

**Contract Farming through Farmer Producer
Organizations (FPOs) in India**



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Abstract

This paper consists of two salient issues. One, it tries to understand the how the nature of agricultural contracts in India impacts the decision of the parties to the contract to defect. It is found that most contracts are unwritten, informal and often based on trust and this, coupled with the costs of legal enforcement in India prevent corporates from pursuing legal action against farmers when they defect. Farmers do not participate in the writing of contracts and as a result, do not have significant power to pursue legal action against corporates when they defect. These two conditions constitute a “Moral Economy”, the existence and perpetuation of which is established through Transaction Cost Economics and the Folk Theorem in cooperative games. Two, The paper also proposes that farmers organizing themselves into Farmer Producer Organizations (FPOs) can reduce the costs of public order by establishing private order within the FPO to censure any defections and thus reduce the incentive of both parties to defect on the contract.

Acknowledgements

I would like to thank CCS for suggesting the topic, which was then modified to its current form. I would also like to thank Mr Chintan Meghwanshi from the Centre for Agricultural Research and Development, Mr B.R. Gupta and Ms Rama Mishra from the Small Farmers Agribusiness Consortium (SFAC), Mr Gaurav Vats, Mr Raghuraman and Ms Anuradha, all from Indian Society of Agribusiness Professionals (ISAP) and the Farmer-Directors of the FPOs around Jaipur who were kind enough to talk to me. I would also like to thank Dr Sudha Naryanan, who was kind enough to talk to me about her experiences researching similar issues.

Introduction

The Indian farmer is connected to the Indian consumer through various supply chains, each of which has evolved over time. The first and oldest model, the APMC supply chain, is one wherein the crop is sold to traders at the local agricultural market called a *mandi*. The trader in turn sells the crop to another trader and after several such sales; the crop reaches the wholesaler and finally the retailers in cities and towns. The contract farming supply chain is the second system, wherein the farmer contracts to sell his crop to a manufacturer (sometimes through one or more intermediaries) who then processes it and sells the final product in retail markets. A third model, currently in its preliminary stages, will have farmers come together in Farmer Producer Organizations (FPOs) and directly trade their goods to consumers in retail markets.

The *mandis* of the first model are run by Agricultural Produce Marketing Committees (APMC) that were ostensibly established to create well defined markets and reduce transaction costs for farmers. However they have often been criticized for favouring the middleman in the supply chain (for example; Patnaik 2011 and Minten et. all 2011). Pachouri (2012) also notes that farmers often suffer increased transaction costs of loading/unloading and transporting their crop to APMC markets. Traders in APMC markets require licenses to operate, and the limited number of licenses available often creates an incentive for collusion amongst the former. This, coupled with the fact that farmers are compelled to sell certain commodities to APMC Markets under the provisions of APMC Acts in various states leads to traders pushing down prices (Goyal 2011).

Today, the contract-farming model provides an alternative to the APMC *mandi* model. Several studies have cited contract farming as potentially beneficial for the farmer (for example; Prowse 2012 and Da Silva 2005), but often with the caveat that it must be “well managed” (Eaton and Shepherd, 2001). Contract farming also raises issues that depend on the crop being cultivated and the region in which the contracting is taking place. A common issue among developing countries is that contracting excludes smallholders. (for example; Barrett et. all 2011, Singh 2011, Birthal 2007).

However, one of the main issues that hinder the effectiveness of contract farming schemes in India is the nature of the contract itself. Agricultural contracts are, for a variety of reasons, often informal or unwritten (Narayanan, 2012) and as a result, prone to be misconstrued by farmers and altered without consent by contracting corporations, often in the form of stricter quality standards upon delivery (for example; Dhillon and Singh 2006 and Deshpande, 2005).

The fear that the small landholder will be exploited by the large company has led many scholars to call for the establishment of farmer organizations. The theory

contends that collective action on the part of the farmers increasing the individual farmer's bargaining power and thereby reduces the likelihood of arbitrary action by the corporate (for example; Singh 2007 and Sharma 2008). However, these assertions have been generally applied to all types of farmer organizations, including co-operatives and Self-Help Groups (SHGs).

This paper will focus mainly on Contract Farming and FPOs, and attempts to investigate whether contracting with an FPO would change the incentive to defect of both farmers and corporates. It is argued that contracting with an FPO would reduce the incentive of both parties to defect, improve the ability of corporates to enforce quality standards and the level of participation of farmers in writing the contract.

The information that is reflected in the paper was collected from primary research that consisted of interviews with farmer-members of FPOs and with officials involved in the institution of the same and secondary research that looked mainly at the literature on contract farming and agricultural contracts in general.

Section I will look at the potential advantages and disadvantages of contract farming across cases. Section II will attempt to describe why this informal system of contracts emerged and construct a representation of both parties' incentive to defect from the contract. It will also comment on whether judicial measures, such as those laid down in the Model APMC Act, 2003 will truly reduce the incentive to defect for either party. Section III will investigate whether Farmer Producer Organizations (as registered under the Companies (Amendment) Act, 2002) can create incentives for both parties (farmers and corporations) to alter the nature of agricultural contracts in India from informal and unwritten to written, and thereby the set of incentives for both parties to behave in a certain manner. The specific scenario that will be considered is that of a corporation contracting with a Farmer Producer Organization.

Agricultural Marketing in India

India's economy has slowly shifted away from its dependence on the agricultural sector but 53% of the population is still employed in agriculture of some sort (CIA World Factbook, 2011). Recent figures estimate that the agricultural sector (excluding fisheries and mining) contributed 12.3% of the GDP in 2010-11, down from 16% in 2004-05 (GoI, 2012). Exports of agricultural commodities accounted for 10.28% of the total exports during the same period. (GoI, 2012).

The question of how to most efficiently connect farmers to markets was raised by the Planning Commission immediately after independence. Having demarcated agriculture as a state subject under the constitution, it called upon states to enact acts to regulate agricultural markets (Chengappa 2003). Today, the institutions in place are intended to regulate market structures and provide physical and institutional infrastructure (Agricultural Produce Marketing Committees (APMC), for example) as well as connect farmers directly to markets (cooperatives) (Acharya 2003).

The Model APMC Act (2003) was drafted in response to the critiques of the APMC Acts to serve as a set of guidelines for state governments. As of 2012, 16 different states have adopted the provisions of the bill. It recommended, among other things, agricultural markets created and managed by means of public-private partnerships and permission for farmers to sell their products directly to consumers. It also promoted contract farming and laid down guidelines for the implementation of contract farming arrangements in different states, which will be one of the focal points that will be addressed in this paper (Model APMC Act, 2003).

The first fruits of the cooperative movement, on the other hand, can be traced back to the Cooperative Credit Societies Bill, 1904 and the Cooperative Societies Act, 1912. The Multi-State Cooperatives Act was passed in 1942 when cooperatives began to draw membership from more than one state (Nabar,?). The Model Cooperative Law was passed on to state governments in 1991, following which the Multi-State Cooperatives Act was amended to take into account the proposed changes in the Model Act.

The most recent addition to farmer organizations are Farmer Producer Companies, which were legally defined in the Companies (Amendment) Act, 2002. The Central Government launched a pilot plan in 2011. The stated objective of the project is to collectivise farmers in order to improve productivity, ease access to inputs, extension services and technology in order to improve the incomes of farmers (Ministry of Agriculture, 2013).

Literature Review

Contract farming is globally practiced and has a vast literature devoted to it, consisting of reviews and handbooks (for example; Eaton and Shepherd 2001 and Prowse 2012) as well as case studies of individual regions. Given that the domain of this project is the nature of Indian agricultural contracts, it is instructive to focus on case studies of contract farming operations in different parts of India for different crops. Some of these studies are highlighted in the table below.

Table 1

State	Crop/Produce	Author
Andhra Pradesh	Poultry	Ramaswami, Birthal and Joshi 2006
Andhra Pradesh	Oil Palm	Dev and Rao 2005
Andhra Pradesh	Rice Seed and Gherkin	Swain 2011
Karnataka	Gherkin	Erappa 2006
Karnataka	Chilli	Sridhara 2010
Karnataka	Coleus	Hiremath and Kadam, 2012
Orissa	Sugarcane	Swain 2009
Punjab	Various	Sharma 2008
Punjab	Tomato	Dhillon and Singh 2006
Punjab	Potato	Majerus 2009
Punjab	Various	Singh 2004
Punjab	Various	Singh 2002
Punjab	Various	Kumar 2006
Rajasthan	Milk	Birthal et al. 2008

However, while there are several papers that document specific contract farming operations in India, there are very few that adequately address the issue of the contracts themselves. One of the theories that attempts to explain the existence of informal contracts is the theory of notional contracts, which is based on the premise that corporate-farmer relationships in Indian agriculture are predominantly built on trust, rather than a set of rules collected into a written contract (Narayanan, 2012). This study, which draws upon evidence from surveys from all over India, makes the case that the current relationship has come into existence because of the willingness of each side to give the other a slight leeway with matters relating to the breaking of contracts.

Farmer Producer Organizations (FPOs) are the third institution that will be covered in this paper, primarily as a possible solution to issues of contract enforcement in the contract farming sphere. The literature on FPOs in India is rather sparse and

mainly consists of communiqués from the Government of Agriculture (Ministry of Agriculture 2013). This can be attributed to the fact that most FPOs have not begun to produce and market goods as the project is still in the pilot stage. However, there are studies that discuss experiences of the few FPOs that are actually operational (for example; Ministry of Agriculture 2009). Thus, the relative lack of penetration of the FPO concept in India permits a largely hypothetical analysis of the potential benefits and costs of this form of farmer organization in the region.

Contract Farming in India

A Brief History

In the 1920s, Indian Tobacco Corporation (ITC) established the first documented large-scale contract farming operation in coastal Andhra Pradesh (Deshpande 2005). There were very few instances of contract farming operations being established until the 1960s, when private seed companies, that didn't own their own lands, contracted with farmers to supplement their seed banks (Singh 2009).

However, contract farming in India truly emerged in 1989, when PepsiCo set up a plant in Hoshiarpur to procure tomatoes for processing. As a result of PepsiCo's intervention, the tomato yield increased from 7.5 tons per acre to 20 tons per acre. PepsiCo also introduced scientific methods of transplantation that caused the costs of production of tomato to reduce, and thereby enabled farmers to realize higher prices (Singh 2004). After selling off the tomato contracting operation to Hindustan Lever in the late 1990s, PepsiCo began to engage in potato contracting to source potatoes for its Frito-Lay brand.

Models of Contract Farming

Contract farming operations are usually placed into one of five categories, each of which is briefly described in this section.

1. **Centralized Model:** This is the classical contract-farming model characterized by a single firm directly contracting with a large number of producers. The quantity that will be bought is usually predetermined at the beginning of the sowing season and quality standards are strictly monitored and enforced (Bijman 2008). The contracting firm may intervene in the sowing process to varying degrees, often through the nature and magnitude of extension services provided to participating farmers (Eaton and Shepherd 2001).
2. **Nucleus Estate Model:** This model is a modified version of the centralized model in that firms source produce directly from producers but also maintain their own production facility. This is often to ensure a consistent supply of the crop but is also used for R&D purposes.
3. **Multi-partite Model:** This model involves a joint venture between a public body and a private company, which come together to contract with producers. This model often has multiple participants, each responsible for the provision of a particular extension service throughout the production process.
4. **Informal Model:** In the Informal model, small producers enter into simple contracts with farmers on a seasonal basis. The sourced produce is rarely

processed and is often simply repackaged and sold (Eaton and Shepherd, 2001).

5. Intermediary Model: In this form of contract farming, firms source their produce from intermediaries who have sourced it from farmers.

The table below summarizes contract-farming operations in the private sector and also attempts to segregate them on the basis of the crop being cultivated and the model being used.

State	Crop	Company	Model Used
Karnataka	Ashvagandha	Himalaya Health Care Ltd	Centralised
Karnataka	Dhavana	Mysore SNC Oil Company	Centralised
Karnataka	Marigold Caprica Chilli	AVT Natural Products Pvt Ltd	Centralised
Karnataka	Coleus	Natural Remedies Pvt Ltd	Centralised
Karnataka	Gherkins	Several Private Companies	Intermediary
Maharashtra	Soybean	Tinna Oils and Chemicals	Centralised
Maharashtra	Fruits and Vegetables Cereals Spices Pulses	Ion Exchange Enviro Farms Ltd	Multi-Partite (Except contracting is done in partnership with NGOs)
Maharashtra	Safflower Oilseeds	Marico Industries	Centralised
Madhya Pradesh	Wheat Maize Soybean	Cargill India Ltd	Intermediary
Madhya Pradesh	Wheat	Hindustan Lever Ltd	
Madhya Pradesh	Fruits and Vegetables Cereals Spices Pulses	Ion Exchange Enviro Farms	
Madhya Pradesh	Soybean	ITC_IBD	Multi-Partite
Punjab	Tomato	Nijjer Agro	Centralised

	Chilly	Foods	
Punjab	Barley	United Breweries Ltd	Multi-Partite
Punjab	Basmati Maize	Satname Overseas, Mahindra ShubhLabh	Intermediary
Punjab	Basmati	Escorts	Intermediary
Punjab	Basmati Groundnut Potato Tomato Chilly	PepsiCo India	Centralised
Punjab	Milk	Nestle India	
Tamil Nadu	Cotton	Super Spinning Mills	Intermediary
Tamil Nadu	Maize	Bhuvi Care Pvt Ltd	
Tamil Nadu	Paddy	Bhuvi Care Pvt Ltd	
Tamil Nadu	Cotton	Appachi Cotton Company	Intermediary

(Adapted from Ministry of Food Processing Industries)

This table only documents private sector operations, and thus cannot claim to be exhaustive. Several firms, who buy crop from traders operating in *mandis*, often engage in informal and intermediary contracting, and thus are not documented as contract farming operations.

Evaluation of Contract Farming

The literature describing the potential benefits of contract farming to farmers and consumers is vast and rather comprehensive, and it is instructive to note and evaluate the potential benefits to both parties from contract farming.

The benefits to farmers will be categorized under two headings, productivity and risk mitigation. The thesis underlining the push for the introduction of corporate farming into the Indian market is the fact that the current agricultural marketing system of the APMCs prevents the Indian farmer from realizing a good proportion of the final retail price while simultaneously leaving him vulnerable to the vicissitudes of the market.

Benefit to Farmers

Productivity and Yields:

1. Access to inputs and production technology: Perhaps one of the most cited potential benefits of contract farming is that corporations often provide contracted farmers with access to high yielding seed varieties as well as fertilizers and other inputs that positively affect yield at the appropriate time during the sowing process. Firms also offer extension services wherein they train contracted farmers in best farming practices whilst providing them with access to technological support, both of which contribute to potential yields (Setboonsarng 2008).
2. Credit and financial services: Smallholder agriculture in India is often adversely affected by the lack of easily available credit. Most models of contract farming provide for credit in advance to farmers, allowing them to purchase inputs.

Risk Mitigation

1. Assured Revenue Flows: Most contract farming agreements involving fixing of prices ex ante, and as a result farmers are assured of certain fixed revenue before the sowing process. This is especially beneficial to farmers in India who have no alternative selling point other than the APMC *mandis* and are thus subjected to a great deal of price uncertainty.
2. Market Access: This aspect is especially significant in agreements which require the farmer to switch from a traditionally cultivated crop to a completely new crop. Contract Farming is often characterized by specific varieties of crop that often do not have easily accessible alternative markets. The assured guarantee that the contracting firm will buy back these crops reduces the impact of market forces on the farmer.

Benefits for Firms

The benefits that firms derive from contract farming will also be categorized under two subheadings, namely participation in production and cost and efficiency

Participation in production

1. **Increased control over the supply chain:** All contract-farming models allow firms to maintain direct control over the production process. Firms are able to influence production by supplying agricultural and technological inputs they deem needful and also by educating the producer about best agricultural practices. This is markedly different from the long supply chains that characterized the Indian agricultural industry in the past, wherein suppliers had no say with regards to specific production methods or techniques, as they simply bought produce directly from the intermediaries in the supply chain.
2. **Quality control:** Firms are often very specific about the quality of produce they require and reserve the right to reject any produce they deem does not comply with these predetermined standards. As a result, they are able to homogenize particular crop characteristics on the large scale when they directly contract with a large number of farmers.

Cost and efficiency

1. **Land ownership:** Contract farming models do not involve transfer of land to the corporation. As a result, it is very cost efficient for firms to source their produce through this method.
2. **Long-term supplier base:** Firms are often able to develop a dedicated supplier base for their requirements over time. Engaging with farmers in the area also enable corporates to set long term production goals and scale up operations.

Disadvantages of Contract Farming

There are several criticisms of the contract farming process and the most commonly cited of those are examined below. Before doing so however, it must be noted that several issues that are raised as critiques of the contract farming process often spring from the contract itself, and theoretically should be able to be resolved by appropriate amendments of the same.

Disadvantages to Farmers

- **Manipulation:** Recall that contract farming agreements involve predetermined production quotas for farmers, and involve corporates buying back produce at a fixed, often predetermined price. This arrangement often results in manipulation of the aforementioned quotas and rejection of the crop citing quality standards.
- **Indebtedness:** Contracting corporations often provide farmers with easy access to credit. A recurring concern for policymakers is that farmers may face eventualities that leave them unable to repay loans.
- **Sustainability:** Another oft voiced concern is that contract farming arrangements rely heavily on inputs and production techniques that may contribute to environmental degradation in the long run. Again, this premise is obviously dependent on the crop and the region itself (Singh 2005).

Disadvantages to Corporations

- **Input Diversion:** In Contract Farming operations that contract exclusively with smallholders, like many of those in developing nations, moral hazard on the part of contracted farmers may affect production targets when they divert inputs to non-contracted crop.
- **Side selling:** Along with input diversion, side selling is a phenomenon that may hinder corporations from meeting production targets. This occurs when contracted farmers choose to sell produce in alternate markets, even though they are legally obligated to sell the same to the producer.
- **Social and Cultural factors:** Farmers may often be against farming methods proposed by corporates. One common point of disagreement is on the use of High-Yielding Variety seeds in agriculture, on the basis of religious or cultural beliefs.

Types of Agricultural Contracts

Agricultural contracts are commonly categorized into four different types “on the basis of their main objectives, transfer of decision rights (from farmer to corporation) and in transfer of risks” (Bijman 2008). A brief description of each is given below.

1. **Market Specification Contract:** These contracts are characterized by pre-harvest agreements that describe both conditions for the sale of the produce and quality standards upon which the sale is mandated (Abwino and Rieks 2007). Market Specification Contracts do not involve the corporation intervening in the actual sowing process, and thus farmers have the right of way with respect to the deployment of their productive assets. Clearly, the farmer bears a large proportion of the risks of production (Bijman 2008).
2. **Production Management Contracts:** Production Management contracts see the corporation involving itself in the deployment of farm inputs. As a result, farmers relinquish their control over a majority of the production process in return for the producer agreeing to bear the risk of production activities.
3. **Resource Providing Contract:** Resource Providing contracts are characterized by provision of inputs to the farmer by the corporate. These contracts specify the involvement of the corporation in the production process, as production management contracts. However, resource-providing contracts may also mandate that farmers decide as to the use of the provided inputs.

Ideal Agricultural Contracts

There have been several attempts to lay out a scheme to help both parties in agricultural contracts understand and incorporate certain elements in the same (for example; Hamilton 1995). The Model APMC Act, 2003 also details elements that agricultural contracts must contain, including specifics about ownership of the land that is being used in the contract farming operation, details about the quality and quantity of produce that the corporation will buy along with the issue of price.

While the Model APMC Act details specific provisions that contracts should contain, there is a large research output on factors to consider while designing agricultural contracts. Complex economic systems that are affected by exogenous and endogenous factors and endowed with several economic agents suffer from certain costs of specialization. These costs are uniquely grouped under three categories (Milgrom and Roberts 1992, Bogetoft and Olesen, 2002).

(Adapted from Bogetoft et al, 2002)

1. Coordination costs: These are the costs of actions taken to ensure delivery of the good or service at the right time or place.
2. Motivation Costs: Incentives of all participating agents in the contract need to be aligned such that each party has the individual incentive to make a decision that leads to the completion of the contract itself.
3. Transaction Costs: These are the costs that derive from ensuring that the conditions of motivations and coordination are fulfilled.

Bogetoft et al discuss a more detailed framework that derives from the aforementioned constraints on economic organization and contracting, which they call the Ten Rules of Thumb in Contract Design. Discussing the latter facilitates a better understanding of what an ideal agricultural contract should look like.

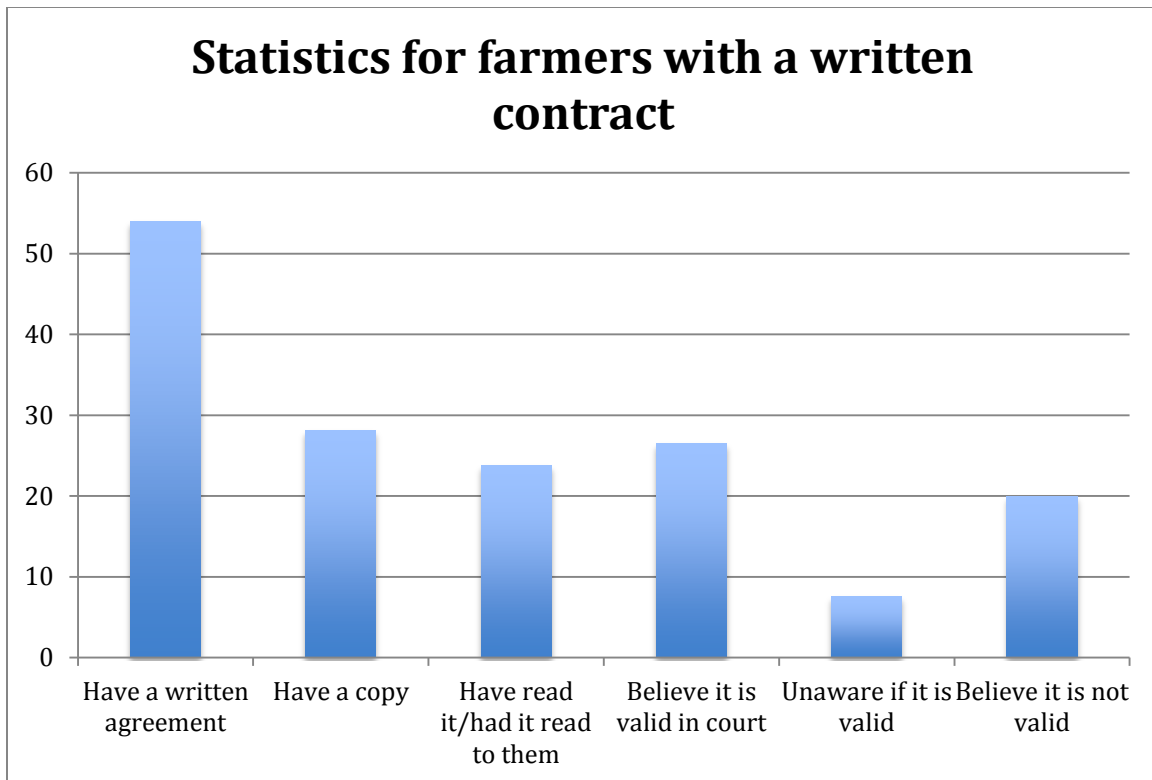
1. Coordination Costs can be detailed under three issues: Issues of production coordination, decentralization and risk.
 - a. The main aspect of production coordination consists of optimizing production at both the individual level and the supply chain level and can be achieved using direct instructions (in a more vertically integrated model) or price signals (in the free market).
 - b. The question of decentralization entails detailing the distribution making power in the production process between the corporation and the farmer, in contract farming.
 - c. Risk management entails the contract specifying who is to bear what portion of the risk. Efficient risk management depends on whether each of the parties in the contract is risk neutral or risk averse.
2. Motivation Costs are also detailed under five issues: pre-contractual opportunism, post-contractual opportunism, co-operation, long-term concerns and renegotiation costs.
 - a. Pre-contractual opportunism is characterized by the fact that producers have hidden information, but this issue can be resolved by efficient contract design.
 - b. Post-contractual opportunism, on the other hand, is characterized by the fact that the corporation is often unable to observe the effort of the producer. Contracts need to create incentives for the producer to exert effort, even if it is unobservable.
 - c. Co-operation can often reduce renegotiation costs by permitting easy settlement of disputes. It is thus often beneficial for corporations to associate with organizations working in local governance.

- d. A long-term outlook is theoretically supposed to help reduce hold-up costs, which are costs that arise because one party is unwilling to invest in the operation on the account of uncertainty about the future.
 - e. The potential for renegotiation to occur may affect the impact of incentives on both parties to act in a certain way. Thus it is imperative to balance the option to renegotiate the contract with the need to enforce its stipulations in the present time.
3. Transaction costs are characterized by the direct costs of contracting and the transparency of contracts.
- a. The direct costs of contracting comprise all costs that are incurred in the creation, execution and renegotiation of the contract. The necessity of keeping these costs low derives from the fact that they do not contribute directly to surpluses of any sort.
 - b. Transparent contracts are important, simply so that parties can be counted on to act in predictable ways in adherence to the same.

The Agricultural Contract in India

Agricultural contracts in India and other developing countries are of different varieties, but a large proportion of contracts are simple and informal: oral agreements that do not contain many of the recommended aspects highlighted in the previous section (for example; Kumar 2007, Barrett et al. 2010, Prowse 2012, Stessens et al. 2004, Dhillon and Singh 2006, Sridhara 2010, Narayanan 2012).

Narayanan (2012) records that only 54% of farmers out of a sample of 438 contract farmers drawn from different contract farming schemes in different parts of India have written contracts.

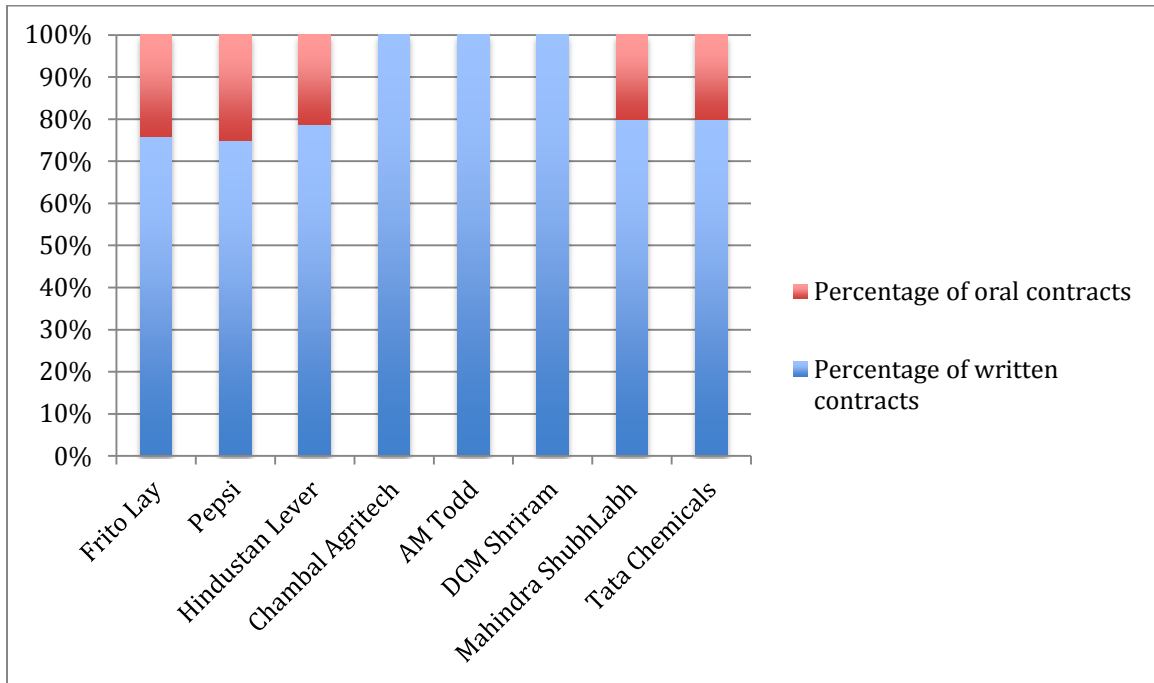


Similarly, only 28% of sampled farmers had a copy of their contract and only 24% had either read them or had them read to him. With respect to contract enforcement, 49% of the farmers who had written contracts in the sample believed that these contracts were enforceable and 14% of same were unaware whether there signing the contract had any legal implications. 37% of farmers with written contracts believed that the contract had no legal validity.

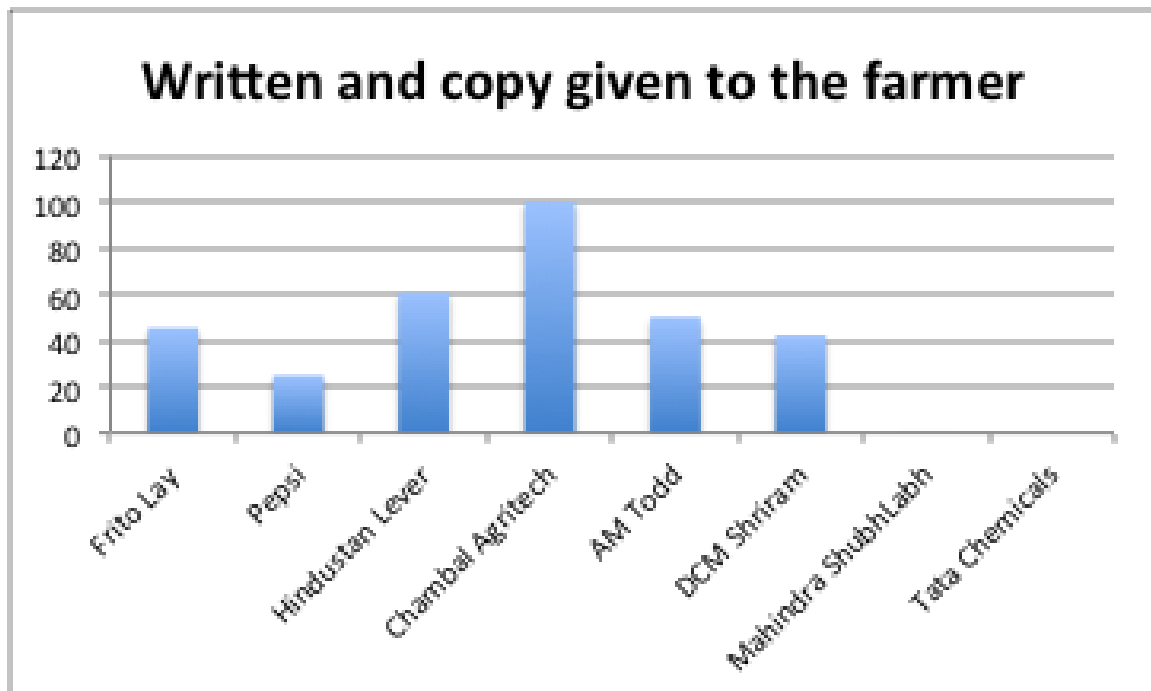
The fact that a sizeable proportion of farmers are unaware of the legal validity of their contract leads to the natural conclusion that enforcing the said contracts in courts would be much more difficult than proponents of contract farming in India have policymakers believe.

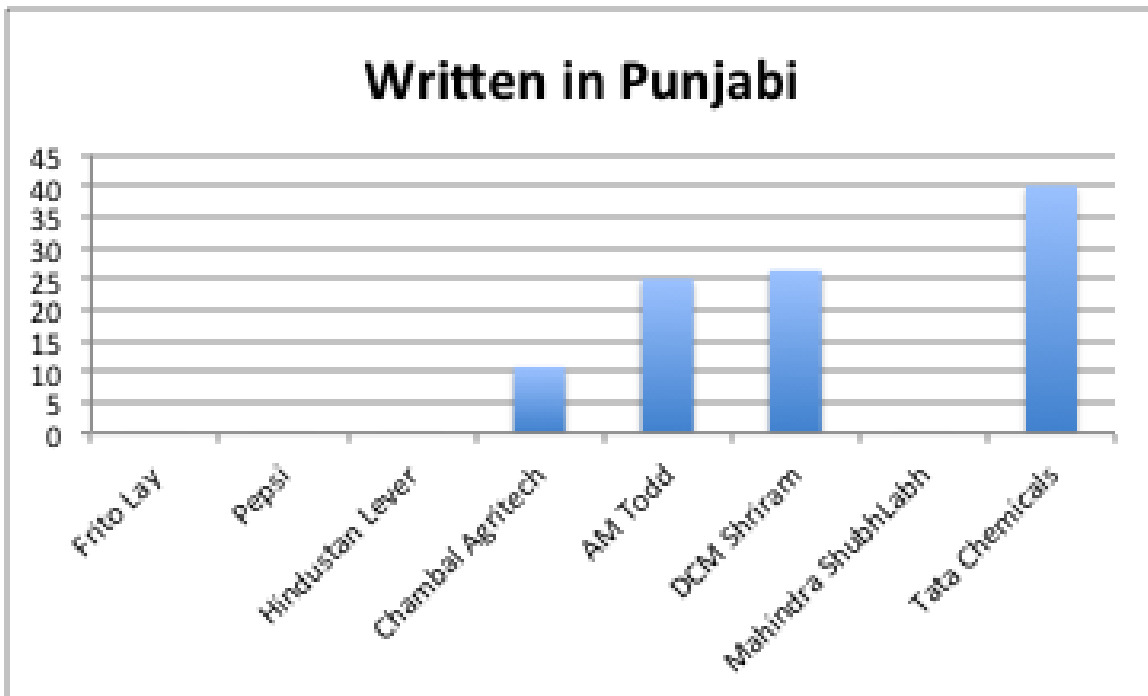
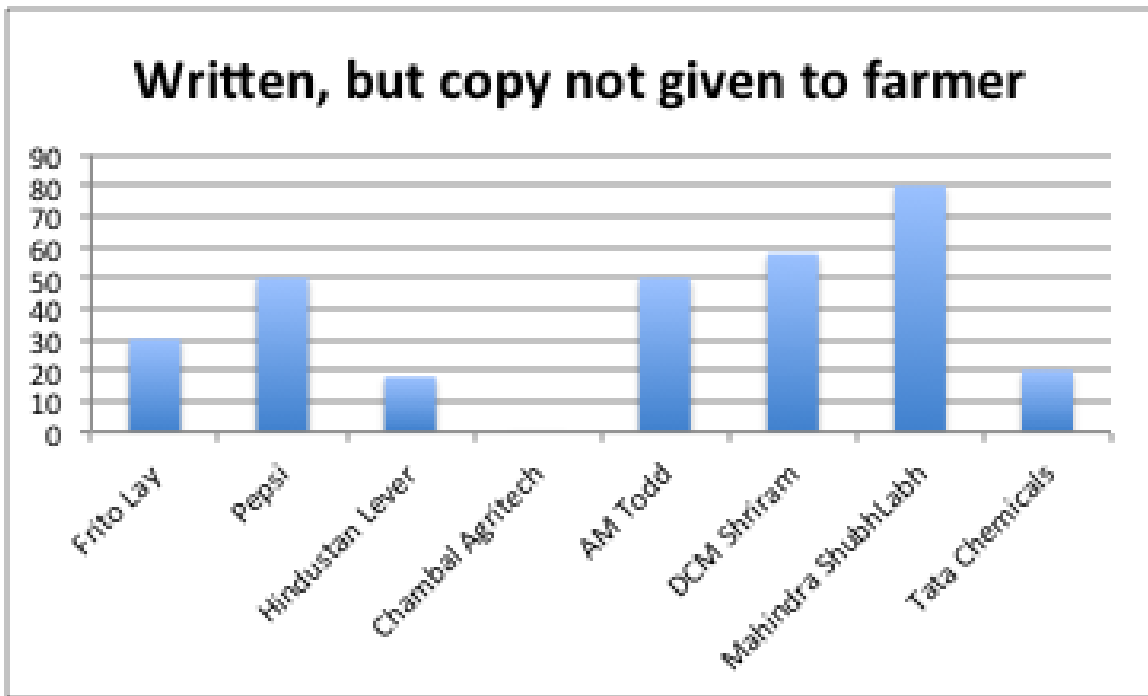
Another argument that is likely to be made by proponents of contract farming attributes the presence of a written, binding contract to the size and reputation of the firm. Kumar (2007) conducted a study that focused exclusively on contract farming operations of large corporations in different districts of Punjab. After sampling 100 households that engaged in contract farming and 100 households that did no, it was found that even well established corporations often engaged in oral contracts, or did not provide copies of the written contract in the local language to farmers. The charts below depict some of the results from the study.

(Created from data from Kumar 2007)



Three companies, Chambal Agritech, DCM Shriram and AM Todd required all farmers to sign a written contract before becoming part of the operations. However corporations like PepsiCo, Hindustan Lever and Mahindra did not enforce a strict written contract policy.





Of the contracts that were written, only Chambal Agritech ensured that farmers were provided a copy. Most of the other companies provided copies of the signed contract to half of their contracted farmers. Furthermore, several companies considered did not provide copies of the contract written in the local dialect to farmers. Another point to note is that the average length of the contracts signed of those considered in the study was between one and eight years. PepsiCo had an

average contract duration of 4.8 years and Frito-Lay an average contract duration of 8 years. Thus, the probability that a farmer possessed a copy of the average PepsiCo contract, i.e. a contract valid for five years, was approximately 45%. Although the Model APMC Act, 2003 calls for all contracts to be written and states that they must be enforceable in local courts, the data for Punjab, one of the pioneering contract farming states in India shows that even large, national corporations do not always provide copies of these binding documents to farmers.

The Moral Economy of Contracts

Narayanan (2012) found that 44% of farmers who were engaged in contract farming at the time of the study had failed to make good on their contracts at least once in the past. Similarly, 10% of farmers in the same study believed that the firm had not adequately fulfilled its obligations as laid down in the contract in the last growing season. These facts are used to support the thesis that contract farming in India is based on relationships and mutual trust, rather than the threat of legal action against either party. This arrangement is termed “The Moral Economy of Contracts”.

The theory seems plausible enough, but begets a question. Most handbooks on contract farming contend that most contract farming operations are only considered efficient when contracts are enforceable in a court of law. Recommendations with respect to contract design and enforcement almost always presuppose that contract disputes are resolved in courts at the appropriate level of the judicial hierarchy, both efficiently and cheaply (Williamson 1983).

The field of Transaction Cost Economics contends that while it is well known that complex contracts are difficult to write and enforce (Williamson 1981), one must note that perfect and complete contracts cannot exist. While the neoclassical model of contracts posits the existence of the perfectly rational economic agent, *homo economicus*, the economic agent in the Transaction Cost Economics model is characterized by two important assumptions, bounded rationality and opportunism. Bounded rationality can be simply characterized as a limitation on the computational capacities of the economic agent in this model. Opportunism differs from the self-interest seeking postulate of neoclassical theory in that the economic agent in the Transaction Cost Economics model is willing to “cut corners for undisclosed personal advantage...and the like” (Williamson 1981).

What are the implications of these two assumptions on the complexity of contracts? Bounded rationality implies that economic agents are simply unable to compute the complete range of possible contracts for a particular relationship. Opportunism defeats any attempt to contract comprehensively due to the fact that agents cannot be relied upon to act as the principal desires in response to unforeseen events (Williamson 1981).

The third determinant of transaction costs is one that is extremely important in the context of contract farming: asset specificity (Sivramakrishna and Jyotishi 2008). Specific assets are defined as assets or investments that hold a significantly higher value in a particular transacting relationship as compared to any other transacting relationships (Klein et al. 1978), and are thus redeployable only with great difficulty (Riordan and Williamson 1985). Contract farming in India is often characterized by high asset specificity often because firms demand crop grown from seeds that are not naturally used, and thereby need to be supplied to contracted farmers. Similarly, there are often restrictions on the nature of inputs that can be utilized during the cropping process and as a result, the firm's investments in the same are asset specific.

Asset specificity is further subdivided into two categories: physical asset specificity and human asset specificity. Both of these shall be considered in turn; however this paper will first take up the question of physical asset specificity in the context of contract farming operations. Before developing a model based on the TCE framework, note that the theory studies the firm as a means of organization, rather than a means of production. As such, modes of economic organization (here the market, the contractual regime and the vertically integrated firm) are studied with respect to three characteristics, summarized below.

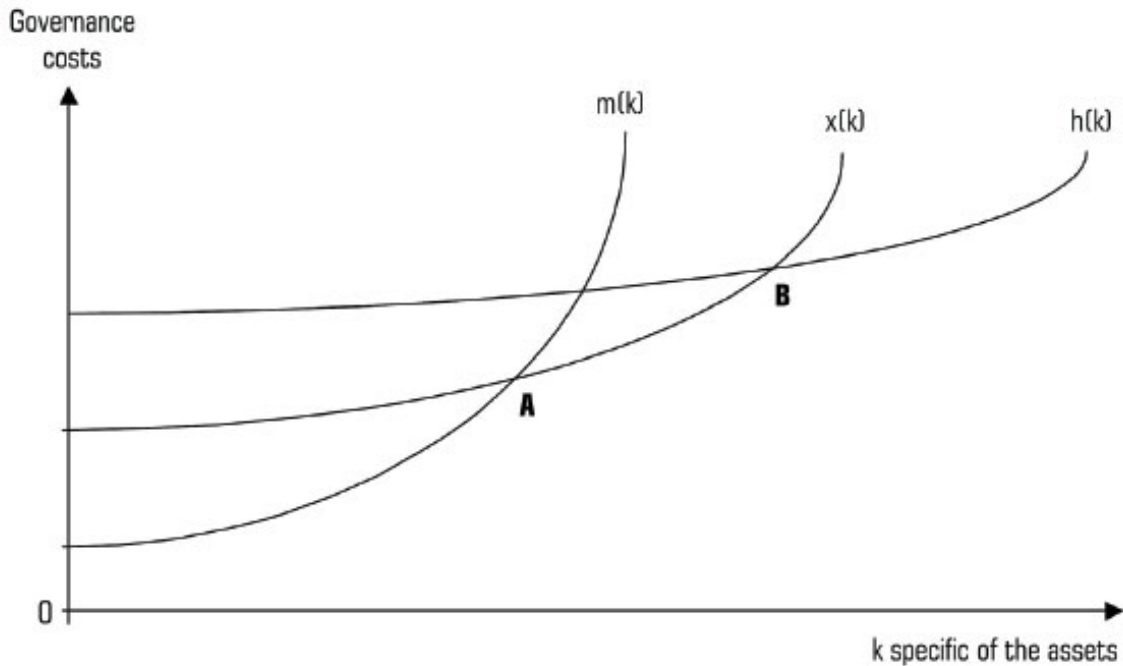
	Governance Mode		
Governance Attribute	Market	Hybrid (Contractual framework)	Hierarchy (Vertical Integration)
Incentives	High-powered	Low-powered	Low-powered
Administrative support	None	Some	Much
Contract Law Regime	Legalistic	Contract framework	as Firm as own court

(Reproduced from Williamson 2005)

Now, consider a firm that wishes to source a product and must decide where it must be sourced from (the options being the market, through contractual arrangements with producers or through vertical integration). The table above is a systematic representation of the transaction costs associated with eliciting action (with respect to incentives, the market prevails as producers operating in the free market are most responsive to price signals), influencing the actions of the producer (here, vertical integration is the most effective as producers who are part of the firm come under the jurisdiction of executives) and seeking redressal (here again the firm prevails because of the costs of private arbitration are often lower than that of public arbitration).

Now keeping physical asset specificity in mind, the following diagram describes a schedule for transaction costs as a function of asset specificity, k .

Figure 1_ Governance mode costs and asset specificity degree



$m(k)$ = governance via market;
 $x(k)$ = governance via contractual rules (hybrid);
 $h(k)$ = governance via hierarchy.

Source: Williamson (1975).

It is evident from the set of functions that for $k < A$, $m(k) < x(k) < h(k)$, which is logically coherent as physical assets with low degree of specificity are more efficiently produced in the marketplace as they can easily be redeployed for a different purpose. It also follows that for $k > B$, vertical integration leads to the lowest cost. This also makes sense as physical assets with high specificity are best produced under the jurisdiction of the firm, in order to reduce costs of executive control over their production and subsequent deployment. However, we are concerned with $A < k < B$, the region of physical asset specificity for which the optimal paradigm of economic organization is contractual.

However, transaction costs are only one aspect of the TCE school of thought. The objective of TCE is to “align transactions, which differ in their attributes, with governance structures, which differ in their costs and competencies, in a discriminating (mainly, transaction cost economizing) way” (Williamson 1991).

Thus, according to the transaction costs paradigm, minimizing transaction costs within the nature of production arrangements is only one aspect of the question. The other aspect is identifying the best government structure to ensure that the overall transaction costs of economic organization are minimized (Bijman 2008).

The dichotomy between legislative enforcement of contracts as presented in reference documents and those described in the “Moral Economy of Contracts” have already been raised. But the question that immediately arises is whether TCE can offer some sort of an explanation as to the observations that characterize the former.

There are two facts that must be noted. First, that a majority of the contract farming activity in the country occurs with individual farmers, each of whom contributes a tiny proportion to the total crop that the firm contracts out every growing season. Secondly, that the legal costs of contract enforcement in India’s public judicial system far outweigh the benefits attained by punishing farmers who renege on contracts. Narayanan (2012) pegs the average value of the default at 3750 rupees, which hardly justifies the prolonged period of legal action.

Now, as noted before, firms search for governance structures that minimize transaction costs. We may assume that firms are aware of the asset specificity of the produce they require, which is why they opt to source through contracts. Let us denote costs of legal action through public justice as δ and the benefits through the same as γ . Clearly, according to the argument above $x(k) + \delta - \gamma > x(k) + \gamma$, for otherwise the firm would pursue legal action against farmers. Also, $x(k) + \gamma < h(k)$, for no firms have resorted to vertical integration in response to an inability to enforce legal contracts.

However, asset specificity also arises with respect to human resources. We will treat human asset specificity as Williamson (1981) does. Human assets are described using two variables; the extent to which they are firm specific (denoted by H) and the ease at which their productivity can be measured (denoted by M). Corporate farming as an activity seems to demand a low degree of human asset specificity in India, as there are a large number of farmers to contract with. However, a closer inspection will reveal that a large part of contracting in assets with high physical specificity also involves the contracting firm imparting asset-specific knowledge of inputs and production techniques to farmers. As a result, farmers involved in contract farming operations should have a high human asset specificity that comes from the knowledge they assimilate during the contractual relationship. However the productivity of farmers can be accurately measured by a glance at their individual yields.

As was done for physical assets, let the transaction costs associated with human assets be $m(H)$, $x(H)$ and $h(H)$ respectively. Let us modify the inequality that was constructed earlier to account for human asset specificity. If the firm proceeded legally against a farmer, it would imply that he would have to forfeit his contract in

the coming seasons. Thus, the costs of re-educating a farmer to replace him would be $x(H)$, where H is a function of the specific tasks in the production process that he was trained for, i.e the company deployed resources to educate him in the methods it wanted employed in the sowing process. Thus the cost of legal action is now $x(k) + \delta + x(H) - \gamma > x(k) + \gamma$. Given that $x(H)$ is always positive, increasing and convex, the cost of legal action further increases with asset specificity of the human resources.

The Perpetuation of the Moral Economy of Contracts

Repeated Games and The Folk Theorem

However, the question asked at the beginning of this section was why the moral economy of contracts has persisted for so long, if both parties are clearly compromising on efficiency by implicitly condoning the defection of other parties.

To better examine this, let us set up a simple prisoner’s dilemma. The two players will be the corporation and the farmer. Recall that the “Moral Economy of Contracts” condones defection by both parties on the account of legal costs being too high to justify action against the farmer for the corporate and the structure of contract often preventing any action against the corporate by the farmer. We will consider two methods of defection that are often observed in Indian agricultural contracts; corporates can manipulate quality standards at the time of buyback to reject crop depending on present demand for raw materials for processing and farmers, in turn, can divert inputs to crops that are not under contract. Although these actions are not simultaneous and take place at different points in the sowing process, neither party is aware of the other taking such a decision and cannot attribute the impact of the decision to malpractice by the party (For the corporation, as yield is a function of both inputs and natural conditions diagnosing crop failure to input diversion is almost impossible. Similarly, the contract often does not specify measurable quality standards and hence farmers cannot critique the pretext on which their crop is being rejected). Hence, these considerations allow this interaction to be modelled on a simultaneous move game, like the prisoner’s dilemma.

We will use a simple model, which is adapted from Dixit, Skeith and Riley (1999) and Webb (2007). Payoffs are assumed to be symmetric for the sake of simplicity as this model is intended to be heuristic, rather than an accurate model of the situation . The payoff matrix is outlined below.

	Cooperate	Defect
Cooperate	1,1	$-L, 1 + H$
Defect	$1 + H, -L$	0,0

Before we proceed, let us attempt to explain what will happen when this game is played a single time. Both parties have an incentive to defect when the game is played, exactly the same as in the classic Prisoner's Dilemma. Defect is the best response move for both players, and as a result, the Nash Equilibrium for game is D, D .

But this model is too simplistic to suit the purpose of explaining long-term contractual relations. Now let us consider this prisoner's dilemma repeated an unknown number of times. Although the assumption that contract farming relations may last until an infinite time horizon seems unrealistic at first, it is instructive to note that there is no way of knowing when this game will end. Therefore, assume that the Prisoner's Dilemma above is repeated an unknown number of times, with discounting factor d . This model will interpret d as the probability that a game continues at the end of each stage, and clearly $0 < d < 1$. Now, the expected number of stages that the game will be played for is the sum of the infinite geometric series with common ratio d , i.e. $\frac{1}{1-d}$.

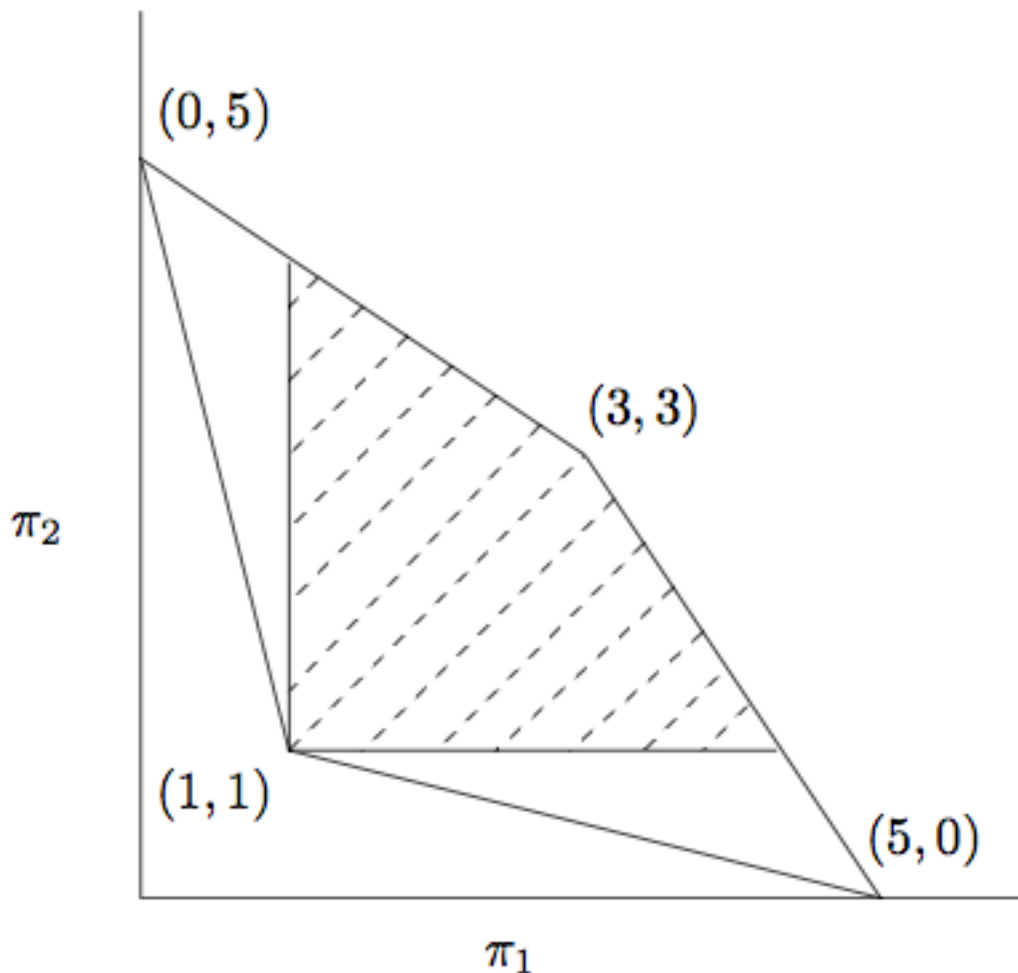
Now define a strategy profile μ_i for $i = 1, 2$ for each player. Payoffs for each player, being a function of the strategy profiles of both players, are defined by $\pi(\mu_1, \mu_2)$. Therefore, the average payoff per stage game for each player is $(1 - d)\pi(\mu_1, \mu_2)$.

Now, consider any stage game of the repeated Prisoner's Dilemma. A *feasible payoff pair* in pure-strategy Prisoner's Dilemma is any pair of payoffs that can be generated in a particular stage game. However, in repeated games, there exist *average* payoff pairs that exceed the payoff pair of the Nash Equilibrium of the particular stage game, termed *individually rational payoff pairs*.

We are now prepared to define the Folk Theorem, which justifies the persistence of cooperation in the repeated Prisoner's Dilemma that represents the interaction between corporates and farmers in India. However, one explanation of the Folk Theorem that does not sacrifice on generality is the following: When the Nash Equilibrium in a static game is socially-sub-optimal (as it is in the Prisoner's Dilemma), players can benefit by repetition (Webb 2007). The formal definition is stated below.

Let (π_1^, π_2^*) be a pair of Nash equilibrium payoffs for a stage game, and let (v_1, v_2) be a feasible payoff pair when the stage game is repeated. For every individually rational pair (v_1, v_2) , i.e. a pair such that $v_1 > \pi_1^*$ and $v_2 > \pi_2^*$, there exists a D such that $\forall d > D$ there is a subgame perfect Nash equilibrium with payoffs (v_1, v_2) .*

Consider the diagram below, from Webb (2007).



The vertices of the quadrilateral in the diagram represent the payoffs of a Prisoner's Dilemma played only once. The area within the quadrilateral represents the *feasible per stage average payoffs pairs* when the game is repeated infinitely many times. The shaded area represents the *individually rational payoff pairs* in the same situation. It should be obvious that the Nash equilibrium for this Prisoner's Dilemma is $(1,1)$ when played a single time. The Folk Theorem predicts the existence of individually rational payoff pairs that emerge when the game is repeated, and clearly span an area where the payoffs to each player are more than what would be expected in the Nash equilibrium of the game played only once, i.e. there exist socially more optimal payoffs.

Now consider whether contract farming in the "Moral Economy" satisfies the condition of discounting. The concept of discounting deals with the fundamental question of whether the immediate benefits of defecting during an iteration of the

Prisoner's Dilemma set up previously, outweigh the present value of the future benefits of sustained cooperation. Although implicitly condoned, constant defections from either side are not tolerated either. As a result, the middle path ensures that the benefits from sustained cooperation (which may also include more leniency with respect to defection by one party) exceed those from present defection, early on in the game.

It has thus been ascertained that corporates are justified in their decision to condone defections, simply because it is transaction cost efficient. Following that, it was asserted, and hopefully justified, that a game theoretic simplification could explain the puzzling fact that a clearly inefficient outcome (in absolute terms) has persisted for so long. Having established that such a "Moral Economy" is inefficient in absolute terms, the next section of the paper will ask whether the answer lies in the legal centralism that corporates are so reluctant to invoke, or in organizational structures that reduce the incentives of parties to defect.

Having established in the previous section both that the “Moral Economy of Contracts” exists and is inefficient in absolute terms, it is now time to investigate whether there exist solutions to alleviate this “Moral Economy”. First, let us distinguish between two categories of potential solutions to this issue: Legalistic solutions and solutions of economic organization. A legalistic solution to the “Moral Economy” occurs when a legal institution that operates according to the Civil Code of India is instrumental in dispelling it. An organizational solution on the other hand would address the “Moral Economy” by aligning incentives of both parties such that neither had an initiative to turn a blind eye to the other’s violation of the contract.

Given this framework to work with, which solution would both parties prefer? The corporate issuing the contract, as discussed previously, is concerned about human asset specificity. Farmers, upon receiving adequate training, are costly to replace. Legalistic solutions may often compel farmers to forfeit their contracts in the case of violations. However, contract farming outfits in India are often concerned that litigation alienates individual farmers and alienating individual farmers is tantamount to alienating an entire community (Narayanan 2012). Thus, corporate perceptions of the fragility of trust, especially in newly established ventures, is enough of a deterrent against litigation, or even private arbitration, even when the costs of litigation are lower than the value that would be recaptured as payment from the defecting farmer. Individual farmers, on the other hand, often do not participate in the writing of contracts and do not possess copies of their own contracts (Narayanan 2012, Kumar 2007). Contract terms are often ambiguous, specifying normative quality norms rather than strict, empirically measurable standards. As a result, several potential complaints that farmers could raise against corporate violations of the contract are usually easily deflected by corporates. Thus, the individual small landholder does not benefit greatly from any solution that relies on a legal institution, be it a tribunal, arbitrator, or public court.

However, different structures of economic organization offer the possibility of a solution that will alter the incentives for both parties to defect. This section will contend that this possibility is indeed implementable and the organizational structure that will fill the void is the Farmer Producer Organization, which will be discussed below.

The Farmer Producer Organization: An Introduction

Farmer Producer Organizations, henceforth referred to as FPOs, were officially recognized under Section IXA of the Companies (Amendment) Act, 2002 that is also known as the Rural Producer Companies Act. The Act details several provisions related to the formation, corporate organization and day-to-day workings of the FPO, include matters related to the appointment and function of the Board of Directors and the issue of general and board meetings.

Although FPOs have been mobilized between 2002 and 2011, the Ministry of Agriculture implemented a pilot programme for the nationwide promotion of FPOs in 2011. This programme was implemented under two sub-schemes of the Rashtriya Krishi Vikas Yojana, called the National Vegetable Initiative for Rural Clusters and the Programme for Pulses Development (Ministry of Agriculture 2013). The Ministry began implementing this project through the Small Farmers Agribusiness Commission (SFAC). The ultimate goal of the project was the mobilization of 250,000 farmers into 250 FPOs throughout the country.

The Ministry of Agriculture has laid down several objectives for the project, which are briefly outlined below (Ministry of Agriculture 2013).

1. Implementation of product-specific cluster/commercial crop cycles.
2. Educating farmers about best practices in agriculture to ensure increased productivity.
3. Provide continuous access to high quality inputs and agricultural extension services to enhance cluster competitiveness.
4. Facilitating access to fair and remunerative markets, in several ways, including the linking of producer groups.

FPOs are thus created and controlled by farmers who have, as a whole, the final say on the activities that the FPO will carry out. Thus, this paper proposes a single potential activity for an FPO; to contract with corporations to supply crop to them. This paper argues that this contract will alleviate the “Moral Economy”.

Formation of FPOs

Before that question is addressed, however, let us discuss how an FPO is formed in the first place. There are two parts to this question, the first part being the question of who is responsible for the formation of the FPO and the second being what the process is for its formation.

With regard to the first part, the Department of Agriculture and Cooperation has issued a set of guidelines to state governments, who in turn will spearhead the formation of FPOs (Ministry of Agriculture, 2013). The rationale for this approach stems from the fact that the project is currently in its pilot stages. As such, the Centre wishes to homogenize methods of promotion for FPOs across states to provide “indicative costs” and a “monitoring framework” (Ministry of Agriculture 2013). Thus, states have three options. They can either empanel Resource Institutions to help organize farmers, call upon the SFAC to empanel the latter or directly request the SFAC to promote FPOs in the state. In summary, states must take the initiative to advance the FPO project.

The entire process of formation for an FPO may take two to three years, and comprises the Pre-Formation Stage, the FPO Formation Stage and the Implementation and Phase-out Stage. A brief overview of each stage, adapted from the Ministry of Agriculture Policy and Process Guidelines for FPOs, is detailed below.

1. Pre-Formation Stage: The Pre-Formation Stage itself comprises three distinct sub-stages and takes a total of eighteen months to complete.
 - a. Identification: After the project cluster is identified, the Resource Institution analyses how feasible an FPO would be in that area. This includes perusing databases of farmers in the region and conducting a hypothetical break-even analysis for the FPO that is to be formed.
 - b. Organization of Farmer Interest Groups (FIGs): Farmers in the region are organized into FIGs, each consisting of 15-20 farmers. The Resource Institution educates these groups in scientific farming techniques and practices.
 - c. Collection of share money: Resource Institutions help draft a business plan for the FPO and share it with members of FIGs. They also compile a database of participants in the FPO. Finally, they collect money for the purchase of shares of the FPO from the farmers.
2. FPO Formation Stage: This stage comprises two distinct sub-stages as well.
 - a. FPO Formation: It is at this stage that members of FIGs decide whether they want to be part of the FPO or not. Other procedures that must be completed during this stage include obtaining a Permanent Account Number (PAN) for the FPO, electing the Board of Directors (BoD) and further training for the future members.
 - b. FPO Incorporation: The FPO is formally established during this stage; official outlets are opened, farmers are awarded share certificates, and the General Body Meeting is conducted along with due diligence by a registered Chartered Accountant.
3. Implementation of Business Plans and Phase-out:
 - a. Implementation of Business Plan: The Ministry of Agriculture calls for 25% of the activities detailed in the Business Plan (drafted previously) to be implemented during this stage. Regulatory approval

for the activities performed by the FPO must also be sought and received during this stage.

- b. Phase-out: After an agreement of long term cooperation is executed between the FPO and the Resource Institution, the latter finally exits the project, provided that auditors certify that the finances of the former are satisfactory.

Properties of an Organizational Solution to the “Moral Economy”

Farmers organizations have often been promoted for having the ability to potentially increase bargaining power for farmers vis a vis corporates in contracts (for example; Singh 2005, 2007, Birthal 2008, Bijman 2008). However, farmer organizations differ on the basis of organization, government involvement, legal legitimacy, access to credit and several other factors. The more relevant question is which type most satisfies our needs.

Before that is discussed however, let us discuss what dissipation of the “Moral Economy” means. The “Moral Economy” is characterized by a disincentive and relative inability to seek redressal in the event of contract breach, in public courts, for corporates and individual farmers respectively. However, the economic governance structure that solves this issue will not create an incentive for both parties to seek redressal in public courts, but rather deter each other from contract breaches, because of fear of the latter eventuality. The satisfaction of this condition entails the realignment of incentives for both parties. Corporates must value the benefit of the value lost upon contract breach more than the costs of legal action. Farmers, on the other hand, must have the incentive to seek judicial redressal as well. However, this comes with increased understanding of the contract itself, perhaps even from participation in drafting it.

In order for corporates to be able to challenge an organization in court, the organization itself must be legally established and subject to provisions in the Indian Civil Code. Thus, informal unions of producers such as Self-Help Groups do not suffice. Cooperatives and FPOs on the other hand, are legally recognized and fulfil this criterion.

The choice between Cooperatives and FPOs as the farmer organization of choice to contract with corporates boils down to different questions. Having established that both organizations have legal sanction, it is important to evaluate which of the two organizations serve to best to translate producer incentives into actions. To elaborate, the better solution provides more flexibility in decision making to the primary stakeholders, i.e. farmers. Cooperatives are characterized by protracted government influence (Interview). The Registrar of Cooperatives holds veto power over all voting decisions. Membership in cooperatives is not solely restricted to producers. Although Multi-State Cooperatives exist, there exist restrictions on the

area of operation of Cooperatives (Ministry of Agriculture 2013). All in all, the presence of stakeholders other than producers themselves threatens to impede the ability of the latter to act on incentives.

FPOs, Private Order and the “Moral Economy”

The previous section established why this paper argues that FPOs are the best form of economic organization for farmers to contract with corporates, given the alternate options of Cooperatives and Self-Help Groups. But that does not answer the essential question of whether FPOs can alleviate the “Moral Economy”.

This paper will introduce the concept of private ordering to tackle this question. Private ordering is contrasted with public ordering by the fact that it requires voluntary cooperation and applies a specialized body of rules to participants who volunteer to subject themselves to the said rules. This compliance derives from the fact that non-adherence could lead to transactional uncertainty when dealing with members from the community, i.e. a sort of reputation mechanism (Richman 2004). Richman (2004) refers to the latter as the “orthogonality principle”, where actions of participations are motivated by extra-economic concerns of community participation and potential for future transactions. Private ordering may come about in two ways; through repeated interaction leading to fear of social exclusion as part of a community (for example; Kandori 1992, Dixit 2003, Eisenberg 1976) or through vertical integration for a firm (Richman 2004).

Richman (2004) however lays down a framework to identify the benefits and costs of private order as compared to public order and vertical integration, these are summarized below. “Entry Barriers” will be taken to mean the ease with which new participants are able to participate in relationships with existing members or firms. “High Powered Incentives” imply the costs of providing signals that create incentives for the members of organizational structures to act.

	Public Law	Private Ordering	Vertical Integration
Low Cost Enforcement	No	Yes	Yes
Entry Barriers	None	Yes	None
High Powered Incentives	Yes	Yes	No

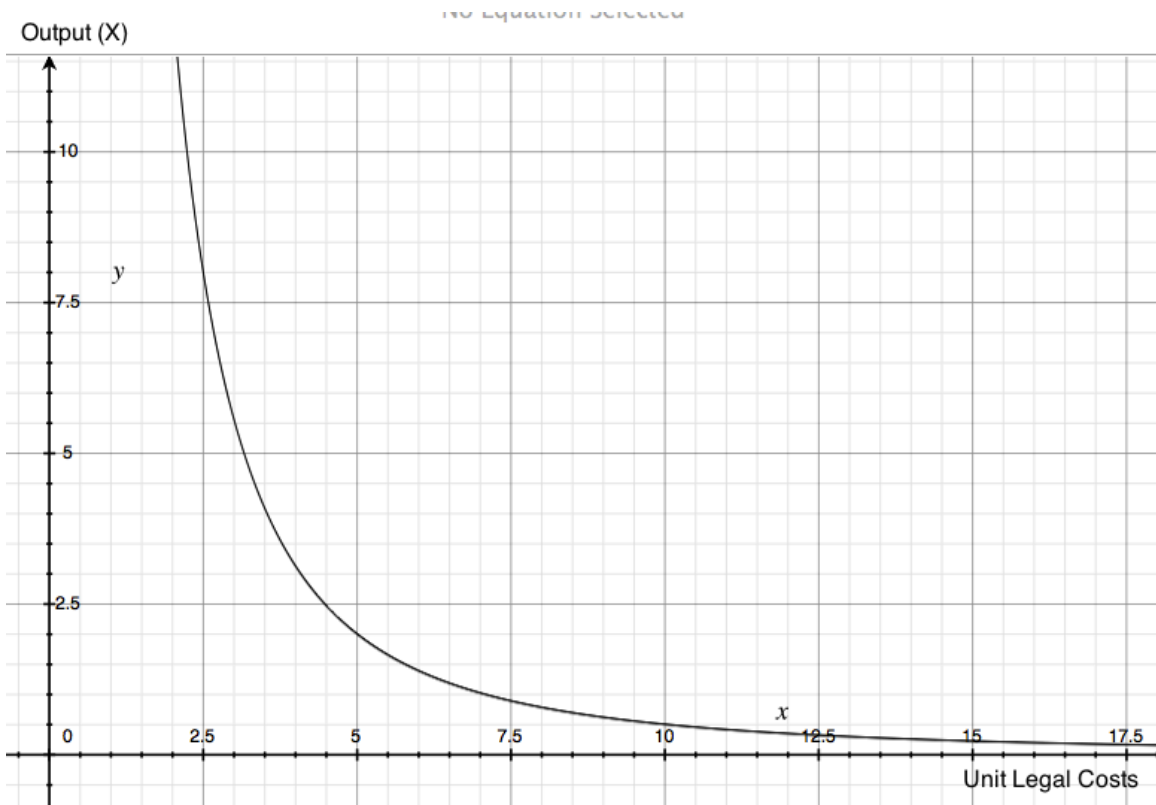
Entry barriers characterize reputational private ordering, for newcomers are unable to contract with existing members due to the lack of proven credibility (Richman 2004, Tirole 1988). This factor doesn’t affect public law or firms, which have codes that define unacceptable actions on the part of participants. The objective is now to

understand whether it is possible to access the unique benefits specified in the table, from different ordering systems.

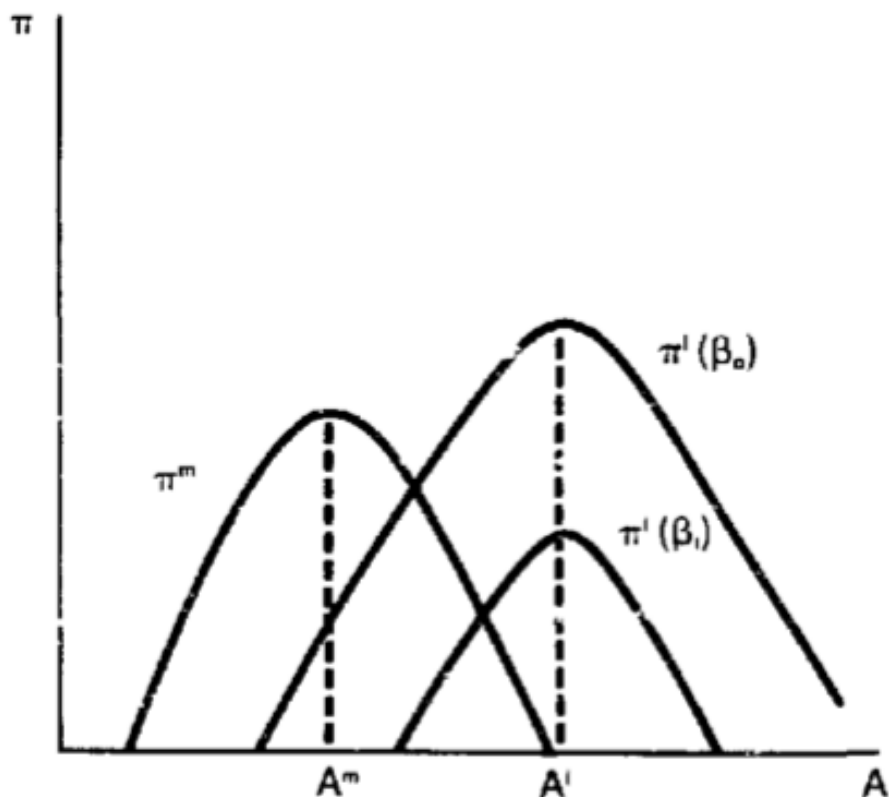
This paper contends that FPOs contracting with corporates constitutes a unique interaction between private and public ordering. The private ordering occurs within the FPO, being a firm and the public ordering occurs in the enforcement of the contract between the contracting firm and the FPO. In this case, it can be argued that the private ordering within the FPO serves to bolster the faith of both parties in public ordering. FPOs are required to have disciplinary systems in place before operation. The Farmer-Directors of FPOs in Rajasthan said that they planned to refer all disciplinary issues to a committee of 20 members, who in turn would decide the level of punishment appropriate for the offense according to provisions previously laid down. Thus, when a firm contracts with an FPO, it contracts with the FPO as a whole rather than with the individual farmers in it. Organized private ordering systems are characterized by two criteria; fast provision of information and a coordinated community response (McMillan and Woodruff, 2000). When a farmer defects, the FPO is able to identify the culprit immediately because of the detailed database of farmer-members that it maintains. The Disciplinary Committee then fulfils the second condition of coordinated action; it is coordinated in the sense that members of the FPO implicitly authorize the Committee's judgment by democratically electing them. As a result, the self-regulation mechanism within the FPO automatically reduces the incentive to renege on contracts.

Specific Benefits to Corporates

The other factor that influences the incentive of corporates to contract is the legal cost of contracting vis-a-vis the monetary value of the recovered output, as described in an earlier section. We established that in the "Moral Economy", the transaction costs of former exceeded those of the latter, i.e. $x(k) + \delta + x(H) - \gamma > x(k) + \gamma$. Contracting with an FPO would involve sourcing a majority of the production to the same, and as a result, in the event of an unforgiveable breach the unit costs of public legal action for a given level of output would significantly drop as compared to sourcing that same output from several farmers. This relationship is depicted in the graph below.



What about profits? Riordan et al (1985), define a function $K(A)$ where A denotes the asset specificity of the contracted good. The total costs of internal governance (including costs of enforcing quality and legal action against defectors) is denoted by $G = \beta + K(A)$. Now consider the two cases of contracting with an FPO and contracting with individual farmers. As the graph above suggests, assuming constant asset specificity in both cases, $\beta_{individual} > \beta_{FPO}$. Below is the graph depicting the relation between asset specificity and profit for varying values of β .



From Riordan et al. (1985)

Note that in this diagram, $\beta_1 > \beta_0$. Thus, it is clear that a lower value of non-asset specific transaction costs, i.e β leads to higher profits given a particular value of asset specificity and a system of contractual relations.

Specific Benefits to Farmers

Farmers, on the other hand, benefit from increased bargaining power. They are able to enforce their demands with respect to the content of the contract, before it is written. As FPOs are being formed, farmers have access to a wide variety of resources, through participating Resource Organizations. As a result, the issue of individual farmers being unable to pursue litigation against corporates will become less of an issue, simply because of the financial capacity of the FPO and the fact that members are exposed to new forms of business organization. Farmers, who were previously not exposed to any form of business organization, have become “experts” in marketing their produce to the public, a mere 6 months after their FPO was officially incorporated. FPOs also serve as a means for companies to effectively enforce quality standards, and as a result, members of FPOs are able to understand and apply scientific farming techniques to the production process. However, with any system, there are certain conditions that must be fulfilled in order for these predicted benefits to actually materialize.

Potential Issues with the System

- **Implementation Costs:** Under the current Pilot Program, FPOs have been set up after long periods of assistance from Resource Institutions. Whether FPOs can sustain themselves in the long run, when these institutions withdraw themselves, is yet to be seen.
- **Intra- FPO Disciplinary System:** The fact that FPOs are mandated to have a disciplinary system can only reduce the incentive of individual members to defect if the cost outweighs the benefits of defection. A consistent, fair Disciplinary Committee is a pre-requisite for a corporate-FPO partnership to bear fruit.
- **Functioning of the Board of Directors:** The BoD needs to be aware of its functions and responsibilities, but they face a steep learning curve. Resource Institutions contend that educating the BoD as to their duties is one of the most difficult parts of the entire process of association.
- **Motivation:** It is up to farmer-members to decide as to what activity the FPO will specialize in. However, Resource Institutions find it difficult to promote the spirit of entrepreneurship amongst farmers, something that was observed first-hand during interactions with farmer-members.

Overall, it is too early to call FPOs the solutions that farmers and corporates engaging in contract farming have been waiting for. There are potential issues with the system that may, to different degrees, reduce the benefits derived from contracting with FPOs for both corporates and farmers.

Conclusion

This paper attempts to justify the existence of a “Moral Economy” in the realm of agricultural contracting in India. It argues that the dual transaction costs of legal enforcement and replacing contracted farmers in the event of a breach outweigh the benefits that can be derived from the output gained in compensation as a result of a verdict in the corporate’s favour. Furthermore, the paper attempts to make a case for a change in how farmers organise themselves. It was argued that the legal costs of enforcement and the nature of the participants couldn’t be alleviated by legalistic solutions, which was why a range of organizational structures was considered. Thus, the paper proposed that the Farmer Producer Organization (FPO) was the best of the structures concerned, in terms of the express objective of eliminating the “Moral Economy”, and argued for the same using the tools of Transaction Cost Economics (TCE).

However, the arguments made in this paper were constrained by the fact that the FPO system is not operational in most regions of India. Future studies could very well verify the applicability and accuracy of the arguments that were presented in the paper, when more FPOs are in operation. This paper presented a largely transaction cost based analysis of the situation. However, the two cases presented in the paper (that of contracting with individual and contracting with the FPO as a whole) are merely instances of the Principal-Action problem with different parameters and utility functions for the participants, and as such an approach based on the principles of mechanism design would definitely serve as an alternate interpretation of the issue.

Bibliography

Abwino, Edwin N. and Haike Rieks. 2007. "Out-grower System through Contract Farming: Zambia." http://www.grolink.se/epopa/publications/Outgrower_System_Zambiac.pdf.

Acharya, S. S. 2003. "Analytical Framework for Review of Agricultural Marketing Institutions." *Institutional Change in Indian Agriculture*: 327-331.

Bijman, Jos. 2008. "Contract Farming in Developing Countries: An Overview." Working Paper. *Wageningen: Wageningen University*.

Barrett, Christopher B., Maren E. Bachke, Marc F. Bellemare, Hope C. Michelson, Sudha Narayanan, and Thomas F. Walker. 2012. "Smallholder participation in contract farming: Comparative evidence from five countries." *World Development* 40, no. 4: 715-730.

Birthal, Pratap S. 2008. "Making Contract Farming Work in Smallholder Agriculture." *New Delhi: National Centre for Agricultural Economic and Policy Research*.

Birthal, Pratap S., Awadhesh K. Jha, Marites M. Tiongco, and Clare Narrod. 2008. "Improving farm-to-market linkages through contract farming." Discussion Paper 00814. New Delhi: IFPRI.

Bogetoft, Peter and Henrik Ballebye Olesen. 2002. "Ten rules of thumb in contract design: Lessons from Danish Agriculture." *European Review of Agricultural Economics* 29, no 2: 185-204.

Chengappa, P. G. 2003. "Institutional Aspects of Agricultural Marketing in India." *Institutional Change in Indian Agriculture*: 331.

Da Silva, C.A.B. 2005. "The growing role of contract farming in agri-food systems development: drivers, theory and practice." *Agricultural Management, Marketing and Finance Service*. Rome: FAO.

Deshpande, C.S. 2005. "Contracting Farming as a Means of Value-Added Agriculture." *Mumbai: National Bank for Agriculture and Rural Development*.

Dev, S. Mahendra, and N. Chandrasekhara Rao. 2005. "Food processing and contract farming in Andhra Pradesh: A small farmer perspective." *Economic and Political weekly*: 2705-2713.

Dhillon, Sharanjit S. and Navchetan Singh. 2006. "Contract Farming In Punjab: An Analysis of Problems, Challenges and Opportunities." *Pakistan Economic and Social Review* 44, no 1: 19-38.

Dixit, Avinash K., Susan Skeath, and David H. Reiley. 1999. *Games of strategy*. New York: Norton.

Dixit, Avinash K. 2003. "On Modes of Economic Governance." *Econometrica* 71, no 2: 449-481.

Eaton, Charles, and Andrew W. Shepherd. 2001. "Contract farming: Partners for Growth." *Agricultural Services Bulletin* 145.

Eisenberg, Melvin A. 1976. "Private ordering through negotiation: Dispute-settlement and rulemaking." *Harvard Law Review* 89, no 4: 637-681.

Erappa, S. 2006. "Contract farming in Karnataka: A Case of gherkin crop." *Indian J. Agric. Mktg* 19 no 2: 175-176.

Government of India. 2012. *Agricultural Statistics at a Glance 2012*. Directorate of Economics and Statistics, Ministry of Agriculture.

Government of India. 2013. *Policy and Process Guidelines for Farmer Producer Organisations*. Department of Agriculture and Cooperation, Ministry of Agriculture.

Goyal, Aparajita. 2010. "Information, direct access to farmers, and rural market performance in central India." *American Economic Journal: Applied Economics* 2, no. 3: 22-45.

Hiremath, S.S and Kadam, K.R. 2012. "Contract Farming in Medicinal Plants of Coleus: A Case Study." *Raj. J. Extn. Edu.* 20: 138-140.

Kandori, Michihiro. 1992. "Social norms and community enforcement." *The Review of Economic Studies* 59, no. 1: 63-80.

Klein, Benjamin, Robert G. Crawford, and Armen A. Alchian. 1978. "Vertical integration, appropriable rents, and the competitive contracting process." *Journal of law and economics* 21, no. 2: 297-326.

Kumar, Parmod. 2007. "Resource Provision, Productivity and Contract Farming: A Case

Study of Punjab." PhD Diss., Institute of Economic Growth.

Majerus, Jill. 2009. "A Case Study on PepsiCo-FritoLay Outgrower Program in India." *Arlington: Action For Enterprise*.

McMillan, John and Christopher Woodruff. 2000. "Private Order under dysfunctional Public Order." *Michigan Law Review* 98, no 8: 2421-2458.

Milgrom, Paul and John Roberts. 1992. "*Economics, organization and management*." New Jersey: Prentice Hall.

Minten, Bart, Anneleen Vandeplass, and Johan FM Swinnen. 2011. "The Broken Broker System?"

Nabar, Veena. "Consumer Cooperatives in India: Contextual Contours, Case Studies of Success and Joint Strategic Planning for the Future." *ПОТРЕБИТЕЛЬСКАЯ КООПЕРАЦИЯ: ТЕОРИЯ И ПРАКТИКА*: 46.

Narayanan, Sudha. 2012. "Notional contracts: The Moral economy of contract farming arrangements in India." *No. 2012-020. Mumbai: Indira Gandhi Institute of Development Research*.

Pachouri, Anshul. 2012. "Economic Inefficiencies in Farm-market Linkages in Agricultural Value Chain in India: Problems and Solutions." Singapore: ISAS Working Paper No 163.

Patnaik, Gokul. 2011. "*Status of Agricultural Marketing Reforms*." Paper presented at Workshop on Policy Options and Investment Priorities for Accelerating Agricultural Productivity and Development in India. New Delhi, India.

Prowse, Martin. 2012. *Contract farming in developing countries: a review*. Agence Française de Développement A Savoir.

Ramaswami, Bharat, Pratap Singh Birthal, and P. K. Joshi. 2006. "Efficiency and distribution in contract farming: The case of Indian poultry growers." *MTID Discussion Papers* 91.

Richman, Barak D. 2004. "Firms, Courts and Reputation Mechanisms: Towards a Positive Theory of Private Ordering." *Columbia Law Review* 104, no 8: 2328-2368.

Riordan, Michael H., and Oliver E. Williamson. 1985. "Asset specificity and economic organization." *International Journal of Industrial Organization* 3, no. 4: 365-378.

Setboonsarng, Sununtar. 2008. "Global partnership in poverty reduction: Contract farming and regional cooperation." Working Paper No. 89. Tokyo: Asian Development Bank Institute Discussion Papers.

Sharma, Vijay Paul. 2007. *India's Agrarian Crisis and Smallholder Producers' Participation in New Farm Supply Chain Initiatives: A Case Study of Contract Farming*. Indian Institute of Management (IIM).

Singh, Sukhpal. 2002. "Multi-national Corporations and Agricultural Development: A Study of Contract Farming in The Indian Punjab." *Journal of International Development* 14: 181-194.

Singh, Sukhpal. 2004. "Crisis and diversification in Punjab agriculture: Role of state and agribusiness." *Economic and Political Weekly* 39, no 52: 5583-5590.

Singh, Sukhpal. 2005. "Role of State in Contract Farming in Thailand: Experience and Lessons." *ASEAN Economic Bulletin* 22, no 2: 217-228.

Singh, Sukhpal. 2007. "Leveraging contract farming for improving supply chain efficiency in India: Some innovative and successful models." In *II International Symposium on Improving the Performance of Supply Chains in the Transitional Economies* 794: 317-324.

Singh, Sukhpal. 2010 "Understanding Practice of Contract Farming in India: A Small Producer Perspective." *National Centre for Agricultural Economics and Policy Research, New Delhi*, http://www.ncap.res.in/contract_%20farming/Resources/4.1%20SukhpalSingh.Pdf. Accessed 10th July 2013.

Singh, Sukhpal. 2011. "Contract Farming for Agricultural Development in India: A Small Holders Perspective." Paper presented at Workshop on Policy Options and Investment Priorities for Accelerating Agricultural Productivity and Development in India, New Delhi, India,

Sivramkrishna, Sashi and Amalendu Jyotishi. 2008. "Monopsonistic Exploitation in Contract Farming: Articulating a Strategy for Grower Cooperation." *Journal of International Development* 20, no 2:280-296.

Sridhara, J. 2008. "Economics of Contract Farming: A Case Study of Chilli in Bagalkot

- District of Karnataka." MSc Thesis. University of Agricultural Sciences, Dharwad.
- Stessens, Johan, Christian Gouët, and Patrick Eeckloo. 2004. "Efficient contract farming through strong Farmers' Organisations in a partnership with Agri-business." *Leuven: Hoger institut voor de arbeid*.
- Swain, B. B. 2011. "Contract Farming in Andhra Pradesh: A Case of Rice and Gherkin Cultivation." *Economic and Political Weekly* 40, no 26: 60-68.
- Swain, B.B. 2009. "An Evaluation of Constraints of Contract Farming System: A Case Study of Orissa." *Thiruvananthapuram: CDS-JNU*.
- Tirole, Jean. 1988. *The Theory of Industrial Organization*. Cambridge: MIT Press.
- Webb, James N. 2007. *Game theory: decisions, interaction and Evolution*. London: Springer.
- Williamson, Oliver E. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: The Free Press.
- Williamson, Oliver E. 1981. "The Economics of Organization: A Transaction Cost Approach." *American Journal of Sociology* 87, no 3: 548-577.
- Williamson, Oliver E. 1983. "Credible Commitments Using Hostages to Support Exchange." *American Economic Review* 73, no 4: 519-540.
- Williamson, Oliver E. 1991. "Strategizing, Economizing, and Economic Organization." *Strategic Management Journal* 12: 75-94.
- Williamson, Oliver E. 2005. "Transaction Cost Economics." In *Handbook of New Institutional Economics*, edited by C Menard and M.M. Shirley. 41-65. Netherlands: Springer.