“Factors influencing contract farming disputes and dispute resolution intentions: Evidence from an emerging Southeast Asian country”

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FACTORS INFLUENCING CONTRACT FARMING DISPUTES AND DISPUTE RESOLUTION INTENTIONS: EVIDENCE FROM AN EMERGING SOUTHEAST ASIAN COUNTRY

Abstract

The objective of this study is to explore the factors that contribute to disputes in contract farming and to understand the motivations behind selecting a dispute resolution method. Data for this study were obtained through in-depth interviews and group discussions with 15 lawyers, as well as surveys conducted among 525 respondents, comprising 323 farmers and 202 agribusiness representatives in the Central Coast region of Vietnam. The results of the partial least squares structural equation modeling (PLS-SEM) indicate that all research hypotheses are supported. The factors influencing the occurrence of disputes in contract farming agreements, ranked in ascending order of impact, are contract content, social influence, price volatility, risk perception, environmental uncertainty, and legal understanding. Additionally, these factors indirectly affect the intention to resolve disputes through courts, commercial arbitration, and mediation via the mediating role of contract farming disputes. Furthermore, the study reveals that when contract farming disputes arise, the preferred order of dispute resolution methods is courts, followed by commercial arbitration, and finally, mediation. This empirical analysis also provides evidence of significant differences in perceptions between two groups – farmers and agribusiness enterprises – regarding the intention to resolve disputes through courts and the impact of environmental uncertainty on contract farming disputes. The findings enrich empirical research on contract farming dispute resolution in emerging countries with conditions similar to those of Vietnam.

Keywords dispute resolution, contract farming, court, commercial arbitration, mediation, farmer, agricultural enterprise

JEL Classification M10, K12, J43, J52

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INTRODUCTION

Economic development based on food security plays an important role around the world. For developing countries with an agricultural foundation, agricultural products are key commodities that hold a critical position in ensuring the supply chain of the economy. To ensure the stability and development of agriculture, the linkage and cooperation between producers (farmers) and buyers (purchasing, manufacturing, and processing enterprises, collectively known as agricultural enterprises) is essential. The relationship between these two parties is usually expressed through an agreement based on contract farming. The content of these contracts specifically outlines the rights and obligations of the parties involved in the linkage for the production and supply of agricultural products based on future delivery agreements with predetermined prices. Therefore, the terms stipulated in the contract positively affect the efficiency of contract execution between the parties involved. Contract farming serves as the basis for both parties to

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jointly make decisions and share risks and benefits during the agricultural production process, so the effectiveness of the contract largely depends on the goodwill and cooperative attitude of the parties. However, during the execution of contract farming agreements, for various reasons, it is quite common for one or both parties to breach the signed contract, especially in countries with legal systems that still have many limitations, such as Vietnam – an emerging nation in Southeast Asia. The breach of such agreements inevitably leads to disputes and the resolution of disputes between the involved parties.

Research related to contract farming and dispute resolution within contract farming agreements has recently been conducted in various countries. Although there has been a considerable amount of research on the implementation of contract farming and the resolution of disputes related to such contracts between the involved parties, these studies have not delved deeply into exploring the factors that influence the emergence of disputes, nor have they examined the intention to resolve disputes from the cognitive perspective of the producers (farmers) and buyers (agricultural enterprises) themselves. Experimental research that focuses on the perceptions of the parties involved in contract farming disputes, especially in emerging countries, remains relatively scarce.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Contract farming is defined as an agreement signed between producers (farmers) and buyers of agricultural products based on the principle of voluntary cooperation to implement various forms of linkage (FAO, n.d.). According to Article 4 of Decree No. 98/2018/NĐ-CP in Vietnam (Vietnam Government, 2018), these forms of linkage include:

(1) linkage from the supply of materials, input services, organization of production, harvesting, preliminary processing, or processing associated with the consumption of agricultural products;

(2) linkage for supplying materials and input services associated with the consumption of agricultural products;

(3) linkage in organizing production and harvesting associated with the consumption of agricultural products;

(4) linkage from the supply of materials, input services, organization of production, and harvesting associated with the consumption of agricultural products;

(5) linkage in organizing production, harvesting, preliminary processing, or processing associated with the consumption of agricultural products;

(6) linkage for supplying materials, input services, preliminary processing, or processing associated with the consumption of agricultural products.

Thus, contract farming emerges as a potential solution to address the difficulties faced by farmers in agricultural production and to connect farmers with enterprises within the production value chain, improving the link between small-scale producers and enterprises (Ba et al., 2019; Kirsten & Sartorius, 2002). This type of contract possesses all the general characteristics of contracts, namely the freedom, voluntariness, and equality of the parties involved in the relationship. The legal framework for agricultural product sales contracts is closely related to the system of principles governing contract law in each country. Different countries may choose to regulate contract relationships in very different ways, depending on their legal traditions and how laws are constructed in each country. Some countries base their regulation of agricultural product sales contracts on the civil code, while others opt for general contract law, specific contract farming law, or laws that govern specific products or sectors. In Vietnam, the law on contracts is currently stipulated in various legal documents such as the civil code, commercial law, and insurance business law. However, the civil code is regarded as the foundational law regulating general contract issues, serving as the

basis for contract law, governing contractual relationships established on equality, voluntariness, mutual agreement, and accountability.

Price volatility and its relationship with disputes, as well as the intent to resolve disputes, are crucial considerations. According to Sykuta and Parcell (2003), contract farming helps address these issues by establishing rules for allocating three main factors: benefits, risks, and decision-making authority.

This means that the results of the harvested crop will be divided between farmers and enterprises according to a certain ratio based on these three factors, referred to as pricing. Such contract allocations are considered an optimal solution for both parties. A fundamental difference in the nature of contract farming is that spot transactions (buying and selling at markets) and futures transactions (buying and selling through exchanges) are mechanisms for price formation at different times (Loi, 2017). Prowse (2012) argues that fixing and establishing prices in advance is the most common pricing mechanism, which also ensures success in contract farming (Laitha, 2020). However, in practice, disputes between farmers and enterprises regarding contracts for the purchase of harvested agricultural products reveal that most disputes are related to pricing at the time of harvest (Minot & Ronchi, 2015). For instance, enterprises may not purchase or secure products when market prices fall below the contracted prices. Conversely, farmers may sell their products to outside traders when market prices exceed the contracted prices. This situation occurs in Vietnam because both farmers and enterprises have small-scale production and business operations and limited financial capabilities. If they adhere to the contracted prices, the risk of losses and bankruptcy is very high. This helps explain why farmers and enterprises often breach signed contract farming when there are fluctuations in market prices (Nhân & Ikuo, 2012). Thus, price volatility is seen as contributing to the emergence of disputes due to one of the parties involved in the contract farming breaking the agreements made. This inevitably leads to disputes needing to be resolved through various methods, such as mediation, commercial arbitration, or court proceedings (López Rodríguez, 2015).

Uncertainty in the environment is closely linked to disputes and the intent to resolve them, especially in the agricultural sector, where agricultural products are influenced by natural conditions and long production cycles that depend on seasonality. Therefore, contract farming carries many risks due to the instability of the production and business environment (Nhân & Ikuo, 2012). Changes in weather, pest outbreaks, and climate change can create difficulties for farmers in providing the quantity and quality of outputs as stipulated in the contract. Additionally, risks during production, market instability, financial instability, and policy uncertainties are also factors that lead to ineffective execution of contract farming for both farmers and businesses, resulting in disputes (OECD, 2009). Consequently, when disputes arise, choosing a method to resolve them through mediation, arbitration decisions, or court proceedings is always necessary.

Societal influences play a key role in disputes and the intent to resolve them, as social influence in this study refers to the extent to which a farmer or business considers the impact of other individuals or groups when deciding to execute or breach a contract in alignment with general trends. These individuals and groups may include fellow farmers, family members, professional associations, the government, and other external supporters who influence the attitudes and intentions of farmers and businesses regarding signing contract farming (Khalili et al., 2024). In practice, the impact of society, especially the role of family, farmer groups, and cooperatives, during the agricultural production process has two directional effects. On the positive side, social influence (government, professional associations, cooperatives, farmer groups) contributes to increasing the acceptance and participation rate in signing contract farming between farmers and businesses. Farmers recognize that participating in contracts will enhance their productivity and income, contributing to sustainable agricultural development. Meanwhile, engaging in contract farming allows businesses to proactively manage their supply and achieve better business outcomes (Ajaoet & Oyedele, 2013). Conversely, on the negative side, social influence may encourage the breach of signed contract farming by farmers or businesses if they feel at a disadvantage by continuing to execute the con-

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tract. Thus, social influence affects the emergence of disputes and impacts the intent to resolve disputes in contract farming agreements.

The perception of risks is closely linked to disputes and the intent to resolve them, as both farmers and enterprises encounter significant obstacles during the implementation of signed contract farming agreements, which may lead to contract breaches. On the farmers' side, there is a high risk when they are required to equip themselves with specialized production equipment according to the enterprise's demands but lack long-term commitment or face contract violations from the enterprise (Rehber, 1998). Farmers also encounter market and yield risks when producing new varieties provided by the enterprise. The enterprise may not purchase the entire output as stipulated in the contract farming agreement with the farmers due to poor business performance or market difficulties that the enterprise faces. Furthermore, the enterprise may exploit its monopolistic position to pressure the farmers, who may also face the risk of heavy debt burdens due to production risks after receiving a large amount of advance supplies from the enterprise (Eaton & Shepherd, 2000). A major obstacle for farmers is their negotiation and bargaining power with the enterprise, as enterprises typically have an advantage in market information. Consequently, during negotiations over contract prices, farmers may be "priced down" by the enterprise (Rehber, 1998).

On the enterprise side, risks may arise when farmers do not adopt the new technical procedures provided by the enterprise, or they may apply them ineffectively because they are accustomed to and experienced with traditional methods. This can impact the yield and quality of products as required by the enterprise. One common obstacle faced by enterprises is that farmers sell their products to traders at higher prices than those stipulated in the contract farming agreement with the enterprise. Farmers may exploit the input support from the enterprise, using credit for other purposes, which affects both yield and product quality (Eaton & Shepherd, 2000).

Thus, both parties involved in contract farming face certain risks in implementing the terms of the contract. A higher awareness of these risks will positively affect the quality of the execution of the commitments made and minimize contract breaches and disputes. Consequently, the awareness of risks from both farmers and enterprises will reduce the intention to choose dispute resolution through mediation, commercial arbitration, or court.

Legal understanding plays a crucial role in disputes and the intent to resolve them, as a contract represents a mutually binding agreement in which participating parties commit to fulfilling specific requirements. However, farmers and businesses in many countries are still unfamiliar with this method. For many agricultural products, the form of contract farming is hardly applied and remains very unfamiliar to farmers and businesses in various regions (Ministry of Agriculture and Rural Development of Vietnam, 2008). The understanding and implementation of legal regulations by farmers in developing countries is still very low, leading them to see non-compliance with the agreed terms in the contract as normal without feeling that they are violating the law. Farmers lack legal knowledge while also lacking support from the government. Contract violations by farmers are common in countries with emerging economies (Guo & Jolly, 2008). On the side of agricultural businesses, most have not adapted well to the market economy, so they do not adhere to market principles and are also willing to deviate from what has been agreed upon with the farmers. Many businesses do not fulfill the signed terms, such as failing to supply production materials, unilaterally breaking contracts, and delaying the purchase of main crops, which affects the quality of the farmers' products and leads to delayed contract payments (Jia & Huang, 2011). Between farmers and businesses, it is also easy to break contracts and accept handling violations, as the penalties are not significant compared to the benefits they gain from contract breaches. Furthermore, the support for law enforcement in the economy is weak and lacks rigor, and the contract terms are not stringent, which can easily lead to breaches of contracts between farmers and businesses (Nhân & Ikuo, 2012).

The content of contract farming is closely related to disputes and the intention to resolve them, as it is regulated differently depending on each country's legal framework. In Vietnam, no specific

law is dedicated to contract farming; instead, it is governed by general provisions in the civil code and specialized regulations in commercial law. Nevertheless, the content of contract farming essentially resembles that of ordinary contracts with the following basic elements: (1) contract agreement; (2) contract performance; (3) amendment, supplementation, and termination of the contract; (4) legal responsibility for breach of contract (Vietnam National Assembly, 2015). In practice, the parties involved may face unexpected risks from nature or price fluctuations in the market that may fundamentally alter the balance of the contract previously established by the parties or cause one party significant difficulty in fulfilling its obligations, even to the point of being unable to fulfill the contract obligations. If the contract content is not tightly structured and lacks provisions allowing the parties to negotiate modifications or terminate the contract, the likelihood of a unilateral breach of contract by one of the parties becomes high, leading to disputes and intentions to resolve the dispute between the parties (Viet & Thanh, 2024). Some studies have focused on proposing solutions to improve the provisions on the content of contract farming, such as adding reward and penalty policies to contracts to reduce the benefits that parties might obtain in cases where agricultural prices are higher than market prices, to prevent farmers from selling to third parties when market prices exceed those stipulated in the contract (Silva & Ranking, 2013; Lazzarini et al., 2004).

The intention to choose dispute resolution for contract farming is influenced by the fact that disputes arising during contract execution are undesirable for the parties involved. Depending on the content of the signed contract, disputes can be resolved through various methods (López Rodríguez, 2015). There are three basic methods: mediation, commercial arbitration, and court proceedings.

Mediation is considered a method of dispute resolution in which an independent and neutral third party (the mediator) plays the role of helping the disputing parties reach an agreement by facilitating a binding settlement (Hill, 1998). Mediation holds a significant role in contract farming because it is a cost-effective and quick dispute-resolution mechanism. This is important as the disputing parties are often limited by financial resources, and a swift resolution can reduce losses caused by perishable agricultural products. Moreover, it helps maintain a positive relationship between farmers and businesses, considering their close interdependence (Pultrone, 2012; López Rodríguez, 2015).

Commercial arbitration is a method where a third-party arbitrator, acting independently, helps resolve disputes by issuing an arbitration award that both parties must respect and execute (Gamage, 2023). This method is highly effective as the parties can choose arbitrators with specialized knowledge in contract farming to resolve their disputes. Additionally, arbitration typically takes less time than court proceedings due to the less complex procedural requirements. However, this method is often seen as disadvantageous to farmers compared to businesses, as they may lack the financial means to hire experienced arbitrators.

Meanwhile, courts are the most common method of dispute resolution in developing countries. Although court processes can be time-consuming due to the complexity of legal procedures, they are generally trusted, especially by vulnerable parties (Viet & Thanh, 2024).

This study aims to explore the factors that affect contract farming disputes and the intention to choose dispute resolution through mediation, commercial arbitration, or court from the perspective of farmers and agricultural enterprises in Vietnam. The theoretical research model is presented in Figure 1 with the following hypotheses:

H1: Price volatility directly and positively impacts disputes in contract farming.

H2: Environmental uncertainty directly and positively impacts disputes in contract farming.

H3: Social influence directly and positively impacts disputes in contract farming.

H4: Perception of risks directly and negatively impacts disputes in contract farming.

H5: Legal understanding directly and positively impacts disputes in contract farming.

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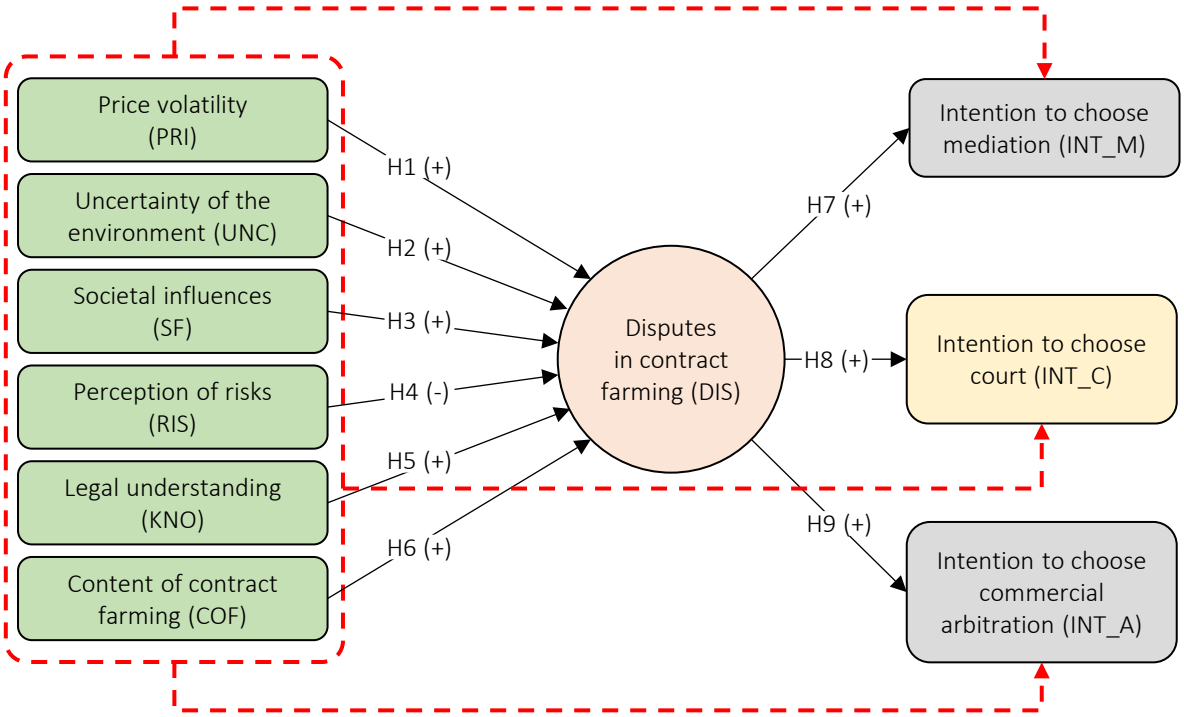

Note: Direct relationship: Black line. Mediating relationship: Red dotted line.

Figure 1. Model and hypotheses

H6: Contract farming content directly and positively impacts disputes in contract farming.

H7: Contract farming disputes directly and positively impact the intention to choose mediation.

H8: Contract farming disputes directly and positively impact the intention to choose court.

H9: Contract farming disputes directly and positively impact the intention to choose commercial arbitration.

2. METHODOLOGY

According to the data from the Department of Agricultural Economics under the Ministry of Planning and Investment of Vietnam, by the end of 2023, the model of cooperation and production linkages associated with agricultural product consumption in Vietnam had taken shape with 2,204 cooperatives, 517 cooperative groups, 1,091 enterprises, and 186,829 farming households participating. The agricultural business sector, with over 16,100 enterprises, is increasingly growing stronger and has become the core force in the agricultural value chain (Doan, 2024). This agricultural cooperation model is spread across six economic regions of Vietnam, including (Vietnam National Assembly, 2023): Northern Midlands and Mountains (14 provinces), Red River Delta (11 provinces and centrally-run cities), North Central and Central Coast (14 provinces and centrally-run cities), Central Highlands (5 provinces), Southeast (6 provinces and centrally-run cities), and the Mekong Delta (13 provinces and centrally-run cities).

Due to time and budget constraints, this study was conducted within the scope of eight provinces in the Central Coast region of Vietnam. Based on the support and recommendations from the farmers' association, business association, and agricultural cooperatives operating in these provinces, the research team collected information and conducted direct surveys using a research questionnaire. Participation in the study was completely voluntary for farmers and businesses, with their consent confirmed by signing a commitment form. In return, the research team also committed to main-

taining the confidentiality of the participants' information. Over six months, from February 2024 to July 2024, 530 participants were successfully surveyed, representing both farmers and agricultural businesses involved in contract farming. After filtering and removing five duplicate responses (where two people responded on behalf of the same company), the final sample for data analysis included 525 valid questionnaires. The selected sample size is appropriate for conducting a quantitative study using partial least squares structural equation modeling (PLS-SEM), which, as noted by Hair et al. (2014), requires a minimum of over 200 participants.

In this sample, 323 respondents were representatives of farming households (accounting for 61.5%), and 202 respondents were agricultural businesses (accounting for 38.5%). Regarding gender, 47.2% of the respondents were male, and 52.8% were female. Educational levels were quite diverse, with the majority (32%) holding a bachelor's degree, engineer, or equivalent, while 23.2% had education levels below high school and 13.7% had high school-level education. The highest concentration of respondents was in the age group of 40 to under 55 years (36.1%).

For the survey area in the eight provinces of the Central Coast region, the research team distributed questionnaires, with the lowest number being 50 (Da Nang, Binh Thuan) and the highest being 80 (Quang Nam), based on the proportion of agriculture's contribution to the province's economic structure. Detailed statistics on sample characteristics are presented in Appendix A.

Based on the original scales from Prowse (2012), Khalili et al. (2024), Viet and Thanh (2024), López Rodríguez (2015), Laitha (2020), Minot and Ronchi (2015), OECD (2009), and the results from interviews with 15 experts who are lawyers, a research model was developed and built. It consisted of 10 variables (six independent, one mediator, and three dependent) with a scale including 47 observations. The concepts in this scale are measured using a 7-point Likert scale (1 for completely disagree; 7 for completely agree). This scale better reflects the actual evaluation of the respondents and is more user-friendly and convenient for statistical analysis (Guyatt et al., 1987). Details of the scales are presented in Appendix B.

3. RESULTS

3.1. Measurement model evaluation

To evaluate the measurement model using the PLS-SEM approach, it is necessary to assess the reliability and convergent validity of the scale, as well as discriminant validity. The results of these steps are presented in Table 1.

Hair et al. (2009) emphasize that a scale achieves reliability only when Cronbach's Alpha and composite reliability exceed 0.8, outer loadings are greater than 0.7, and the average variance extracted surpasses 0.5. Based on the results presented in

Table 1. Reliability assessment of the scale

Constructs	Items	Factor Loading	Mean	Cronbach's Alpha	Composite reliability	Average Variance Extracted
Uncertainty of the environment (UNC)	UNC1	0.808	4.705	0.842	0.848	0.612
	UNC2	0.741	4.646			
	UNC3	0.785	4.589			
	UNC4	0.796	4.602			
	UNC5	0.779	4.669			
Price volatility (PRI)	PRI1	0.901	4.044	0.913	0.923	0.792
	PRI2	0.873	4.819			
	PRI3	0.908	4.017			
	PRI4	0.878	4.067			
Societal influences (SF)	SF1	0.822	3.891	0.889	0.892	0.693
	SF2	0.827	3.931			
	SF3	0.843	3.895			
	SF4	0.846	3.886			
	SF5	0.824	3.878			

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Table 1 (cont.). Reliability assessment of the scale

Constructs	Items	Factor Loading	Mean	Cronbach's Alpha	Composite reliability	Average Variance Extracted
Perception of risks (RIS)	RIS1	0.842	4.648	0.868	0.871	0.716
	RIS2	0.862	4.720			
	RIS3	0.852	4.684			
	RIS4	0.827	4.634			
Legal understanding (KNO)	KNO1	0.852	3.914	0.878	0.879	0.732
	KNO2	0.851	3.922			
	KNO3	0.862	3.891			
	KNO4	0.857	3.893			
Content of contract farming (COF)	COF1	0.870	4.804	0.850	0.881	0.766
	COF2	0.904	4.777			
	COF3	0.852	4.634			
Disputes for contract farming (DIS)	DIS1	0.881	4.739	0.909	0.909	0.786
	DIS2	0.892	4.724			
	DIS3	0.888	4.785			
	DIS4	0.885	4.790			
Intention to choose mediation (INT_M)	INT_M1	0.861	3.057	0.901	0.904	0.716
	INT_M2	0.851	3.030			
	INT_M3	0.859	3.019			
	INT_M4	0.833	3.008			
	INT_M5	0.825	3.032			
Intention to choose court (INT_C)	INT_C1	0.806	4.771	0.884	0.885	0.684
	INT_C2	0.825	4.787			
	INT_C3	0.814	4.800			
	INT_C4	0.828	4.821			
	INT_C5	0.860	4.825			
Intention to choose commercial arbitration (INT_A)	INT_A1	0.799	4.931	0.727	0.732	0.551
	INT_A2	0.703	4.897			
	INT_A3	0.750	4.880			
	INT_A4	0.713	4.945			

Table 2. Discriminant reliability among heterotrait-monotrait ratio

Constructs	COF	DIS	INT_A	INT_C	INT_M	KNO	PRI	RIS	SF	UNC
COF										
DIS	0.251									
INT_A	0.226	0.611								
INT_C	0.145	0.735	0.606							
INT_M	0.065	0.378	0.414	0.636						
KNO	0.188	0.583	0.456	0.720	0.414					
PRI	0.135	0.278	0.290	0.214	0.156	0.121				
RIS	0.197	0.379	0.226	0.403	0.265	0.283	0.101			
SF	0.077	0.275	0.181	0.350	0.162	0.160	0.211	0.142		
UNC	0.089	0.436	0.235	0.380	0.142	0.238	0.162	0.184	0.132	

Note: UNC = Uncertainty of the environment; PRI = Price volatility; SF = Societal influences; RIS = Perception of risks; KNO = Legal understanding; COF = Content of contract farming; DIS = Disputes for contract farming; INT_M = Intention to choose mediation; INT_C = Intention to choose court; INT_A = Intention to choose commercial arbitration.

Table 1, all indicators satisfy these thresholds, confirming that the scale demonstrates a high degree of reliability.

In addition to reliability, ensuring the discriminant validity of variables within the research model is essential. The HTMT ratio is a widely accepted metric for discriminant validity in PLS-SEM analysis. As shown in Table 2, the HTMT values for all variable pairs range from 0.101 to 0.636, well below the 0.85 threshold recommended by Henseler et al. (2015). These findings confirm that the scale fully meets the requirements for discriminant validity.

3.2. Structural model evaluation

To evaluate the structural model, the necessary procedures include:

(1) checking for multicollinearity through the inner VIF coefficient,

(2) assessing the model's explanatory power and its fit with actual data, evaluating the model's predictive ability through the SRMR, R^2, and adjusted R^2 coefficients, and Q^2, and

(3) assessing the impact of independent variables on the dependent variable through the f^2 coefficient (Henseler et al., 2015; Hu & Bentler, 1999; Hair et al., 2019).

Meanwhile, the f^2 coefficient indicates whether the impact of an independent variable on a dependent variable is strong or weak. According to Cohen (1988), if $f0.02 > {}^2$, the effect is extremely small or negligible; $0.02 \leq f0.15 \geq {}^2$, the effect is small; $0.15 \leq f0.35 \geq {}^2$, the effect is medium; and *if* $f0.35 \leq {}^2$, the effect is large.

According to Table 3, the cause of contract farming disputes between farmers and enterprises is explained by six independent factors in the model, with an accuracy level of 43.3% and a relevance level of 33.2%. Additionally, the intention to choose the court, commercial arbitration, or mediation to resolve disputes is explained with accuracy levels from high to low at 43.5%, 24.7%, and 11.8%, and relevance levels of 29.5%, 13.4%, and 8.3%, respectively. Thus, the intention to choose the court to resolve disputes has the highest level of accuracy.

Based on Table 4, the inner VIF values range from 1.000 to 1.131 < 3, and the SRMR coefficient is 0.076 < 0.08, thus concluding that the model does not violate multicollinearity and fits the actual data collected. Based on the f^2 results, apart from the variable COF (the content of contract farming), which has no significant impact, all other independent factors have a medium effect on disputes (DIS). Among them, legal understanding has the strongest impact on contract farming disputes. Furthermore, when disputes occur, the strongest impact is on the intention to choose the court, followed by commercial arbitration, and finally, mediation to resolve the dispute.

Table 3. Predictive ability of the model

Constructs	R-square	R-square adjusted	Q-square
DIS	0.433	0.427	0.332
INT_A	0.247	0.246	0.134
INT_C	0.435	0.434	0.295
INT_M	0.118	0.117	0.083

Note: DIS = Disputes for contract farming; INT_M = Intention to choose mediation; INT_C = Intention to choose court; INT_A = Intention to choose commercial arbitration.

To test the hypotheses related to the direct impact relationship between the constructed factors, a hypothesis will be accepted when the *p*-value is < 0.000. After conducting the analysis, the results are presented in Table 4.

Based on the content of Table 4, all hypotheses from H1 to H9 regarding the direct impact relationship between the factors are accepted. These results indicate that contract farming disputes occur due to the impact of six factors, listed in as-

Table 4. *f2*, inner VIF, direct impacts

Relationship	Original sample	Standard deviation	P values	f²	Inner VIF	Bias	Hypotheses	Conclusion
COF → DIS	0.090	0.035	0.010	0.013	1.060	0.000	H6	Accept
DIS → INT_A	0.497	0.034	0.000	0.329	1.000	0.001	H9	Accept
DIS → INT_C	0.660	0.024	0.000	0.770	1.000	0.000	H8	Accept
DIS → INT_M	0.344	0.040	0.000	0.134	1.000	0.002	H7	Accept
KNO → DIS	0.384	0.032	0.000	0.230	1.131	–0.002	H5	Accept
PRI → DIS	0.136	0.034	0.000	0.030	1.067	0.002	H1	Accept
RIS → DIS	–0.167	0.035	0.000	0.044	1.107	0.000	H4	Accept
SF → DIS	0.113	0.032	0.000	0.021	1.066	0.000	H3	Accept
UNC → DIS	0.242	0.033	0.000	0.096	1.077	0.003	H2	Accept

Note: SRMR = 0.076; Chi-square = 2101.505; NFI = 0.843. UNC = Uncertainty of the environment; PRI = Price volatility; SF = Societal influences; RIS = Perception of risks; KNO = Legal understanding; COF = Content of contract farming; DIS = Disputes for contract farming; INT_M = Intention to choose mediation; INT_C = Intention to choose court; INT_A = Intention to choose commercial arbitration.

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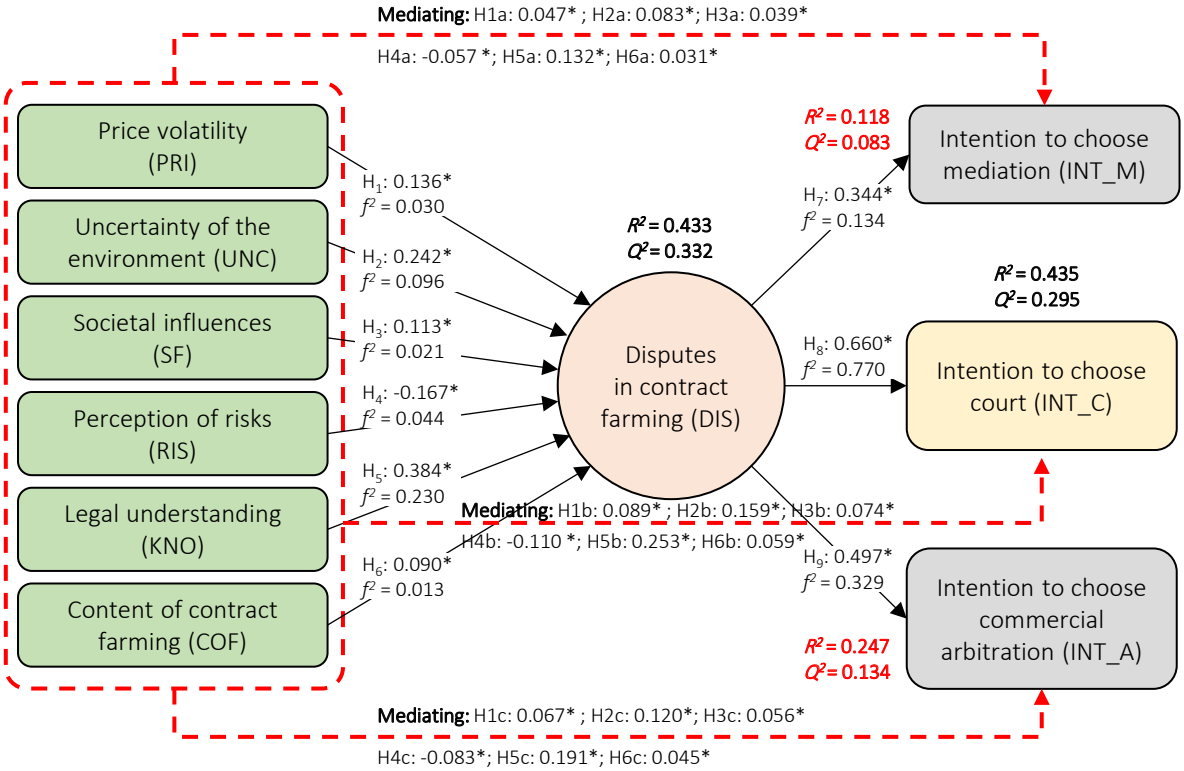

Note: Direct relationship: Black line. Mediating relationship: Red dotted line. Significance level: * $p < 0.05$.

Figure 2. PLS-SEM testing

cending order of impact coefficient: (1) the content of the contract; (2) social influence; (3) price volatility; (4) risk perception; (5) environmental uncertainty; and (6) legal understanding. Additionally, when contract farming disputes arise, the highest intention is to choose the court for resolution, followed by commercial arbitration and, finally, mediation between the parties.

To test the indirect hypotheses through the mediating role of the variable disputes in contract farming, the bootstrapping technique with a sample size of 3,000 was employed. The results in Figure 2 show that all hypotheses related to the mediating effects were accepted.

Additionally, a multi-group analysis technique was conducted to explore the differences in the structural relationships within the model between farmers and businesses, and the summarized results are presented in Table 5.

Based on Table 5, among all the linear structural relationships established in the model, there is generally no significant difference in perception between the two groups, farmers and agricultural enterprises, except for two relationships, DIS → INT_C and UNC → INT_C, which have p-values < 0.05. This indicates that the assessment of the uncertainty in the production and consumption environment and the occurrence of disputes significantly influences the intention to choose the court for resolving contract farming disputes, highlighting a notable difference between the two groups of farmers and agricultural enterprises.

Table 5. Multigroup analysis

Relationship	Difference (Enterprise - Famer)	1-tailed (Enterprise vs Famer) p-value	2-tailed (Enterprise vs Famer) p-value
DIS → INT_C	0.115	0.012	0.025
UNC → INT_C	0.103	0.013	0.026

Note: UNC = Uncertainty of the environment; DIS = Disputes for contract farming; INT_C = Intention to choose court.

4. DISCUSSION

The research model has been developed and validated based on in-depth interviews with 15 experienced lawyers specializing in contract farming disputes and several previous studies. The survey results from both groups – farmers and agricultural enterprises – indicate that the following factors significantly influence the occurrence of contract farming disputes: the content of the contract, social influences, price volatility, risk perception (which has a negative impact), uncertainty in the natural environment, production, and consumption, and legal knowledge. Additionally, the intention to resolve disputes is ranked as follows: first, the court; then commercial arbitration; and finally, mediation between the parties. Furthermore, there is a fundamental difference between farmers and agricultural enterprises in assessing the linear structural relationships between the uncertainty of the natural environment, production, and consumption and the occurrence of disputes in relation to court selection.

The results indicate a significant similarity with Sauer (2021), Jitjaroendee (2024) in Thailand, Gao et al. (2024) in China, Abadi et al. (2024), Khalili et al. (2024) in Iran, as well as some studies conducted in Vietnam, including Nhân and Ikuo (2012), Loi (2017), and Pham et al. (2021), who explain the causes of contract farming disputes. These factors include objective elements like price volatility, environmental uncertainty, and social influences, as identified by Prowse (2012), López Rodríguez (2015), Laitha (2020), Minot and Ronchi (2015), and OECD (2009). Additionally, there are subjective factors related to farmers and enterprises, such as legal knowledge, the content of the contract farming that has been agreed upon and signed, and risk perception concerning contract farming. Studies addressing these subjective causes include those by Jia and Huang (2011), Guo and Jolly (2008), Viet and Thanh (2024), Silva and Ranking (2013), and Lazzarini et al. (2004).

Furthermore, the findings confirm the priority order when choosing between court, commercial arbitration, and, ultimately, mediation for resolving contract farming disputes from the perspectives of both farmers and agricultural enterprises. This represents a significant difference between the results of this study and previous research, such as that of Viet and Thanh (2024), which focused on the perspectives of arbitrators, and the study by López Rodríguez (2015), which prioritized and encouraged the selection of commercial arbitration and mediation to resolve disputes.

The results of the study also indicate that legal understanding among stakeholders has the strongest impact on the emergence of disputes, while the factor of the content of contract farming that has been signed has a negligible effect. This suggests that significant support from government agencies, the business community, professional associations, and cooperatives is essential to encourage farmers and agricultural enterprises to collaborate through contract farming. Increasing awareness of the benefits of signing contracts and the responsibilities and obligations to properly enforce the terms of the signed contract farming will contribute to minimizing the occurrence of disputes. Moreover, from the perspective of legislative bodies, the laws governing contract farming in developing countries with similar agricultural economies, such as Vietnam, need appropriate amendments to protect producers (farmers), who are often in a vulnerable position and face disadvantages during negotiations, contract formation, enforcement, and resolution of contract violations. When participating in the agricultural production and consumption value chain, farmers encounter many issues due to a lack of knowledge, negotiation skills, information, and financial resources. Consequently, in negotiating agreements for the consumption of agricultural products between agricultural enterprises and farmers, companies can unilaterally impose terms, creating contracts that are unfavorable to farmers.

Therefore, legislators must supplement regulations to protect the weaker party in contract farming relationships when the negotiation position is imbalanced, aiming to balance the interests of both parties. Some countries provide producers with the right to cancel contracts within a certain period, typically three days or a longer period of one to two weeks after signing the contract. Producers can exercise this right after thoroughly considering the implications of the contract and possibly after being informed of the risks by a third party to mitigate any disadvantages of the contract

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(UNIDROIT et al., 2015). In Vietnam, the issue of contract cancellation is addressed only in Article 423 of the 2015 Civil Code[1], in a rather general manner, without considering granting producers the right to cancel contracts within a specified timeframe. The absence of such regulations leads to the reality that producers are hesitant to enter into contract farming. Thus, producers (farmers) should pay attention to recording this special agreement (the right to cancel the contract within a specified period) in the contract, as such an agreement allows the parties to establish a contract that aligns with their practical conditions. However, in addition to affirming the role of this agreement, it is necessary to have supplementary regulations to enhance the applicability of contract farming.

Like other emerging countries, Vietnam is currently operating under a model that has yet to utilize a separate legal framework, such as an agricultural law. This legal document is necessary to regulate the entire production, processing, and consumption of agricultural products, with clear provisions regarding types of agricultural business organizations, regulations on agricultural production, agricultural subsidies, credit lending regulations, support for specific production sectors, and regulations on agricultural trade. Therefore, the prompt enactment of this law will contribute to establishing a solid legal foundation for better enforcement and resolution of disputes related to contract farming.

A notable result of this study is the provision of empirical evidence based on a survey of 525 producers (farmers) and agricultural enterprises in the Central Coastal region of Vietnam regarding their intentions to resolve contract farming disputes in the following order from highest to lowest preference: courts, commercial arbitration, and mediation. The main reason for this is the perception that both parties do not trust mediation when contract farming disputes arise. Meanwhile, commercial arbitration is seen as more disadvantageous for farmers due to high resolution costs, and they often lack knowledge about selecting reliable arbitrators or arbitration centers. The court system is chosen most frequently because they expect that an independent ruling body will better protect the vulnerable parties in terms of financial conditions and small-scale production, even though they are aware that this dispute resolution method may be prolonged due to complex legal procedures. Therefore, in rapidly advancing digital transformation, agencies such as courts and arbitration centers need to reduce the time taken for each legal procedure, enhance the use of online filing for lawsuits, facilitate online payment of court fees, provide updates on case processing status, publicize verdicts, and send judgments to parties through electronic systems.

For producers (farmers) and agricultural enterprises themselves, minimizing disputes requires a further enhancement of legal knowledge, an increased awareness of self-protection of their legitimate rights, a proactive approach to thoroughly understanding contractual terms, and building mutual trust among parties in collaborative relationships. The content of contract farming should be carefully drafted based on consultation and support from legal management agencies, professional associations, cooperatives, and experienced producers.

Although there are some notable research findings, this study also has limitations. For example, the selection of factors influencing the emergence of contract farming disputes is based on interviews with 15 experienced lawyers and a review of several related previous studies, without considering the influence of many other factors. The survey scope is limited to the Central Coastal economic region of Vietnam (one of six economic regions) due to time and budget constraints. Finally, the research subjects are confined to two groups: producers (farmers) and agricultural enterprises within the eight provinces of the Central Coastal region, without extending to other relevant groups such as business associations, cooperatives, and dispute resolution agencies.

1 One party has the right to cancel the contract without having to compensate for damages in the following cases: a) The other party violates a contract condition that the parties have agreed upon; b) The other party seriously violates its contractual obligations; c) Other cases as stipulated by law. (2) A serious violation is defined as failing to fulfill one party's obligations to the extent that the other party cannot achieve the purpose of entering into the contract. (3) The party canceling the contract must promptly notify the other party of the cancellation; if notification is not given and causes damage, the party must compensate for the damages.

CONCLUSION

This study was conducted to identify and measure the impact of factors leading to disputes in contract farming agreements, as well as to examine the intentions and preferences for resolving these disputes in practice in Vietnam, an emerging Southeast Asian economy where agriculture continues to play a pivotal role in national development. A total of 525 participants, comprising two key stakeholder Vietnam, an surveyed using a structured questionnaire. The study's findings highlight six critical factors contributing to disputes in contract farming: the content of the contract, social influence, price volatility, risk perception, environmental uncertainty and legal understanding. These insights not only reflect the complexity of contract farming relationships but also emphasize the necessity of transparent and equitable contractual arrangements. Furthermore, the study reveals a distinct hierarchy in the preferred dispute resolution mechanisms: the most favored option is formal litigation through the courts, followed by commercial arbitration, and then mediation. This preference order underscores the perceived legitimacy and enforceability of judicial decisions among stakeholders, despite the potential costs and delays associated with litigation. The paper contributes significantly to the limited body of empirical literature on contract farming and commercial dispute resolution in emerging markets. In particular, the development of validated measurement scales and the application of the PLS-SEM approach provide a robust analytical framework. This framework offers a strong foundation for future studies exploring stakeholder perspectives on dispute resolution in agricultural contracts, both in Vietnam and in comparable developing economies.

AUTHOR CONTRIBUTIONS

Conceptualization: Lanh Cao Dinh, Hai Phan Thanh.
Data curation: Lanh Cao Dinh, Hai Phan Thanh.
Formal analysis: Lanh Cao Dinh, Hai Phan Thanh.
Investigation: Lanh Cao Dinh, Hai Phan Thanh.
Methodology: Lanh Cao Dinh, Hai Phan Thanh.
Project administration: Lanh Cao Dinh, Hai Phan Thanh.
Resources: Lanh Cao Dinh, Hai Phan Thanh.
Software: Lanh Cao Dinh, Hai Phan Thanh.
Supervision: Lanh Cao Dinh, Hai Phan Thanh.
Validation: Lanh Cao Dinh, Hai Phan Thanh.
Visualization: Lanh Cao Dinh, Hai Phan Thanh.
Writing – original draft: Lanh Cao Dinh, Hai Phan Thanh.
Writing – review & editing: Lanh Cao Dinh, Hai Phan Thanh.

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APPENDIX A

Table A1. Descriptive statistics of samples

Characteristics	Frequency	Percentage
Role in contract farming		
Producer (Farmer)	323	61.5
Buyer (Agricultural Enterprise)	202	38.5
Gender		
Male	248	47.2
Female	277	52.8
Education level		
Lower than high school	122	23.2
High school	72	13.7
Intermediate and college	98	18.6
Bachelor's, Engineering or equivalent	168	32.0
Postgraduate	65	12.5
Age		
Under 25 years old	78	14.8
From 25 to under 40 years old	165	31.4
From 40 to under 55 years old	190	36.1
Over 55 years old	92	17.7
Location of survey		
Da Nang	50	9.5
Quang Nam	80	15.2
Quang Ngai	70	13.3
Binh Dinh	70	13.3
Phu Yen	70	13.3
Khanh Hoa	70	13.3
Ninh Thuan	65	12.6
Binh Thuan	50	9.5

APPENDIX B

Table B1. Measurement summary

Symbol	Scales	Sources
	Uncertainty of the environment (UNC)	
UNC1	Changes in climate conditions and the natural environment where cultivation takes place	López Rodríguez (2015), OECD (2009), Authors' development
UNC2	Diseases affecting agricultural products arise and spread	
UNC3	The conditions and methods of production are changing	
UNC4	The consumption market is unstable	
UNC5	Regulations and policies (taxes, contracts, etc.) change	
	Price volatility (PRI)	
PRI1	The prices of input factors such as materials and breeding stock for production change	Prowse (2012), Minot and Ronchi (2015), Authors' development
PRI2	The costs of production increase	
PRI3	The selling price at the time of harvest fluctuates unusually	
PRI4	Costs during the purchasing and consumption process increase significantly	
	Societal influences (SF)	
SF1	I/my company engages in contract farming instead of other forms due to the wishes of the family/ business owner	Khalili et al. (2024), Authors' development
SF2	Other farmers/businesses encourage and support me/my company to use contract farming	
SF3	The cooperative/business association encourages me/my company to use contract farming	
SF4	I/my company receive support and encouragement to engage in contract farming from government agencies	
SF5	I/my company believe that engaging in contract farming is an inevitable trend in the context of integration	

Table B1 (cont.). Measurement summary

Symbol	Scales	Sources
	Perception of risks (RIS)	
RIS1	Financial capacity faces difficulties/obstacles	Experts' opinions, Authors' development
RIS2	The market and agricultural product productivity are unstable	
RIS3	Intervention in the purchase and price negotiation during the harvest of agricultural products by third parties (traders, other businesses, etc.)	
RIS4	The penalties for breaching contract farming are not substantial enough to serve as a deterrent	
	Legal understanding (KNO)	
KNO1	I/my company understands our rights and obligations when implementing contract farming	Experts' opinions, Authors' development
KNO2	I/my company clearly understands the consequences of not complying with the terms of the signed contract farming	
KNO3	I/my company is ready to face legal proceedings if the signed contract farming shows signs of being violated	
KNO4	I/my company is willing to terminate the contract and accept the consequences of any violations because the obligations and penalties are insignificant compared to the benefits gained from breaking the contract	
	Content of contract farming (COF)	
COF1	The contract farming between me/my company and the partner is signed based on mutual consent and equality, benefiting both parties	Experts' opinions, Authors' development
COF2	The contract farming agreement between me/my company and the partner is carefully drafted based on legal regulations	
COF3	The contract farming agreement between me/my company and the partner does not include any reward/penalty clauses for performance	
	Disputes for contract farming (DIS)	
DIS1	A dispute arises when I realize that my current and future rights from the contract farming agreement are being violated by the partner	Experts' opinions, Authors' development
DIS2	A dispute arises when the partner does not respect and fully fulfill the obligations committed in the signed contract farming agreement	
DIS3	I/my company will suffer economic losses and damage to reputation if the partner does not comply with the terms of the signed contract farming agreement	
DIS4	I/my company will face legal risks if the agreements in the contract farming are not fulfilled	
	Intention to choose mediation (INT_M)	
INT_M1	I intend to use mediation to resolve the disputes related to the contract farming that I/my company have signed	López Rodríguez (2015), Viet and Thanh (2024), Authors' development
INT_M2	I plan to use mediation as a method to resolve the contract farming disputes that I/my company face	
INT_M3	I am willing to invite an independent third party to analyze and evaluate the causes of the contract farming dispute with the relevant parties	
INT_M4	I plan to prioritize negotiation and bargaining when resolving contract farming disputes	
INT_M5	I am willing to respect and fulfill my contract farming with my partner in the future	
	Intention to choose court (INT_C)	
INT_C1	I intend to use the courts to resolve the contract farming disputes that I/my business has signed	Viet and Thanh (2024), Authors' development
INT_C2	I plan to use the courts as a means to resolve the contract farming disputes that I/my business am facing	
INT_C3	I am willing to hire lawyers to represent me in resolving contract farming disputes with the involved parties	
INT_C4	I intend to follow the guidance of lawyers and the regulations of the court when resolving contract farming disputes	
INT_C5	I am willing to respect and enforce the court's rulings when resolving the contract farming disputes of mine/my business	
	Intention to choose commercial arbitration (INT_A)	
INT_A1	I intend to use commercial arbitration to resolve the contract farming disputes that I/my business has signed	Viet and Thanh (2024), López Rodríguez (2015), Authors' development
INT_A2	I plan to use commercial arbitration as a method to resolve the contract farming disputes that I/my business is facing	
INT_A3	I intend to be ready to sign arbitration agreements to resolve disputes with the parties involved regarding contract farming	
INT_A4	I intend to comply with the guidelines of the arbitrators when resolving disputes regarding my contract farming/business	

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