed Al Ruqishi, Gibreel, Akaichi, Zaibet and Zekri [54], the attribute of quality standards is mixed with quality specifications.

Place of quality inspection: There is a relatively small body of literature on the place of quality inspection. Quality can be controlled and rejected only at farm possible or at farm and company/packhouse possible [61]. While Abebe, Bijman, Kemp, Omta and Tsegaye [51] and Mehry et al. [85] mention this attribute, these authors just examine the important level and ranking order without level attribute specifications.

Delivery arrangement: There are different sides to this attribute. It can be a delivery point (i.e., farm gate, collection point, or buyers' premises) [64] or timing of delivery (i.e., at any time, at times specified in the contract, or based on phone orders by buyers) [67]

Price options: This attribute is a common appearance in many empirical studies. Some researchers utilize market price as a based or reference price to designing contract price [54,65,70,86], while Ochieng [64] bases a fixed price and then plus premium for different price options. Besides, some authors give specific prices in each level of price attribute [53,61,72].

Payment: This attribute refers to the schedule and methods of payment. Immediate payment is the common mode, while farmers sometimes have to receive late payment after product delivery [53,62,87]. Moreover, methods of payment for farmers by cash or transfer were considered in the study

The crucial research question emerged from various preferences for contract design is how stakeholders' perspectives on contract attributes and attribute levels differ. Therefore, in Figure 1, we presented farmers, contractors, and government officials as the stakeholders. They expressed their preferences on contract attributes and attribute levels by ranking the relative important levels.

3. Materials and Methods

3.1. Study Sites

This study utilized multi-stage sampling to select the study site. The Mekong River Delta (MRD) was chosen because it represents the largest area of Vietnam for rice production and export, and an emerging trend in CF participation [88–90] (Figure 2). In this region, An Giang, Can Tho, and Kien Giang provinces were selected as representative study sites considering that this province was the first to apply rice contract farming (RCF), the “rice bowl” of the MRD [44,91], the main location of rice exporters [88], and the largest cultivated area of rice, respectively [90]. Finally, in every province, two representative districts were selected, then two representative communes in each chosen district based on the results of KIIs at provincial and district levels, respectively.

3.2. Data Collection

This study employed a qualitative research approach. Secondary data was gathered from the General Statistic Office of Vietnam (GSO), Departments of Cooperatives and Rural Development (DCRD), and previous studies, while primary data was collected directly in April and May 2021 by key informant interviews (KIIs), focus group discussions (FGDs), and participant observations (POs). The data triangulation was used to have a full view of participation in CF from the different sides [92]. Key informants were chosen via the purposive sampling technique because it allowed the researcher to select the experienced respondents. In total, 20 key informants were interviewed, of which 10 of

them were the government officials at provincial, district, and commune levels including heads of departments, subdepartments, centers, stations, and offices; and the rest were contractors such as directors or chairman of agricultural cooperatives and representatives of companies. Seven FGDs were organized with the participation of 43 respondents including representatives of the cooperatives, contractors (staffs) and farmers (19 CF and 17 non-CF farmers). KIIs and FGDs were done by using the semi-structured questionnaire. In addition, the researchers participated in and observed 2 meetings on summarizing and deploying the rice production crops of the commune and the cooperative group.

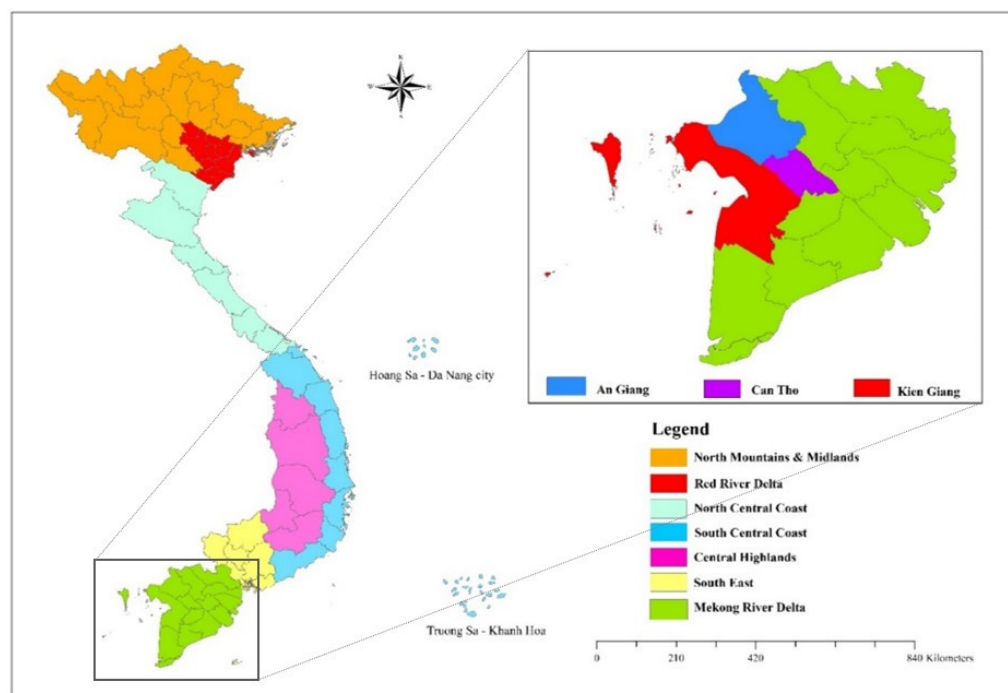


Figure 2. Study area, the An Giang, Can Tho, and Kien Giang provinces in the MRD, Vietnam.

3.3. Data Analysis

The analytical framework presented in Figure 3 was primarily based on exploratory interviews and a grounded theory process. Exploratory interviews included KIIs, FGDs, and POs. The grounded theory process was adapted from the approach of Hoang [6] under the protocols and the evaluative criteria to achieve a methodological fit and rigor [93,94]. The model consists of five stages with different techniques of data collection such as KIIs, FGDs, and POs. Collected data were coded by open multi-stage coding with an inductive framework approach [95,96]. Data coding and analysis include five steps such as codes, concepts, categories, patterns and links, and theories. Data were analyzed using Atlas.ti 9 (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany) and IBM SPSS 20.0 (IBM Corp., Armonk, NY, USA). The study employed the methods of typology [97], constant comparison [98], and content analysis [99,100]. Typology of CF was analyzed qualitatively using CF scheme [101] by classifying across the contract attributes and the respondent groups.

To rank the relative importance of contract attributes, Kumar, Chand, Dabas and Singh [69] utilized the pair-wise ranking technique through standardized discriminant coefficient, while Abebe, Bijman, Kemp, Omta and Tsegaye [51] and Mehry, Ahmadpour, Mohammadi and Salarpour [85] applied AHP method, but they ranked the attributes in each subgroup of contract attributes (output market, quality, and input market). Besides, Henry Garrett Ranking (HGR) and Rank Based Quotient (RBQ) methods were also applied to examine the rank order [102–106]. While HGR method was often used to complete the ranking, it needed a conversion table to convert into certain ranks; RBQ technique was

utilized to calculate results directly from the answers of the respondents, but it was based on a quotient. In contrast, despite a new technique, Rank Based Sum (RBS) was applied to rank orders immediately from the respondents' answers without any dependent components. Therefore, different from these authors, the study took into account all contract attributes and ranked them by using HGR, RBQ, and RBS methods. This approach was suitable for the qualitative study and more practical as respondents easily select and rank the attributes directly and separately, without concerning which group a particular attribute belonged to. Moreover, the simultaneous use of HGR, RBQ, and RBS was carried out to cross examine differences in ranking results and identify the most precise method among the three.

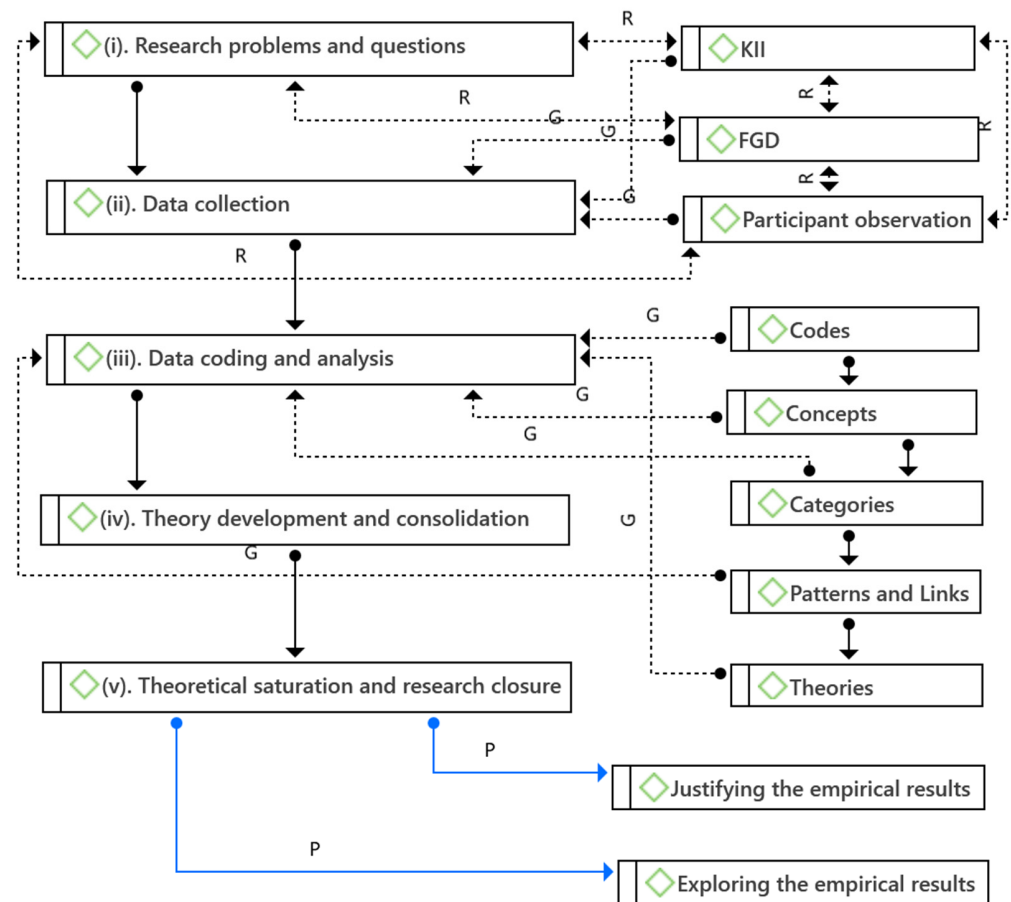


Figure 3. Analytical framework of the qualitative approach. Source: Adapted from Hoang [6]. Note: Symmetric dot arrows with letter R represent “is associated with”, transitive dot arrows with letter G represent “is a part of”, asymmetric blue solid arrows with letter P represent “is a property of”, and asymmetric solid arrows represent the orders between components.

In this method of HGR, firstly, the contract attributes would be ordered by each respondent (or individual). Secondly, we calculated percent position by the following formula given by Garrett [107]:

$$\text{Percent Position} = 100 \times \frac{R_{ij} - 0.5}{N_j} \quad (1)$$

where R_{ij} was the rank given for the i th attribute (or attribute level) by the j th respondent (or individual), N_j was the number of attributes (or attribute levels) ranked by the j th respondent (or individual). There were 19 attributes in this study, so R_{ij} was from 1st to 19th, N_j was 19. Thirdly, the percent position of each rank of the attribute (or level) would be converted into scores using the Garrett table (Table A1) [108]. For each item, scores

of individual respondents would be added together and divided by the total number of respondents for whose scores were added. Finally, the mean score for each item would be ranked in descending order.

In the RBQ technique, RBQ value was calculated by adopting the formula from Sabarathnam [109]:

$$RBQ = \frac{\sum f_{ri}(n+1-r_i)}{N \times n} \times 100 \quad (2)$$

where r_i was the r th rank order of the i th attribute (or attribute level), n was the total number of attributes (or attribute levels) identified, f_{ri} was the frequency of the respondents (or individuals) giving r th rank order to the i th attribute (or attribute level), N was the total number of respondents. In this study, r was from 1st to 19th and n was 19 because of 19 contract attributes, N was 27, while the number levels of the attributes depend on each contract attribute. Finally, these attributes (or attribute levels) were ranked descending based on the RBQ, the highest RBQ value got the 1st ranking.

In the RBS method, adapted from the RBQ, firstly the attributes would be ordered by each respondent. Secondly, we calculate RBS by the following formula:

$$RBS = \sum f_{ri}(n+1-r_i) \quad (3)$$

where $\sum f_{ri}(n+1-r_i)$ was the numerator of the RBQ formula. Therefore, the denotations of f_{ri} , n , and r_i were the same as the explanation in Formula (2). We found out that “ $n+1-r_i$ ” was the exact score for the r th rank of the i th attribute (or attribute level). Finally, the ranking orders of these attributes (or attribute levels) were descended the same as the RBQ technique.

4. Results

4.1. Typologies of RCF

The study results indicate that the main types of contracts were MCs and RCs while PCs were mainly for the export of rice, especially to the EU market with strict requirements and high standards. These contracts were signed by the different stakeholders in various models such as between the company and an individual farmer; between the company and agro-cooperatives (on behalf of farmers); between the company and agro-cooperatives, having government or local authority counter-sign or witness; between agro-cooperatives and farmers.

In fact, the local governments played an important role in RCF performance. “Cooperative is an independent organization operating following the cooperative law, but if there is not the participation of the government, we face many difficulties” (following KII18). “The People’s Committee of the commune has signed in the general contract including the total area that the enterprise signed with the cooperative” (following KII17). Especially, this was the first organization to solve the conflicts between the contractors versus cooperative or farmers if they could not reconcile by themselves (following KII17). Therefore, the counter-sign of the local authorities contributed to the increment of the prestige and trust among contractors, cooperatives, and farmers. Besides, in An Giang province, the contractor is a member of the contracting cooperatives with a contribution of 20% of the charter capital; they also played the role of a director or deputy director. This membership enhanced the partnership between the contracting companies and farmers. However, “the performance of the cooperative is decided by the chairman of the administrative council who is a local person. If there are any illogical decisions and or plans from the director or deputy director, the administrative council and director board cooperative will hold a meeting to discuss and finalize them. Because the director or deputy director of the cooperative is a staff of the contracting company, they tend to tilts/pulls benefits back to their company” (following KII5).

The research results show that most of the contracts were in written forms good for one season. Moreover, the number of terms and the completeness of the contract’s

content were quite different between MCs and RCs, PCs, as well as between types of contractors such as the local collectors or traders and the companies. The signed contracts referenced from the KIIs documents that there were very simple contents in the MCs from the local collectors while the RCs and PCs from the companies were drafted carefully with many specific provisions. Information of the MCs indicates quantity, rice variety, price, deposit, harvesting schedule, delivery schedule and the compensation for contract breach is demonstrated only in one A4 page; the contents of rest types of contracts were indicated in four or six double A4 pages, excluding appendices, including rice variety, types of rice use (for sale or for seeds), production operation plan (timing of sowing and harvesting), area, estimated quantity, place of cultivation; quantity and types of provided inputs and their price; production technique instructions, production organization, harvesting and delivery schedule; paddy quality standards and specifications; price options, timing of price setting and confirmation; payment schedule and methods; the rights and obligations of the company, the cooperatives and farmers; and ended by the general terms about dispute resolution (if any), changes and additions (if any), number of copies of the signed contract, and validity of the contract (following KII4, KII9 and KII15).

To timing of signing, contracts could be signed at different timing depending on the contract types. While RCs and PCs would be signed before the beginning of the rice seasons, MCs would be signed before harvesting or after sowing. In fact, *“there is a lack of the enterprises and warehouses that signs a contract with the cooperative at the beginning of the season to carry out the CFAs”* (following FGD4). Even the crop plan had been made and discussed at the commune meeting, including the selection of rice varieties for sowing, but the People Committee, the cooperative director board, and administrative council had not had information about the enterprises yet (following PO2).

To input provision, apart from the contractors of MCs, contracting buyers always provided inputs in kind of inputs including seeds, fertilizers, agricultural chemicals (pesticides . . .), and use of agricultural equipment (drone and harvesting machines). These inputs were supplied by the contractors or the stores and agents selected by the contractors. Despite the supply of inputs, the input use requirements were quite flexible. Some contractors did not force producers to use their inputs; they informed farmers to avoid the usage of the banned active ingredients. Some contracting buyers required producers to utilize their inputs at least 500 thousand Vietnam Dong per hectare (VND/ha) to be bought paddy (output). Others forced producers to use 100% of their inputs, especially for producing rice for exporting to the EU. In the case of using the inputs from the contractors, farmers would be discounted 3% of the input value. In contrast, in the case farmers received inputs in advances but did not want to sell paddy to contracting buyers because of unexpected-offered price or any reasons, they could sell paddy to others and had to pay the received input value to the contractors after harvesting. Particularly, *“the company plans to lend the contracted cooperatives to buy machines for production, the profit will be divided equally. These types of equipment will belong to the cooperatives as long as the contractors receive enough money equal to buying value”* (following KII5). These inputs were supplied as credit from the contractors; farmers would pay back after harvesting. Besides, to create prestige and trust to producers, contractors normally deposited 1500–2500 thousand VND/ha, sometimes up to 4000 thousand VND/ha whenever they predicted a price increase of the paddy. Although contributing to creating more favorable conditions for rice production of households, there were some problems in input supply such as *“prices of inputs are not informed from the beginning of the provision to the farmers. Sometimes, the input prices are higher than the market prices”* (following KII2); *“sometimes, the inputs provided by contractors are not suitable and not efficient in disease treatment, and untimely. Sometimes there is a delay in making decisions to handle in the production process, for example, when the field is infected with plant hoppers, the company often waits for 2–3 days to have medicine, so the rice must have suffered heavy damage. If you buy it outside, it’s very quick”* (following FGD6). Particularly for RCFs of the large field models, *“the bidding mechanism and process sometimes make the material supply untimely due to the long bidding time”* (following KII20).

To service provision, there were various types of services such as land preparation, cultivation/planting, irrigation, spray, payment for the standardized certificate, helping to obtain GAP/Organic, technology transfer, production knowledge/consultation, monitoring, production training (hard and soft), making production planning, helping to improve the farmer networking, harvest, and delivery. Depending on the types of services offered, they were provided by the contractors, the cooperatives, the private firms, or the relevant offices of the government—or not supplied and implemented by the farmers. *“Last time, the contracting companies helped cooperatives and farmers to get GAP certificates but they stop now. Cooperatives and farmers can not get GAP certificates because of complicated processes and high fees”* (following FGD4). Beside services, technical assistance was also supplied to farmers from the contractors, the cooperatives, and the relevant offices of the government. However, *“some technicians, staffs of contractors, have lower knowledge about the diseases in the local parcels than farmers”* (following KII1).

To production methods, the contractors required farmers to follow their methods or the methods recommended by the appropriate bodies of the governments such as “1 must, 5 decreases”, “3 decreases, 3 increases”, and Sustainable Rice Platform (SRP) to produce rice meeting the quality standards of the high quality, or GAP, organic, and SRP. Especially to types of RCs and PCs, the contractors always monitored and controlled during the production process. Then, the contractors accepted to buy all production as long as paddies met the minimum requirements of the quality standards. These quantities were specified in the contracts flexibly based on the estimation from the current cultivated area and the yields of similar previous crops. Besides, before harvesting, the paddy sample tests were taken for quality inspection such as impurity rate, mixing ratio, young green rate, fracture rate, and pesticide residues. Some tests could be carried out directly at the parcels, others were implemented at the contractors’ office or the laboratories of the organizations, and the results would be informed to farmers by the contractors. Therefore, the farmers fretted about the transparency of testing results because *“the inspection of rice quality (e.g., mixed pressing) is not supervised by the representative of the farmers since it is carried out at the company, the farmers are only notified of the results after the test. This sometimes causes suspicion and discomfort on the part of farmers”* (following KII9). *“The rice quality have mainly based on the testing results announced by the enterprises, the farmers must completely listen to the enterprises about these, the farmers can only supervise the sampling for testing”* (following KII18). Therefore, *“it needs a technical chain in monitoring and controlling product quality. Because when some contractors could not export rice they blamed the farmers for not following the production method specifications. In fact, they bought rice from different sources. Moreover, the testing results of rice quality (pesticide residues) depends on the representatives of the sampling and the modernity of analysis equipment”* (following KII7).

To harvest and delivery arrangement, 10–15 days before the harvesting day the staffs of the contractors would go to the field to examine paddy quality and meet the representatives of the cooperatives and farmers to make a plan for harvesting and delivery. The contractors required paddies to be harvested during the period of 9 a.m. to 5–6 p.m. under the dry weather condition. Then paddies were transported to the canal banks relevant to the delivery means of the contractors as the agreement. Most paddies were delivered at once after harvesting; however, in fact, the contractors sometimes extended the harvesting timing and delayed delivery because they did not have enough transporting means and because of the restricted capacity in processing and storing at the harvesting peak. To output prices, the prices were negotiated and determined before harvesting 15–17 days; sometimes the prices were set when CFAs were signed. There were diversified price options including fixed price (or “dead price”), flexible price (or market price), adjusted price, and premium price. While the adjusted price was formulated by the average of fixed price and market price, the market price at an area was calculated from the market prices of three or more areas around this area or in this region; premium price was set based on satisfaction to the quality standards. Payment schedules were also various, immediate payment, delayed

three to five days after delivery, or pay 50% before harvesting and the rest three to five days after transportation.

4.2. Preferences for Contract Attributes and Attribute Levels

The research results show that there seemed to be a similarity in the importance ranking of the contract attributes among the government officials, contracting buyers, and farmers; the first rankings mainly related to the terms of output (Table 2). The six most important attributes were price options, payment, delivery arrangement, input provision, input use requirements and product quality standards, while models, types, forms, duration, the timing of signing, and quantity of contract were the six least important attributes. However, there was still a slight heterogeneity in the evaluation of some attributes among the stakeholders such as contract quantity, place of quality inspection, and product quality standards, of which the largest differences were five ranks of contract quantity between the government officials and the farmers (twelfth and seventeenth respectively). Farmers ranked the low position to contract quantity because the contracting companies would seem to buy all harvesting quantity, of course, meeting the quality requirements specified in the contracts.

Table 2. Ranking for contract attributes among the stakeholders by ranking methods.

Contract Attributes	Government Officials			Contracting Buyers			Farmers			Overall		
	HGR	RBQ	RBS	HGR	RBQ	RBS	HGR	RBQ	RBS	HGR	RBQ	RBS
1. Price options	1	1	1	1	1	1	1	1	1	1	1	1
2. Payment	2	2	2	2	2	2	2	2	2	2	2	2
3. Delivery arrangement	3	3	3	3	3	3	3	3	3	3	3	3
4. Input provision	4	4	4	4	4	4	4	4	4	4	4	4
5. Input use requirements	5	5	5	5	5	5	6	6	6	5	5	5
6. Product quality standards	8	8	8	7	7	7	5	5	5	6	6	6
7. Credit arrangement	7	7	7	6	6	6	7	7	7	7	7	7
8. Production method specification	6	6	6	8	8	8	8	8	8	8	8	8
9. Service Provision	10	10	10	9	9	9	9	9	9	9	9	9
10. Product quality specification	9	9	9	10	10	10	11	11	11	10	10	10
11. Technical assistance	11	11	11	11	11	11	10	10	10	11	11	11
12. Monitoring and controlling during the production process	13	13	13	12	12	12	13	13	13	12	12	12
13. Place of quality inspection	15	15	15	14	14	14	12	12	12	14	13	13
14. Contract quantity	12	12	12	13	13	13	16	17	17	13	14	14
15. Time of signing contract	14	14	14	15	15	15	14	14	14	15	15	15
16. Contract duration	16	16	16	17	16	16	15	15	15	16	16	16
17. Form of contract	17	17	17	16	16	16	17	16	16	17	17	17
18. Types of contract	18	18	18	18	18	18	18	18	18	18	18	18
19. Models of contract	19	19	19	19	19	19	19	19	19	19	19	19

Results also demonstrate that there was a similar ranking of each attribute (in each respondent group) among HGR, RBQ, and RBS methods. While RBS was our adaption from RBQ, RBQ was widely applied and had fewer steps than HGR. Moreover, the calculated values of percent positions of HGR did not always exactly equal the percents at the conversion table, which brought difficulty to the researchers in choosing the equivalent scores. Therefore, we utilized the RBQ method to investigate the respondents' references for the levels of the six most important contract attributes. The selection of the top six important attributes to analyze deeper was also relevant to and then created the foundation for the DCE method of quantitative studies. Study results indicate that although there was

quite a consensus on the importance ranking of the six most important contract attributes, the preferences for the levels of these attributes were different among the government officials, contracting buyers, and farmers (Table 3).

Table 3. Preferences for attribute levels of the six most important contract attributes.

Contract Attributes	Attribute Levels	Government Officials		Contracting Buyers		Farmers		Overall	
		RBQ	Rank	RBQ	Rank	RBQ	Rank	RBQ	Rank
1. Price options	1. Fixed price	77.50	2	65.00	3	32.14	4	61.11	3
	2. Flexible price (or Market price)	27.50	4	72.50	2	42.86	3	48.15	4
	3. Adjusted price	60.00	3	85.00	1	85.71	2	75.93	1
	4. Premium price	85.00	1	30.00	4	89.29	1	65.74	2
2. Payment	1. Immediate	86.67	1	33.33	3	95.24	1	69.14	2
	2. Delayed 3–5 days after delivery	33.33	3	66.67	2	33.33	3	45.68	3
	3. 50% before harvesting and the rest after delivery 3–5 days	80.00	2	100.00	1	71.43	2	85.19	1
3. Delivery arrangement	1. After harvesting	100.00	1	100.00	1	100.00	1	100.00	1
	2. After drying	50.00	2	50.00	2	50.00	2	50.00	2
4. Input provision	1. No	25.00	4	25.00	4	92.86	1	42.59	4
	2. By the contractors	90.00	1	100.00	1	39.29	3	80.56	1
	3. By the agricultural cooperatives	85.00	2	67.50	2	82.14	2	77.78	2
5. Input use requirements	4. By the government	50.00	3	57.50	3	35.71	4	49.07	3
	1. No	25.00	4	25.00	4	82.14	2	39.81	4
	2. Banning active-ingredients	100.00	1	60.00	3	96.43	1	84.26	1
	3. Using at least a fixed value of inputs provided by the contractors	75.00	2	65.00	2	50.00	3	64.81	2
6. Product quality standards	4. Using 100% inputs provided by the contractors	50.00	3	100.00	1	25.00	4	62.04	3
	1. High quality	60.00	3	50.00	3	100.00	1	66.67	3
	2. GAP	87.50	1	82.50	2	67.86	2	80.56	1
	3. Organic	77.50	2	92.50	1	57.14	3	77.78	2
	4. SRP	25.00	4	25.00	4	25.00	4	25.00	4

To price options, farmers tended to choose a premium price to earn more incentives and adjusted prices to reduce the sense of price damage in comparison with the market price. *“Applying premium price such as scaled price depending on quality is better to farmers. Cooperative prefers this option”* (following KII2). They mentioned that *“enterprises need to come up with a price plan suitable to the fluctuations of the market price so as not to make farmers feel at a loss when the market price changes”* (following KII1), *“the price option is suitable to the fluctuations of market prices, ensuring the sharing of risks and benefits for stakeholders”* (following KII2), *“adjusted price option is suitable to cope with the price fluctuation so the linkage becomes more sustainable”* (following KII5). Having the same opinion as farmers, government officials also selected premium price and fixed price as the first rankings of price options that ensured benefits for producers and reduced market price fluctuation. They stated that *“RCFs follow the strict technical process and production methods but the selling prices are not different in comparison with the normal production”* (following KII7), *“contract prices are sometimes not higher than market prices while quality requirements are more stringent”* (following KII18), so *“the contractors need to support farmers by buying higher prices for GAP or Organic rice”* (following KII14). They also indicated that *“farmers are willing to participate in the RCFs as long as the price must be good. This is the key issue. Input support doesn’t really matter much”* (following KII7). Meanwhile, the contractors chose the timing price according to the markets such as

adjusted price and flexible price because they depended on the output markets, especially the export markets. In fact, the determination of the market price seemed to be fair but not really clear, some contract documents did not specify the market price formula or calculation, *“market price is relevant to refer for the contract price, but the market price of which paddy, from whom and which area?”* (following FGD5).

To payment schedule, the government officials and farmers preferred immediate payment or only 50% delayed payment. Farmers needed money not only for the next cultivation season but also for spending on their life because this was the main source of their income. Moreover, delayed payment would increase uncertainty, especially as the distrust between farmers and contracting buyers. The contractors preferred 50% before harvesting and the rest after delivery three to five days because they wanted to not only have enough time to deduct the debt of farmers and cooperatives (for credit provision in kind of inputs, or and services) and calculate payment amount to farmers but also to reduce their financing costs and financial pressure. Moreover, this option also created more prestige to farmers than delayed payment as well as retained farmers in the CFAs and minimized side selling. However, *“some enterprises only pay 50% as soon as the rice is weighed after harvesting, they do not set a date to pay the remaining 50%, or let farmers wait too long than the signed term”* (following FGD4). The contractors were proposed that *“if the payment is late, the contractors will pay more at the bank’s interest rate. If payment is overdue, pay extra according to the bank’s overdue interest”* (following KII15).

To delivery arrangement, all of the stakeholders preferred delivering paddy within twenty-four hours after harvesting. This choice contributed to ensuring the paddy quality after harvesting as well as creating convenience for farmers. However, *“sometimes the contractors still let the people harvest the paddy as the harvesting schedule, they do not come to weigh. Farmers have to sleep to keep the paddy. Even they come and weigh 2–3 days after harvesting. Since then, making people panic, they have to find a way to sell outside to the brokers”* (following FGD5). Therefore, the farmers offered that, in case of late delivery, the contracting companies had to pay an added fee for them as the working day of paddy keeping. As for the extension of the harvest date, the contractors had to plus 100 VND per kilogram every three days to the contract price (following KII15).

To input provision, there was a difference in the most preference about the input providers, while the contractors were selected by the government officials and contracting buyers, no input provision was preferred by the farmers. However, all of them also selected the agricultural cooperatives for the second-ranking of input providers. The government officials and the contracting companies asserted that inputs provided by the contractors would ensure the input quality, and avoid the fakes, thereby helping farmers to produce rice that met the output quality standards and requirements as the signed terms. This issue was verified and confirmed by the farmers. In fact, *“the contracting enterprises should assign the cooperatives to supply seeds and fertilizers to farmers”* (following KII5) because it was also related to input uses. While farmers and government officials preferred the option of banning active ingredients notified to paddy producers, the contracting companies preferred farmers using 100% or at least a fixed value of their inputs. Farmers wanted to be active in producing process because *“sometimes there is a delay in making decisions to handle the diseases in the production process. For example, when the fields were infected by the planthoppers, farmers often have to wait for 2–3 days to receive medicines from the contractors, so the paddy must have been suffered heavy damage. If farmers buy them outside, it’s very quick”* (following FGD6); meanwhile, the contractors wanted to control the inputs for paddy production to ensure their output quality. Moreover, these companies wanted to make more revenues by selling their inputs.

To product quality standards, high quality was the most preferred by the farmers because they would avoid the high fee for GAP and organic certificates as well as the stringent and precision production methods, which seemed to be not too familiar to households. In contrast, the government officials and the contracting buyers preferred higher quality standards such as GAP or organics. Under the view of government officials,

they wanted to promote higher product quality to create higher value and revenues not only for the relating stakeholders but also for the agricultural sector of the local economy. This was also suitable to the strategies of the central government for rice production and export in Vietnam. The contracting companies also wanted to receive support from the incentive policies of the government for the CF as well as meet the domestic and world demand for higher quality rice. Although, SRP—a new standard of product quality—was ranked at the lowest position, it was a suitable strategy for rice production under the condition of climate change, especially salinization in MRD, Vietnam. In fact, the director of the cooperative proposed that *“the companies should order the product quality (e.g., traceable rice . . .) for the cooperatives; the cooperatives will be more active in production. However, it depends on these companies. If the companies need it, the cooperatives can deploy it. If there is a need for companies to export to the EU, it is too good for farmers and cooperatives”* (following KII18).

5. Discussion

The conceptual framework for preferences for contract attributes and attributes levels was specified and confirmed through a qualitative study from RCF in Vietnam. The study is one of the very few that ranks the importance of all the contract attributes. Thus, only few studies were available to do comparison with the study results.

The study indicates that the price option was the most important among the contract attributes. This result is in line with the studies of Abebe, Bijman, Kemp, Omta and Tsegaye [51] on potatoes in Ethiopia, Kumar, Chand, Dabas and Singh [69] on wheat seed in India, and others when this attribute was frequently selected for designing DCE. Besides, study also illustrates that farmers preferred premium prices. This result conforms to the study of Van den Broeck, Vlaeminck, Raymaekers, Vande Velde, Vranken and Maertens [74] on RCF in Benin, but it is different from the fixed price of Oliveira, Martino, Ciliberti, Frascarelli and Chiodini [57], higher price of Ochieng [64], Lemeilleur, Subervie, Presoto, Souza Piao and Saes [70], Widadie, Bijman and Trienekens [53], Ochieng, Veettil and Qaim [67], Van den Broeck, Vlaeminck, Raymaekers, Vande Velde, Vranken and Maertens [74], Sauthoff, Musshoff, Danne and Anastassiadis [75], Schipmann and Qaim [68], Roe, Sporleder and Belleville [77], the market price of Hamed Al Ruqishi, Gibreel, Akaichi, Zaibet and Zekri [54], Arouna, Adegbola, Zossou, Babatunde and Diagne [65], or variable price of Abebe, Bijman, Kemp, Omta and Tsegaye [51].

In terms of payment schedules, it ranked second among the nineteen attributes included in the study. This is in line with most of the representative selected studies when this attribute was selected to design DCE to investigate farmers' preferences [53,61,62,64,65,67,68,77]. Despite that, the ranking of the payment schedule of our study contradicts Kumar, Chand, Dabas and Singh [69], second ranking over nineteen attributes versus sixth ranking over eight attributes. The study also shows that farmers clearly preferred immediate payment whereas contracting buyers generally preferred delayed payment; these results are the same as Ochieng [64]. The immediate payment was also preferred by the farmers in the studies of Ihli, Seegers, Winter, Chiputwa and Gassner [62], Widadie, Bijman and Trienekens [53], Fischer and Wollni [61], Arouna, Adegbola, Zossou, Babatunde and Diagne [65], Ochieng, Veettil and Qaim [67]. Kumar, Chand, Dabas and Singh [69] also indicated that farmers preferred immediate payment to the options where 75% of the total value of the product was paid at the time of sale and the rest after obtaining satisfaction for the designated seed testing results. Whereas, Schipmann and Qaim [68] indicated that farmers preferred advance payment with 25% of the expected minimum payment paid a month before harvest starts. Our study finds that farmers also preferred advance payments but with 50% of the estimated payment and paid 7–15 days before harvesting, and the rest after delivery 3–5 days.

On delivery arrangement, results indicated that it was one of the important attributes considered by all respondents, contrary to the result obtained from the studies of Abebe, Bijman, Kemp, Omta and Tsegaye [51] and Kumar, Chand, Dabas and Singh [69]. Moreover, most of the studies mentioned delivery arrangement attributes in terms of the delivery

point, not delivery schedule. The study of Kumar, Chand, Dabas and Singh [69] showed similar results, that immediate delivery after harvesting was highly preferred by farmers.

Input provision was one of the first six important attributes, which is in line with a study of Abebe, Bijman, Kemp, Omta and Tsegaye [51], even though it was ranked as the first important attribute in the study. In accordance with the study of Abebe, Bijman, Kemp, Omta and Tsegaye [51], input provision was based on providers, while other studies considered types of inputs [62,64,68,72,74]. As mentioned in Section 4.1 above, farmers preferred the timing of provision to types of inputs because there was an availability of inputs in the input market at the local regions and they wanted to treat pests as quickly as possible. The results show that farmers in Vietnam preferred provision of inputs from private firms or agricultural suppliers while farmers in Ethiopia preferred the contractors [51]. In fact, input provision might relate to input use requirements. However, the attribute of input use requirement was rarely mentioned by the empirical studies except for the study of Van den Broeck, Vlaeminck, Raymaekers, Vande Velde, Vranken and Maertens [74] on the fair-trade contracting in Benin.

To product quality standards, this attribute was rarely indicated in the previous empirical studies. It was mixed in the attribute of product quality specification. The emerging body of the authors indicated that product quality specification was the important attribute through their selection for DCE to investigate farmers' preferences; it was even ranked second in the study by Abebe, Bijman, Kemp, Omta and Tsegaye [51]. In contrast, the results show that this attribute belonged to the medium groups of the important level with ranking tenth; product quality standard was much more important to the respondents in Vietnam. Therefore, the attribute levels of the product quality standards seemed to be new, particularly SRP. These results are relevant to the rice development strategies of the Vietnam government, especially producing high-quality rice for export.

While similar issues were also investigated for the various CF schemes with many commodities in different countries, the issue of preferences for contract attributes among contracting buyers, farmers, and policymakers has remained a challenge for enabling the emerging companies and policy makers to develop a suitable governance structure of CF adapting to various farmer groups. Based on our results, one policy implication is that contract attributes and attribute levels need to be pertinent in CFAs, particularly CFA with adjusted price or premium price, 50% of estimated payment before harvesting and the rest after delivery three to five days or lump-sum immediate payment, delivery after harvesting, inputs provision by the contractors (the representative selected branches or stores located at the local areas) or cooperatives, banning active-ingredients or flexible use of inputs from the contractors to produce GAP or organic products is an option worth considering. This study implies that studies assessing the suitability of CFAs from a broader perspective need to include all relating stakeholders.

Despite the new findings and literature contribution through attribute levels such as adjusted price, 50% of estimated payment before harvesting and the rest after delivery three to five days, using at least a fixed value of inputs provided by the contractors, SRP, our study still had some limitations including small sample size, little participation of policymakers and contracting buyers in FGDs. Because of the COVID-19 outbreak, furthermore, the contracting companies locate far from the communes and cooperatives, even though outside of the provinces, the key informants from these contracting companies had difficulties in going to participate directly to discuss. Therefore, for future researches, researchers can increase the sample size by applying phone call interviews. The quantitative studies should be considered to evaluate preferences for contract attributes to provide more strong evidence to support the conclusions reached.

6. Conclusions

The empirical study from Vietnam presented here highlighted the important level of contact attributes and underlined the preferences of the respondents for attribute levels. The results indicate that policymakers, contracting buyers, and farmers seemed to have a

similarity in the importance ranking of most of the contract attributes. The top six important attributes were price options, payment, delivery arrangement, input provision, input use requirements, and product quality standards orderly, most of them related to the output terms. Results also reveal that despite a consensus on the ranking of the first six most important contract attributes, the preferences for the levels of these attributes among the stakeholders were heterogeneous. This study also demonstrates that HGR, RBQ and RBS methods seemed to show a similarity in ranking results but RBQ and RBS were more concise with fewer steps.

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Appendix A

Table A1. Garrett ranking conversion table.

Percent	Score	Percent	Score	Percent	Score	Percent	Score	Percent	Score
0.09	99	6.81	79	32.42	59	71.14	39	94.49	19
0.20	98	7.55	78	34.25	58	72.85	38	95.08	18
0.32	97	8.33	77	36.15	57	74.52	37	95.62	17
0.45	96	9.17	76	38.06	56	76.12	36	96.11	16
0.61	95	10.06	75	40.01	55	77.68	35	96.57	15
0.78	94	11.03	74	41.97	54	79.17	34	96.99	14
0.97	93	12.04	73	43.97	53	80.61	33	97.37	13
1.18	92	13.11	72	45.97	52	81.99	32	97.72	12
1.42	91	14.25	71	47.98	51	83.31	31	98.04	11
1.68	90	15.44	70	50.00	50	84.56	30	98.32	10
1.96	89	16.69	69	52.02	49	85.75	29	98.58	9
2.28	88	18.01	68	54.03	48	86.89	28	98.82	8
2.69	87	19.39	67	56.03	47	87.96	27	99.03	7
3.01	86	20.93	66	58.03	46	88.97	26	99.22	6
3.43	85	22.32	65	59.99	45	89.94	25	99.39	5
3.89	84	23.88	64	61.94	44	90.83	24	99.55	4

Table A1. Cont.

Percent	Score	Percent	Score	Percent	Score	Percent	Score	Percent	Score
4.38	83	25.48	63	63.85	43	91.67	23	99.68	3
4.92	82	27.15	62	65.75	42	92.45	22	99.80	2
5.51	81	28.86	61	67.48	41	93.19	21	99.91	1
6.14	80	30.61	60	69.39	40	93.86	20	100.00	0

References

1. FAO. *The Future of Food and Agriculture—Trends and Challenges*; FAO: Rome, Italy, 2017; p. 180.
2. Calicioglu, O.; Flammini, A.; Bracco, S.; Bellù, L.; Sims, R. The future challenges of food and agriculture: An integrated analysis of trends and solutions. *Sustainability* **2019**, *11*, 222. [\[CrossRef\]](#)
3. Du, Z.-X.; Lai, X.-D.; Long, W.-J.; Gao, L.-L. The short- and long-term impacts of the COVID-19 pandemic on family farms in China—Evidence from a survey of 2324 farms. *J. Integr. Agric.* **2020**, *19*, 2877–2890. [\[CrossRef\]](#)
4. FAO. *The State of Agricultural Commodity Markets 2020. Agricultural Markets and Sustainable Development: Global Value Chains, Smallholder Farmers and Digital Innovations*; FAO: Rome, Italy, 2020.
5. Kangogo, D.; Dentoni, D.; Bijman, J. Determinants of Farm Resilience to Climate Change: The Role of Farmer Entrepreneurship and Value Chain Collaborations. *Sustainability* **2020**, *12*, 868. [\[CrossRef\]](#)
6. Hoang, V. Impact of Contract Farming on Farmers' Income in the Food Value Chain: A Theoretical Analysis and Empirical Study in Vietnam. *Agriculture* **2021**, *11*, 797. [\[CrossRef\]](#)
7. Bellemare, M.F.; Novak, L. Contract farming and food security. *Am. J. Agric. Econ.* **2017**, *99*, 357–378. [\[CrossRef\]](#)
8. Satish, B.S. Contract Farming—A way to Sustainable Agriculture: A Case of Mango Contract Farming in Karnataka. *SDMIMD J. Manag.* **2021**, *11*, 9–20. [\[CrossRef\]](#)
9. Da Silva, C.A.; Rankin, M. *Contract Farming for Inclusive Market Access*; Food and Agriculture Organization of the United Nations (FAO): Rome, Italy, 2013; p. 227.
10. Otsuka, K.; Nakano, Y.; Takahashi, K. Contract farming in developed and developing countries. *Annu. Rev. Resour. Econ.* **2016**, *8*, 353–376. [\[CrossRef\]](#)
11. Meemken, E.-M.; Bellemare, M.F. Smallholder farmers and contract farming in developing countries. *Proc. Natl. Acad. Sci. USA* **2020**, *117*, 259–264. [\[CrossRef\]](#)
12. Minot, N.; Sawyer, B. Contract farming in developing countries: Theory, practice, and policy implications. In *Innovation for Inclusive Value Chain Development: Successes and Challenges*; Devaux, A., Torero, M., Donovan, J., Horton, D., Eds.; International Food Policy Research Institute: Washington, DC, USA, 2016; pp. 127–155.
13. Champika, P.J.; Abeywickrama, L. An evaluation of maize contract farming system in Sri Lanka: Adoption, problems and future prospects. *Trop. Agric. Res.* **2015**, *26*, 62–73. [\[CrossRef\]](#)
14. Nhan, T.Q. Effect of private-led contract farming on rice growers' yield, cost, selling price and return: Evidence from Vietnam's central Mekong Delta. *Int. Food Agribus. Manag. Rev.* **2019**, *22*, 731–746. [\[CrossRef\]](#)
15. Behera, D.K.; Swain, B.B. Coperative-Led Contract Farming On Farm Productivity In India. *Appl. Econom. Int. Dev.* **2021**, *21*, 49–58.
16. Mishra, A.K.; Shaik, S.; Khanal, A.R.; Bairagi, S. Contract farming and technical efficiency: Evidence from low-value and high-value crops in Nepal. *Agribusiness* **2018**, *34*, 426–440. [\[CrossRef\]](#)
17. Alulu, J. *Participation in Contract Farming and Its Effects on Technical Efficiency and Income of Vegetable Farmers in Western Kenya*; University of Nairobi: Nairobi, Kenya, 2020.
18. Mishra, A.K.; Rezitis, A.N.; Tsionas, M.G. Estimating Technical Efficiency and Production Risk under Contract Farming: A Bayesian Estimation and Stochastic Dominance Methodology. *J. Agric. Econ.* **2018**, *70*, 353–371. [\[CrossRef\]](#)
19. Le Huong, N. *Contract Farming in Vietnam: Empirical Research on Marketing Determinants, Farm Performance and Technical Efficiency of the Export-Oriented Rice Sector in the Mekong River Delta*; Agricultural Sciences, University of Goettingen: Göttingen, Germany, 2018.
20. Bidzakin, J.K.; Fialor, S.C.; Awunyo-Vitor, D.; Yahaya, I. Contract farming and rice production efficiency in Ghana. *J. Agribus. Dev. Emerg. Econ.* **2020**, *10*, 269–284. [\[CrossRef\]](#)
21. Dubbert, C.; Abdulai, A. Does the Contract Type Matter? Impact of Marketing and Production Contracts on Cashew Farmers' Farm Performance in Ghana. *J. Agric. Food Ind. Organ.* **2021**. [\[CrossRef\]](#)
22. Dubbert, C. Participation in contract farming and farm performance: Insights from cashew farmers in Ghana. *Agric. Econ.* **2019**, *50*, 749–763. [\[CrossRef\]](#)
23. Kalamkar, S.S. Inputs and Services Delivery System under Contract Farming: A Case of Broiler Farming. *Agric. Econ. Res. Rev.* **2012**, *25*, 515–521. [\[CrossRef\]](#)
24. Bellemare, M.F.; Lee, Y.N.; Novak, L. Contract farming as partial insurance. *World Dev.* **2021**, *140*, 105274. [\[CrossRef\]](#)
25. Olounlade, O.A.; Li, G.-C.; Kokoye, S.E.H.; Dossouhoui, F.V.; Akpa, K.A.A.; Anshiso, D.; Biaou, G. Impact of Participation in Contract Farming on Smallholder Farmers' Income and Food Security in Rural Benin: PSM and LATE Parameter Combined. *Sustainability* **2020**, *12*, 901. [\[CrossRef\]](#)

26. Ruml, A.; Qaim, M. Smallholder farmers' dissatisfaction with contract schemes in spite of economic benefits: Issues of mistrust and lack of transparency. *J. Dev. Stud.* **2021**, *57*, 1106–1119. [[CrossRef](#)]
27. Khan, M.F.; Nakano, Y.; Kurosaki, T. Impact of contract farming on land productivity and income of maize and potato growers in Pakistan. *Food Policy* **2019**, *85*, 28–39. [[CrossRef](#)]
28. Bezabeh, A.; Beyene, F.; Haji, J.; Lemma, T. Impact of contract farming on income of smallholder malt barley farmers in Arsi and West Arsi zones of Oromia region, Ethiopia. *Cogent Food Agric.* **2020**, *6*, 1834662. [[CrossRef](#)]
29. Tefera, D.; Bijman, J. Economics of contracts in African food systems: Evidence from the malt barley sector in Ethiopia. *Agric. Food Econ.* **2021**, *9*, 26. [[CrossRef](#)]
30. Yusuf Ibrahim, H.; Umar Garba, S.; Wahab Munir, J. Impact of a Contract Farming Scheme on Income, Food Security, and Nutrition among Maize Farmers in North Western, Nigeria. *J. Nutr. Food Secur.* **2021**, *6*, 101–106. [[CrossRef](#)]
31. Chen, J.; Chen, Y.J. The Impact of Contract Farming on Agricultural Product Supply in Developing Economies. *Prod. Oper. Manag.* **2021**, *30*, 2395–2419. [[CrossRef](#)]
32. Ruml, A.; Ragasa, C.; Qaim, M. Contract farming, contract design and smallholder livelihoods. *Aust. J. Agric. Resour. Econ.* **2022**, *66*, 24–43. [[CrossRef](#)]
33. Ochieng, D.O.; Ogutu, S.O. Supermarket contracts, opportunity cost and trade-offs, and farm household welfare: Panel data evidence from Kenya. *World Dev.* **2022**, *149*, 105697. [[CrossRef](#)]
34. Loquias, M.P.; Digal, L.N.; Placencia, S.G.; Astronomo, I.J.T.; Orbeta, M.L.G.; Balgos, C.Q. Factors Affecting Participation in Contract Farming of Smallholder Cavendish Banana Farmers in the Philippines. *Agric. Res.* **2022**, *11*, 146–154. [[CrossRef](#)]
35. Mishra, A.K.; Kumar, A.; Joshi, P.K.; D'Souza, A. Impact of contract farming on yield, costs and profitability in low-value crop: Evidence from a low-income country. *Aust. J. Agric. Resour. Econ.* **2018**, *62*, 589–607. [[CrossRef](#)]
36. Islam, A.H.M.; Roy, D.; Kumar, A.; Tripathi, G.; Joshi, P.K. *Dairy Contract Farming in Bangladesh: Implications for Welfare and Food Safety*; International Food Policy Research Institute: Washington, DC, USA, 2019; Volume 1833.
37. Kumar, A.; Roy, D.; Joshi, P.K.; Tripathi, G.; Adhikari, R.P. Impact of contract farming of paddy seed on smallholder farm profits: Evidence from Nepal. *Agric. Econ. Res. Rev.* **2019**, *32*, 25–39. [[CrossRef](#)]
38. Kumar, A.; Roy, D.; Tripathi, G.; Joshi, P.K.; Adhikari, R.P. Does contract farming improve profits and food safety? Evidence from tomato cultivation in Nepal. *J. Agribus. Dev. Emerg. Econ.* **2018**, *8*, 603–624. [[CrossRef](#)]
39. Jagri Binpori, R.; Awunyo-Vitor, D.; Wongnaa, C.A. Does contract farming improve rice farmers' food security? Empirical evidence from Ghana. *World J. Sci. Technol. Sustain. Dev.* **2021**, *18*, 130–149. [[CrossRef](#)]
40. Nazifi, B.; Bello, M.; Suleiman, A.; Suleiman, M.S. Impact of Contract Farming on Productivity and Food Security Status of Smallholder Maize Farmer's Households in Kano and Kaduna States, Nigeria. *Int. J. Agric. Environ. Food Sci.* **2021**, *5*, 571–579. [[CrossRef](#)]
41. Bellemare, M.F.; Lim, S. In all shapes and colors: Varieties of contract farming. *Appl. Econ. Perspect. Policy* **2018**, *40*, 379–401. [[CrossRef](#)]
42. Sari, B.R. The analysis of organic rice contract farming in cambodia: A lesson learned for indonesia. *J. Ekon. Dan Kebijakan.* **2011**, *4*, 34–42. [[CrossRef](#)]
43. Kumar, S.; Chand, P. Prevailing practices and dimensions of contract wheat seed farming in Haryana state. *Agric. Econ. Res. Rev.* **2004**, *17*, 149–161.
44. Nguyen, H.K.; Chiong, R.; Chica, M.; Middleton, R.; Pham, D.T.K. Contract Farming in the Mekong Delta's Rice Supply Chain: Insights from an Agent-Based Modeling Study. *J. Artif. Soc. Soc. Simul.* **2019**, *22*, 21. [[CrossRef](#)]
45. Andersson, C.I.M.; Chege, C.G.K.; Rao, E.J.O.; Qaim, M. Following Up on Smallholder Farmers and Supermarkets in Kenya. *Am. J. Agric. Econ.* **2015**, *97*, 1247–1266. [[CrossRef](#)]
46. Romero Granja, C.; Wollni, M. Dynamics of smallholder participation in horticultural export chains: Evidence from Ecuador. *Agric. Econ.* **2018**, *49*, 225–235. [[CrossRef](#)]
47. Barrett, C.B.; Bachke, M.E.; Bellemare, M.F.; Michelson, H.C.; Narayanan, S.; Walker, T. Smallholder participation in contract farming: Comparative evidence from five countries. *World Dev.* **2012**, *40*, 715–730. [[CrossRef](#)]
48. Ton, G.; Vellema, W.; Desiere, S.; Weituschat, S.; D'Haese, M. Contract farming for improving smallholder incomes: What can we learn from effectiveness studies? *World Dev.* **2018**, *104*, 46–64. [[CrossRef](#)]
49. Gatto, M.; Wollni, M.; Asnawi, R.; Qaim, M. Oil Palm Boom, Contract Farming, and Rural Economic Development: Village-Level Evidence from Indonesia. *World Dev.* **2017**, *95*, 127–140. [[CrossRef](#)]
50. Anh, L. *Cần Khuyến Khích Phát Triển Hợp tác, Liên Kết sản xuất Cảnh Đồng lớn Gắn với Tiêu thụ Hiệu Quả* [Necessary to Encourage the Development of Cooperation, Linking the Production of Large Fields Associated with Efficient Consumption]; Communist Party of Vietnam Online Newspaper: Hanoi, Vietnam, 2018. Available online: <https://dangcongsan.vn/preview/pid/0/newid/474312> (accessed on 22 March 2021).
51. Abebe, G.K.; Bijman, J.; Kemp, R.; Omta, O.; Tsegaye, A. Contract farming configuration: Smallholders' preferences for contract design attributes. *Food Policy* **2013**, *40*, 14–24. [[CrossRef](#)]
52. Ruml, A.; Qaim, M. Effects of marketing contracts and resource-providing contracts in the African small farm sector: Insights from oil palm production in Ghana. *World Dev.* **2020**, *136*, 105110. [[CrossRef](#)]
53. Widadie, F.; Bijman, J.; Trienekens, J. Farmer preferences in contracting with modern retail in Indonesia: A choice experiment. *Agribusiness* **2020**, *37*, 371–392. [[CrossRef](#)]

54. Hamed Al Ruqishi, B.; Gibreel, T.; Akaichi, F.; Zaibet, L.; Zekri, S. Contractual agriculture: Better partnerships between small farmers and the business sector in the sultanate of Oman. *Asian J. Agric. Rural Dev.* **2020**, *10*, 321–335. [[CrossRef](#)]
55. Hung Anh, N.; Bokelmann, W.; Thi Thuan, N.; Thi Nga, D.; Van Minh, N. Smallholders' Preferences for Different Contract Farming Models: Empirical Evidence from Sustainable Certified Coffee Production in Vietnam. *Sustainability* **2019**, *11*, 3799. [[CrossRef](#)]
56. Arouna, A.; Michler, J.D.; Lokossou, J.C. Contract farming and rural transformation: Evidence from a field experiment in Benin. *J. Dev. Econ.* **2021**, *151*, 102626. [[CrossRef](#)]
57. Oliveira, G.M.d.; Martino, G.; Ciliberti, S.; Frascarelli, A.; Chiodini, G. Farmer preferences regarding durum wheat contracts in Italy: A discrete choice experiment. *Br. Food J.* **2021**, *123*, 4017–4029. [[CrossRef](#)]
58. Groot-Kormelinck, A.; Trienekens, J.; Bijman, J. Coordinating food quality: How do quality standards influence contract arrangements? A study on Uruguayan food supply chains. *Supply Chain Manag. Int. J.* **2021**, *26*, 449–466. [[CrossRef](#)]
59. Poku, A.-G.; Birner, R.; Gupta, S. Making Contract Farming Arrangements Work in Africa's Bioeconomy: Evidence from Cassava Outgrower Schemes in Ghana. *Sustainability* **2018**, *10*, 1604. [[CrossRef](#)]
60. Bogetoft, P.; Olesen, H.B. Ten rules of thumb in contract design: Lessons from Danish agriculture. *Eur. Rev. Agric. Econ.* **2002**, *29*, 185–204. [[CrossRef](#)]
61. Fischer, S.; Wollni, M. The role of farmers' trust, risk and time preferences for contract choices: Experimental evidence from the Ghanaian pineapple sector. *Food Policy* **2018**, *81*, 67–81. [[CrossRef](#)]
62. Ihli, H.; Seegers, R.; Winter, E.; Chiputwa, B.; Gassner, A. Preferences for tree fruit market attributes among smallholder farmers in Eastern Rwanda. *Agric. Econ.* **2021**, *53*, 5–21. [[CrossRef](#)]
63. Rondhi, M.; Aji, J.M.M.; Khasan, A.F.; Putri, A.T.R.; Yanuarti, R. Risk Aversion, Risk Preference and Farmers' Decision to Participate in Broiler Contract Farming: A Case Study in Jember, Indonesia. *J. Sustain. Agric.* **2019**, *34*. [[CrossRef](#)]
64. Ochieng, D.O. *Towards Designing Better Contracts: Assessing Contract Preferences of Small Farmers and Buyers: Evidence from a Choice Experiment in Cotton and Tea Schemes in Malawi: Synopsis*; International Food Policy Research Institute: Lilongwe, Malawi, 2020; Volume 37.
65. Arouna, A.; Adegbola, P.; Zossou, R.; Babatunde, R.; Diagne, A. Contract Farming Preferences of Smallholder Rice Producers in Benin: A Stated Choice Model Using Mixed Logit. *Tropicultura* **2017**, *35*, 179–191. [[CrossRef](#)]
66. Schelle, C.; Pokorny, B. How Inclusive Is Inclusive? A Critical Analysis of an Agribusiness Initiative in Kenya. *Sustainability* **2021**, *13*, 10937. [[CrossRef](#)]
67. Ochieng, D.O.; Veetil, P.C.; Qaim, M. Farmers' preferences for supermarket contracts in Kenya. *Food Policy* **2017**, *68*, 100–111. [[CrossRef](#)]
68. Schipmann, C.; Qaim, M. Supply chain differentiation, contract agriculture, and farmers' marketing preferences: The case of sweet pepper in Thailand. *Food Policy* **2011**, *36*, 667–677. [[CrossRef](#)]
69. Kumar, S.; Chand, P.; Dabas, J.; Singh, H. Characteristics and determinants of contract design of wheat seed farming in India: A basis of decision making. *Indian J. Agric. Econ.* **2010**, *65*, 621–638.
70. Lemeilleur, S.; Subervie, J.; Presoto, A.E.; Souza Piao, R.; Saes, M.S.M. Coffee farmers' incentives to comply with sustainability standards. *J. Agribus. Dev. Emerg. Econ.* **2020**, *10*, 365–383. [[CrossRef](#)]
71. Martino, G.; Polinori, P. An analysis of the farmers contractual preferences in process innovation implementation: A case study in the Italian poultry context. *Br. Food J.* **2019**, *121*, 426–440. [[CrossRef](#)]
72. Guentang, L.S.B. *Adoption of Bioenergy Crops, Income and Contract Preferences among Farmers in Northern Ghana: The Case of Jatropha*; University of Ghana: Accra, Ghana, 2018.
73. Permadi, D.B.; Burton, M.; Pandit, R.; Race, D.; Walker, I. Local community's preferences for accepting a forestry partnership contract to grow pulpwood in Indonesia: A choice experiment study. *For. Policy Econ.* **2018**, *91*, 73–83. [[CrossRef](#)]
74. Van den Broeck, G.; Vlaeminck, P.; Raymaekers, K.; Vande Velde, K.; Vranken, L.; Maertens, M. Rice farmers' preferences for fairtrade contracting in Benin: Evidence from a discrete choice experiment. *J. Clean. Prod.* **2017**, *165*, 846–854. [[CrossRef](#)]
75. Sauthoff, S.; Musshoff, O.; Danne, M.; Anastassiadis, F. Sugar beet as a biogas substrate? A discrete choice experiment for the design of substrate supply contracts for German farmers. *Biomass Bioenergy* **2016**, *90*, 163–172. [[CrossRef](#)]
76. Vassalos, M.; Hu, W.; Woods, T.; Schieffer, J.; Dillon, C. Risk preferences, transaction costs, and choice of marketing contracts: Evidence from a choice experiment with fresh vegetable producers. *Agribusiness* **2016**, *32*, 379–396. [[CrossRef](#)]
77. Roe, B.; Sporleder, T.L.; Belleville, B. Hog producer preferences for marketing contract attributes. *Am. J. Agric. Econ.* **2004**, *86*, 115–123. [[CrossRef](#)]
78. Mighell, R.L.; Jones, L.A. *Vertical Coordination in Agriculture*; Farm Economics Division, Economic Research Service, US Department of Agriculture: Washington, DC, USA, 1963.
79. Eaton, C.; Shepherd, A. *Contract Farming: Partnerships for Growth*; Food & Agriculture Organization: Rome, Italy, 2001.
80. Bijman, J. *Contract Farming in Developing Countries: An Overview*; Wageningen University, Department of Business Administration: Wageningen, The Netherlands, 2008; p. 32.
81. United Nations. *World Investment Report 2009: Transnational Corporations, Agricultural Production and Development*; 9211127750; UN: New York, NY, USA; Geveva, Switzerland, 2009; p. 314.
82. Deb, R.; Suri, T. Endogenous emergence of credit markets: Contracting in response to a new technology in Ghana. *J. Dev. Econ.* **2013**, *101*, 268–283. [[CrossRef](#)]

83. Tarp, F.; Vinh, D.Q.; Tuan, N.D.A. *Characteristics of the Vietnamese Rural Economy: Evidence from a 2016 Rural Household Survey in 12 Provinces of Vietnam*; United Nations Univ.: Tokyo, Japan, 2017; p. 141.
84. Ruml, A.; Parlasca, M.C. In-kind credit provision through contract farming and formal credit markets. *Agribusiness* **2021**, 1–24. [[CrossRef](#)]
85. Mehry, M.; Ahmadpour, M.; Mohammadi, H.; Salarpour, M. Investigating the Tendency of Pistachio Producers in Yazd Province to Participate in Contract Farming. *Agric. Econ. Res.* **2021**, *13*, 127–154.
86. Enthoven, L.; Van den Broeck, G. Promoting Food Safety in Local Value Chains: The Case of Vegetables in Vietnam. *Sustainability* **2021**, *13*, 6902. [[CrossRef](#)]
87. Ola, O.; Menapace, L. Smallholders' perceptions and preferences for market attributes promoting sustained participation in modern agricultural value chains. *Food Policy* **2020**, *97*, 101962. [[CrossRef](#)]
88. Ba, H.A.; de Mey, Y.; Thoron, S.; Demont, M. Inclusiveness of contract farming along the vertical coordination continuum: Evidence from the Vietnamese rice sector. *Land Use Policy* **2019**, *87*, 104050. [[CrossRef](#)]
89. Anh, D.T.; Tinh, T.V.; Vang, N.N. The Domestic Rice Value Chain in the Mekong Delta. In *White Gold: The Commercialisation of Rice Farming in the Lower Mekong Basin*; Cramb, R., Ed.; Palgrave Macmillan: Singapore, 2020; pp. 375–395.
90. General Statistics Office of Vietnam. *Planted Area of Paddy by Province*; General Statistics Office of Vietnam: Hanoi, Vietnam, 2021. Available online: <https://www.gso.gov.vn/en/px-web/?pxid=E0613&theme=Agriculture%2C%20Forestry%20and%20Fishing>. (accessed on 3 March 2021).
91. Pham, T.T.; Dang, H.L.; Pham, N.T.A.; Dang, H.D. Adoption of contract farming for managing agricultural risks: A case study in rice production in the Mekong Delta, Vietnam. *J. Agribus. Dev. Emerg. Econ.* **2021**. [[CrossRef](#)]
92. Hussein, A. The use of triangulation in social sciences research: Can qualitative and quantitative methods be combined? *J. Comp. Soc. Work* **2009**, *4*, 106–117. [[CrossRef](#)]
93. Gibbert, M.; Ruigrok, W. The “what” and “how” of case study rigor: Three strategies based on published work. *Organ. Res. Methods* **2010**, *13*, 710–737. [[CrossRef](#)]
94. Turner, D.W., III. Qualitative interview design: A practical guide for novice investigators. *Qual. Rep.* **2010**, *15*, 754–760. [[CrossRef](#)]
95. Khapayi, M.; Van Niekerk, P.; Celliers, P.R. Agribusiness challenges to effectiveness of contract farming in commercialization of small-scale vegetable farmers in Eastern Cape, South Africa. *J. Agribus. Rural Dev.* **2018**, *4*, 375–384. [[CrossRef](#)]
96. Given, L.M. *The Sage Encyclopedia of Qualitative Research Methods*; SAGE: Los Angeles, CA, USA, 2008; p. 1043.
97. Lofland, J.; Lofland, L.H. *Analyzing Social Settings*; Wadsworth Publishing Company: Belmont, CA, USA, 1971; p. 136.
98. Strauss, A.L. *Qualitative Analysis for Social Scientists*; Cambridge University Press: Cambridge, UK, 1987; p. 319.
99. Weber, R.P. *Basic Content Analysis*; SAGE: Los Angeles, CA, USA, 1990; p. 96.
100. Krippendorff, K. *Content Analysis: An Introduction to Its Methodology*, 4th ed.; SAGE: Los Angeles, CA, USA, 2018; p. 472.
101. Smalley, R. *Plantations, Contract Farming and Commercial Farming Areas in Africa: A Comparative Review*; Future Agricultures Consortium: Brighton, UK, 2013; p. 73.
102. Anavrat, V.; Mokde, M. Contract farming viability perception of mosambi orange growers. *Progress. Agric.* **2017**, *17*, 280–283. [[CrossRef](#)]
103. Anavrat, V.; Bante, R.; Mokde, M. Acid lime Growers' Feasibility Perception of Contract Farming. *Curr. Agric. Res. J.* **2017**, *5*, 331–335. [[CrossRef](#)]
104. Rohini, A.; Selvanayaki, S.; Selvi, M.P. Contract farming—an efficient marketing method of *Ailanthus excelsa*. *Indian J. Econ. Dev.* **2015**, *11*, 939–944. [[CrossRef](#)]
105. Anavrat, V.; Mokde, M. Operational feasibility perception of contract farming in Nagpur mandarin. *Agric. Sci. Dig.* **2016**, *36*, 287–290. [[CrossRef](#)]
106. Sharma, N. Contract farming practice in Indian Punjab: Farmers' perspective. *Int. J. Food Agric. Econ.* **2014**, *2*, 65–76. [[CrossRef](#)]
107. Garrett, H.E. *Statistics in Psychology and Education*; Vakils Feffer and Simons Ltd.: Bombay, India, 1979.
108. Chigunhah, B.R.; Svtwa, E.; Munyoro, G.; Mabvure, T.J.; Govere, I. Private Capital Formation Activities and Bank Credit Access Among Farmers in Zimbabwe. *Int. J. Econ. Financ. Issues* **2020**, *10*, 225–235. [[CrossRef](#)]
109. Sabarathnam, V.E. *Manual on Field Experience Training for ARS Scientists*; National Academy of Agricultural Research Management: Hyderabad, India, 1988.