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Contract farming: the need for the state's role as a facilitator

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Abstract

Contract farming is gaining importance as a marketing alternative to small farmers in developing countries and India. The two models of contract farming prevalent in these counties are the intermediary and informal models. In the present scenario, where the state has been withdrawing from public investment in agriculture, this paper seeks to analyse why the state's developmental role in the agriculture sector is even more significant. The paper reviews other articles and case studies on contract farming ventures in developing countries and India to discuss the four important criterion – ownership, voice, risk and returns. The paper shows how small farmers' voice is not adequate in contract farming ventures and how it leads to situations where they are exploited. The study also highlights the state's role in enhancing the farmers' voice in these contract farming ventures. The missing markets for inputs and infrastructure and the information asymmetries present in developing countries' agriculture sector have resulted in the exploitation of small farmers in contract farming ventures. The state's facilitating role is criticalin enhancing the farmers' voice and protecting the small farmers' interest.

Keywords:1. Contract Farming,2. farmers exploitation,3. risks and rewards,4. States' role,5. voice of farmers

Introduction

In many countries, agro-industrial companies prefer to contract with large farmers. With the increasing number of small holdings in developing countries, companies contract with small farmers using intermediaries' help. The discussion on contract farming models is usually done in the literature using ownership, voice, risk and reward framework. These four criteria are critical for small farmers, as these criteria determine their bargaining power. These criteria describe the five contract farming models prevalent across countries. Among these five models, informal and intermediary models are more predominant in developing countries. Intermediary and informal models are more famous for the high-value commodities that are grown under contracts in the developing countries as it helps build rapport with the small farmers and intermediaries to coordinatea large number of small farmers. Consolidating the contract farming experiences across the developing countries and India, this review article focuses on analyzing why intermediary and informal models are popular in these countries and why the state's role is essential in increasing farmers' voice.

Criterion influencing contract farming ventures

Contract farming agreements and the parties' negotiating power (particularly those of the small farmers) are determined and influenced by four main criteria: ownership, voice, risks, and rewards involved(Vermeulen & Cotula, 2010). In the case of ownership, the business of entering into contracts and processing the raw materials lies with the company, and the company has the upper hand in accepting or rejecting the produce. Similarly, land ownership lies with the farmers (both small and medium farmers). The parties' voice - to influence the contract decision, their weight and negotiating power in influencing the arrangements, for review and grievance also differ between the companies and the farmers. Similarly,various types of risks are involved in contracts between companies and small farmers(Vermeulen & Cotula, 2010). These risks include production risks and marketing risks to the farmers. Farmers face risks of cultivating new crops in the land, supply risks (of the necessary inputs), and marketing risks (when the company rejects the produce). Similarly, companies face risks when farmers usecontract inputs to other non-contract crops or sell their produce outside the contract.The last criterion, "rewards"are concerned about the costs and benefits involved in the contracts which include the prices agreed beforehand for the produce and also any financial arrangements for the farmers to enter into these contracts (loans)(Eaton & Shepherd, 2001).

The above-listed aspects of ownership, voice, risk and reward are closely interlinked as they can influence each otherin the contracts. For example, the company's monopsonist ownership makes it the single buyer for the new crop produced, making the farmers vulnerable to marketing risks (if the produce is rejected). This happens when the crop produced is entirely new to the geographical region,and there are no other marketing opportunities for the farmers(Vermeulen & Cotula, 2010). The negotiating power or the voice influences the reward, or the price agreed upon by the parties concerned. There is also a relationship between ownership and the risks involved. In the case of farmers entering into a joint venture contract with the company, (which can happen between FPOs –farmer producer organizations and the company); this exposes them to the business risks they share between the company and the FPOs.

There are also different degrees of these four criteria – ownership, voice, risk, and reward, influencing the contracts' practical feasibility in various situations, different crops, and geographical regions. In the light of these four criteria, there could also be multiple other parties involved in the contract farming ventures. These four criteria influence the various forms of contract farming models discussed in detail below.

Contract farming models

Based on the above criterion of ownership, the voice of the farmers, risks and rewards involved, the contract farming ventures that have been in practice across the developing countries are classified into five types namely

1. Highly centralized model
2. Nucleus estate model
3. Multipartite model
4. Informal model
5. Intermediary model

Highly centralized model

The highly centralized model is the contract farming venture where the company enters intoa direct contract with many small farmers. The small farmers are supposed to have a higher negotiating power or voice (as the company relies on them for the raw materials). Still, the company does have tight control over the quality of the produce, and its quantityprocures from small farmers. Hence the negotiating power is often less for the small farmers as the company dictates the contract terms with strict control over implementation.

The centralized model is popular in the Thai sugar industry, where 46 sugar mills (private companies) producednearly more than 40 lakh tonnes of sugar in 1998. The model resulted in exports of 57% of the total sugar produced. Almost 2 lakh farmers cultivate sugarcane for these mills, and the Thai government played a role in enforcing and regulating the price given to these farmers(Eaton & Shepherd, 2001). Zambia also uses a centralized model where nearly 15000 and more farmers grow cotton for an MNC Lonhro, under contracts for the company's ginnery. Similarly, PepsiCo started with tomato processing in Punjab, India, where many farmers contracted tomatoes from them on a stipulated price(Spice, 2003). Generally, the centralized model works well with crops like cotton, tobacco, sugarcane and bananas, and it also works well with plantation crops like coffee, cocoa, tea and rubber. In recent years, the model is prevalent in contractsused for dairy production, pork and poultry production. The central processing company procures from manysmall farmers at contracted terms. Since the contract terms' control lies with a single company, there is often less voice for the small farmers in this contract farming model.

Nucleus Estate Model:

The second form of CF arrangements is the nucleus estate model. The company combines both productions through its plantation andprocures the produce from other small farmers around the area. This model reduces the smallholders' negotiating power as the company has its raw materials (from the estate), which undermines the small farmers' negotiating ability under contracts. The company generally provides a range of inputs to the farmers – both physical inputs like seeds and fertilizers and extension support. This model is generally more suitable for crops like tea, coffee and tree plantations. The model is prevalent in Zimbabwe where sugarcane is grown under this nucleus estate model in Mkwasine sugar estate, Zimbabwe. Similarly, this model is popular for contracts growing oil palm in Papa New Guinea and growing tree crops by Stora Enso Company in Indonesia. Here since the small farmers are dependent on the firm for its supply of inputs and extension services, they are often marginalized by being charged heavily for these services.

Multipartite model:

The third form is the multipartite model which includesthe tri-partite model involving the company, farmers and the state agency. It can be a quad-partite model that consists of the company, farmers, research institutions, and the state. It can also be a multipartite model that means more than four parities involving the bank. Here, the farmers' negotiating power or voice might be boosted by the government agency or the research agency as it speaks or works on behalf of the farmers. This model might also use a 3rd party financial institution for credit provision, or even marketing or production processing. This model is in prevalence in many developing nations for growing vegetables like Metro & Tan PhuTrung, which is cooperative in Vietnam, and ALCOSA also uses it for growing frozen vegetables in Guatemala.

This multipartite model has various advantages to the farmers and the firm. The benefit to the firmis that it reduces the financial commitment on the part of the company. The benefit to the farmers includes quality of seedsbeing supplied (R&D); the government's involvementensuresproper enforcement and farmers getting the right price as stipulated. However, multiple parties' lack of coordination is a major disadvantage in this model.

Informal model in contract farming:

The fourth type of contract farming ventures is an informal model where there is only a verbal agreement between the company and the farmers who aremostly contracted for a seasonal basis when there is a high demand for processed food. Here the inputs like seeds and fertilizers are provided by the company.

Informal model of contract farming is prevalent in many developing nations as small companies mostly characterize it. These informal contracts are popular with seasonal crops, andwhere material inputs providedare just seeds and fertilizers. Government offers support in the form of research and extension. This model generally includes crops like fruits, vegetables and high-value commodities that require minimal processing. The informal model examples include Favco company, which is involved in vegetable wholesale in Zimbabwe and Agriseeds, which is engaged in contract farming of seed crops in Zimbabwe. Most of the supermarkets in developing nations, often purchase fresh fruits and vegetables and even dairy produce from small farmers and sell them under their own brand. Usually, the company's financial investment, required for such an informal model, is minimal but generally works well on a long-term basis. It is mostly due to the relationship-building between the contract parties (Narayanan, 2012).

Intermediary model

The fifth model is the intermediary modelfrequently found in developing countries.Here the company enters into contracts with one or twointermediaries who enterinto agreements with many small farmers in that area. In this type of intermediary model, the intermediary might impact the small farmers' voice, favouring his people (community or race) and might ignore other small farmers. Companies prefer to use the intermediary model to contract with many small farmers. When they contract with an intermediary and the intermediary has contracts with many small farmers, its transaction costs get significantly reduced. The intermediary is generally a local person contract with many small farmers, reducing the information asymmetries problem (as he can speak the local language as the small farmers).

This model is prevalent in Southeast Asia, where the formal subcontracting of crops between the companies and intermediaries is a common practice. In Thailand, fresh vegetable entrepreneurs and food processing companies enter into contracts with individual intermediaries or collectors who in turn contract with manysmall farmers. In countries like Indonesia, India and China, entering into contracts with the intermediaries has a wide prevalence. In India, Pepsi Frito Lays uses the intermediary model, which sources potatoes through intermediaries who contract with many small farmers. Similarly, in Colombia, the Passicol factory uses the intermediary model to procure fruits from small farmers. Nestle India Ltd uses this model for collecting milk from intermediaries who procure them from small farmers. Similarly, in Kenya, FrigokenCompany which produces canned vegetables uses this model to contract intermediaries.

The intermediary model has advantages for the company in gaining access to many small farmers and local inputs through the intermediaries. This model also allows the company to dictate the intermediaries' involvement level. There is also a large possibility of removing the intermediaries when the relationship builds between the farmers and the company after one or two contracting sessions. There are also various disadvantages found in this model where there is a danger of losing the control of production and monitoring by the company as the intermediaries do it. This also makes it difficult to control the quality of the product. There is over-reliance on intermediaries which disconnects the link between the company and the farmers.

Popularity of informal and intermediary models of contract farming

In most developing countries and India, informal and intermediary contract farming models are the most popular. This is because various information asymmetries and many small farmers are present in the agricultural sector, which makes it costly for the companies to enter into formal contracts with all of them. Hence, these corporates prefer to contract through an intermediary or keep the contracts informal to reduce their transaction costs. Informal contracts are generally not written, nor registered.

In Kenya:

In Kenya, Frigoken is the company that deals with frozen vegetables through contracting with small farmers around the country. This company uses both centralized and intermediary models. It procures nearly 10,000 tons of premium processed vegetables are produced annually from its plant in Nairobi for the supermarket chains and export to other European companies(Strohm & Hoeffler, 2006). The company contracts mostly with small farmers andprocures 100% of the vegetablesfrom the contracted farmers. They provide payments to the farmers on a bi-weekly basis. The company provided bonuses for farmers when they provide vegetables on superior quality. The company has abroad network of field or extension officers who advise the farmers to manage the farms effectively under contracts. One of the intermediaries who work on behalf of Frigoken in Kenya is the MKGL (Mt Kenya Gardens Ltd) which manages thousands of small farmers. These farmers form self-help groups, and each of the groups approaches the MKGL for contracts every year, and this intermediary controls all the inputs. Since it is the intermediary who manages the contracts with the small farmers, they have little voice in these contracts and only who are close to intermediary gets favours in return.

The various factors that determine the success of contract farming through intermediary models in Kenya include the type of product involved in the contracts, standards (quality standards), farmers' location (nearby the company), and infrastructural facilities. The success also depends on socioeconomic practices in the locality like the traditional practices and attitudes of the farmers, trust and relationships, education and exposure of the farmers. Each of these factors hasa different implication for small farmers contracting(Strohm & Hoeffler, 2006). Many small farmers don't have a voice in negotiating terms with the intermediaries.

In Indonesia

In Indonesia, PT Petrani company contracts with nearly 200 to 300 small-scale farmers to produce seeds of Soybean, rice, corn, and peanuts. This company uses the intermediary model to contractwith the small farmers, and the extension officers of the company function as intermediaries. They provide free seeds and extension advice to the farmers. Intermediaries also visit the farmers on behalf of the companies four times per year. Farmers are given spot-market prices with a 5% margin in these contracts. Even if there are specifications about buyback prices in the agreements, they are not the highest in the market; but the contract farmers are generally loyal to them. They have little voice to speak about prices as they rely on the company for inputs and technical guidance. These contracts improvecontract farmers' revenue by 71% for seed corn farmers and 160% for poultry farmers while there is little evidence for revenue increase in rice seed farmers' case on contracts(Simmons et al., 2005). Regular communication and trust-building impacts the success of these contracts. Similar intermediary model is used for contracting in the oil palm industry, though small farmers don't benefit from these contracts(Cahyadi & Waibel, 2016). Oil palm contract farming has made Indonesia be one of the largest producers of palm oil in the world since 2008. Oil palm is much more competitive and profitable to large farmers than small farmers. (Gatto, Wollni, Asnawi, & Qaim, 2017;Feintrenie, Chong, & Levang, 2010).

In Thailand

Various companies in the Frozen Vegetable Industry contract directly to intermediaries called collectors.These collectors organize nearly 30,000 farmers who grow different vegetables like green beans, soybeans and baby corn. Each collector controls over 200 to 250 farmers and is responsible for all the field activities right from the seeds' sowing to the crops' harvesting. And these collectors are paid based on the farmers and the level of production they manage. The company only dictates the usage of the crop variety, quality of the crops, and inputs (seeds and fertilizers). There are also field officers appointed by the company who provide technical advice and support to the collectors and the farmers.

The outcomes of these contract farming ventures in the frozen vegetable industry have been successful for various crops like sweet corn, baby corn, potatoes, and soybeans. Thailand is supposed to be at the contract farming industry's maturity stage. In its early or beginning stage, the Thailand government monitored the contracts heavily and facilitated the stakeholders to engage in contract agreements. Over the years, the contracts' farmers have gained the necessary skills and experience. Today, more experienced contract farmers can negotiate these contracts with the companies and intermediaries based on the opportunities they face (Sriboonchitta & Wiboonpoongse, 2008). This negotiating power is higher for the farmers when there is an opportunity for the farmers to switch to open markets and contract markets. Experience and presence of open markets for the produced crop increase the farmers' voice in these contracts.

In Colombia

In Colombia, the Passicol factory enters into contracts with farmers through intermediaries (which are groups), and this company focuses on growing various fruits for export purposes. The fruits grown under contracts include blackberries, papaya and bananas(Eaton & Shepherd, 2001). Passicol does not contract directly with the farmer. Still, it contracts with nearly 14 working groups and these groups provide inputs to the farmers – both seeds and fertilizers and collect the produce from the farmers to supply to the company.

These groups recover the company's administration and overhead costs before settling the accounts with the contracted farmers. Various other companiesin Colombia also contract through partnerships with intermediaries. These include large corporations like PepsiCo, Nestle and Alpina, and many Colombian enterprises enter into contracts with these intermediaries and FPOs(World_Bank, 2014).

In South American countries:

Contract farming ventures between these large enterprises and farmer partnership groups are also prevalent in other Latin American nations, including Honduras, Peru, Guatemala, Jamaica, and Bolivia. Nearly 3000 partnerships have benefited almost 110,000 families in Latin American countries. People who directly and indirectlybenefit from these contracts say that it has increased their average household income. Companies also recognize that there are advantages from contracting with small scale farmers, particularly concerning some crops like coffee, vegetables, and cacao (World_Bank, 2014). However, these small farmers' negotiating power has become highly questionable as they depend on the companies for their inputs. They are sent out of the groups (cooperatives) when they raise their voice(Santacoloma et al., 2007).

The Chacay cooperative in Chile, located at 375 km to the south of Santiago is a cooperative, contracting with farmers for the cultivation of Asparagus and berries through the intermediary model where the Chacay cooperative acts as an intermediary between the industrial companies and the small scale farmers(Santacoloma et al., 2007). The farmers have their formal agreements with Chacay. Itis responsible for the provision of inputs, selection, washing, processing, and packaging of outputs and the price of the produce is determined on the size and quality. The outcomes of these intermediary contracts with the farmers include increased income, increased employment, and improve families' livelihoods for these small farmers. The various success factors identified include developing technical and productive capabilities, assured market for the produce, decreased costs (transaction costs including costs for transportation, and sales commission) and innovative relationships between the farmers and the cooperatives(Santacoloma et al., 2007).

Indian experience with contract farming ventures

The timeline of modern contract farming in India starts with the production of tomatoes and potatoes by PepsiCo Company to the more recent contract farming ventures in medicinal plants and horticulture.

Tomatoes and potatoes

Contract farming in India started with PepsiCo company contracting with hundreds of farmers to produce nearly 28,000 tons of tomato crops during 1989-90. The company had its tomato processing plant installed at Hoshiarpur in Punjab. Though the plant's requirement was 40,000 tons, the farmers could supply only 28,000 tons. Hence, this model collaborated with the PAU (Punjab Agricultural University) that provided the farmers with a new variety of seeds and productivity increases through continuous research and development. This success model made the company emulate this contract farming model to other crops like

Basmati rice, oilseeds and spices, and vegetables like potatoes. Singh (2000) points out that contract farming initially helped the farmers gain more income by generating employment andproviding new farmers' new skills. However, in the long term, strict enforcement of the contract terms and overpricing services, and poor extension service by the firms, tend to pass on these contracts'benefits only to the large farmers. The small farmers feel that they have lower bargaining power than the company and feel exploited by the companies over the longer term. They are becoming dependent on the companies for the inputs and credit(Singh, 2000). This reveals that the firms' relations with the small farmers decline over time. Contract farming ventures' success and sustainability depend on how it is practised in that particular context andwhether the crop has a local demand (Spice, 2003).

Cotton

During the year 2002, Appachi Cotton Company in Tamil Nadu's districts – Pollachi (Coimbatore) entered into contract farming for cotton crops in that area. This company's ideal technique was to use singer street plays, several village level meetings, and door to door campaigns, to create awareness among the farmers and gain their confidence. The company contracted with the Self-Help Groups. Each farmer in the group was sanctioned a crop loan of Rs.8000/- for this project. There were some fundamental principles in the ACC model:one village, one self-help group, one village, one variety of seed, and crop loans to be provided. It also included door delivery of inputs, insurance for the cotton crop, assured buyback of the produced crop from the doorsteps, and the company's facilitators' role.

The Cotton Corporation of India (CCI) is contracting with various farmers across various states since 2002-03 and has been contracting with farmers until the year 2013-14. After that,CCI initiated a new program Front Line Development Program (combined with contract farming) in various states to better yield and quality of cotton produced (CCI_Report, 2016). CCI had similar practices as ACC mentioned above like one village, one group and one village, one variety of crops to maintaincotton crops' quality. However, in all these models, the company uses an intermediary or enters into informal contracts with the small farmers.

Gherkin

One crop that is new to contract farming in India is the Gherkin crop,from the end of 1990s. The Green Agro Park (GAP) Ltd, is the company in Karnataka state that deals with 3500 small farmers for the production of Gherkin and nearly 1400 acres are under the cultivation of this crop(Dharini, 2019). The company provides the inputs and technical advice, and the company guarantees 100% buyback of the produce as the crop does not have local demand (market). The company processes this product for export purposes. However, the absence of a local market for the product makes the farmers dependent on the company to market their produce, which reduces their negotiating power substantially with regard to the prices and the quality conditions. Major problems reported by the farmers concerning gherkin contracts include delayed payments, rejection of the produce (for quality), lower price for the produce, the problem of pests and crop diseases and also manipulation of the contract terms by the firms at the time of payments(Keshavamurthy, 2005).

Dairy

Nestle contracts with many farmers for the milk they produce from their cows. It follows an intermediary model with one agent per village who collects milk from the entire village (from all the small scale producers). The company distributes inputs and provides extension service. It started with 100 thousand dairy farmers in and around Punjab (in around 1500 villages) in 2005(Dharini, 2019). Today Nestle collects nearly 1.3 million kgs of milk just for its Moga factory from 110000 farmers around the country selling milk to Nestle(Nestle, 2019).

Similarly,HatsonAgro Product Ltd (Arokya and Komatha milk brands sold by the company) contracts with dairy farmers across the four states in Southern India. It procures 1.5 million litres of milk per day from nearly one lakh dairy farmers. The company has also arranged for loans fromthe State Bank of India for the farmers to enter into contracts(Rediff, 2007). Small farmers who keep one or two cows at home benefit from this scheme (as supplemental income) by expanding their dairy farm through availing these loans.

Poultry:

Companies also enter contracts for growing broilers across India.Venkateswara Hatcheries Ltd (VHL) has been one of the firms that led India into poultry business since the early 1970s. Suguna Hatcheries has also been contracting with farmers in these states for Broilers. The firms provide the contract farmers with various inputs such as chicks, poultry feed, vaccines, medicines, and other inputs by manufacturing these inputs at its factory. But even here, delayed payments and delays in provisions of vaccines and medicines to the poultry are some of the reasons why farmers are hesitant to contract regularly with the company(Murthy & Madhuri, 2013).

Implications for small farmers

Factors influencing contract farming can positively and negatively affect contract farming arrangements. There are socioeconomic factors like age, level of education, household size, farm size, grain and livestock producers and access to training that influence small farmers' participation in the contract ventures (Khoza et al., 2019). The importance of **trust and relationships**built through regular communication mechanisms isnecessary for the success and continuation of contract farming ventures. When the firm sticks to its commitments, trust develops among the farmers to believe in the company and that the company would not reject the produce. Clear and regular communication between the parties concerned would also help avoid extra-contractual sales by the farmers to the outside market. Companies like Frigoken employ field officers who have regular communication with the farmers,which helps in dispute settlement and trust-building. Though companies like Kim's Poultry care in Kenya, focus on creating a family bond with the farmers, there is no clear cut definition of how this is done (Strohm & Hoeffler, 2006). Trust and relationship seem to beessential for the small farmers to participate in the contract farming and successfully honour the contracts.With this trustbroken, the sustainability of these contracts becomes questionable.

When the commodity under consideration is a perishable commodity or requires high-quality requirements, it favours contract farming positively. Similarly, if the contract farming requires labour-intensive farming systems, it would be easily promoted under contract farming as it would be otherwise expensive for the company. When the company follows ethics and promotes regular communication with the farmers, it helps develop trust and relationships between the farmers and the firms which has positive implications for contract farming ventures (Strohm & Hoeffler, 2006).Farmers to sell their produce (even when the outside market is available), to the companies, it is important to provide extension services. The field officers provide valuable advice on the application of inputs, fertilizers and training in handling the produce would impact the successful implementation of the contract ventures. Provision of extension services would demonstrate the firms' commitmentto cooperating with the small scale farmers and helps in building relationships.

Some factors have negative implications for contract farming arrangements. These include supply in the open markets creates less or no incentives to produce under contract farming ventures. When there is poor access to infrastructure facilities, it will become less favourable to have under contract farming arrangements. Similarly, the distance to the market or the company and off-farm income availability to the farmers influences negatively the decision to participate in contract farming ventures.

Need for the state's developmental role

The state's role in developing contract farming ventures across Thailand has been pointed out by various studies(Sriboonchitta& Wiboonpoongse, 2008;Setboonsarng et al., 2006;Singh, 2005). The Thai government provided the basic infrastructure and institutional development to promote contract farming ventures. It provided for irrigation and infrastructure development in the North East (less developed) areas to encourage contract farming in tomatoes. Government facilitated efficient coordination between farmers and companies, transparency, and timely supervision which led to a favourable environment in contract farming ventures. Government policies also promoted foreign investments in this industry. It is also clear from the example of Thailand, which suggests that the role of the government in that country had been important for developing contract ventures in that country for various crops. Now that the contract farming industry has grown to a mature stage in Thailand, the government had been withdrawing from its developmental role for this industry.

Most of the developing countries have been working towards developing a legal framework for proper enforcement of the contract ventures. In some specific cases, it can be seen that the facilitating role of the state in providing essential inputs and infrastructure actually helps the small farmers to benefit from these contract farming ventures. As identified by Singh (2012) and Chaba (2020), only a governmental body like Punjab AgroFoodgrains Corporation (PAFC) could facilitate contract farming by providing inputs and extension service (without charges or at subsidized rates) for the small farmers. By providing the essential infrastructure and subsidized inputs, the state can reduce the dependencies created by private companies under contracts.

Importance of extension service provision and provision of other inputs like high-quality seeds or saplings, fertilizers, and credit facilities in contract farming ventures enable small farmers' participation and inclusion in these contract ventures. Though small farmers' participation is promoted through the provision of inputs and extension services by the companies, the same create dependencies for the farmers, resulting in lower bargaining power. However, if it is the government that facilitates these inputs and infrastructure, then the possibility of farmers getting exploited by private companies gets reduced drastically.

Conclusion

From the discussion in the above sections, the framework of ownership, voice, risk, and rewards playsasignificant role in determining the form of the contractual agreement between the farmers and the companies. Since there are land restrictions on companies in various developing countries, they tend to enter contracts with small farmers. Companies own the processing machines and production technologies, while small farmers own the land. Similarly, the farmers' voice and the companies are relatedto the resources' ownership. When the company contracts with many small farmers, the farmers might have a larger voice. Still, when the crop does not have an outside market where the farmers can sell their rejected produce; and when the farmers have to depend on the company for the inputs and extension services, it can lower negotiating power among these small farmers.

Similarly, the production risks and marketing risks are also interlinked with the other three factors in the framework. When the production includes new crop or technology, this has a risk of the crop's suitability to the new area. Marketing risks can arise when the market prices fluctuate above the contract's fixed prices, or when the company rejects the produce. Most importantly, the factor that determinessmall farmers' involvement in the contract is the costs (risks) and benefits (rewards) involved in producing the contract crop.The state's role in increasing small farmers' voice in contract farming ventures is very important. When the state provides the necessary infrastructure to develop contract farming ventures and provides essential inputs and extension services to the small farmers' contracts, it reduces their dependencies on the private companies. This reduction in dependencies reduces the farmers' risks in contract farming ventures as the state protects the farmers' interests.

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