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Vertical Integration in Agriculture and Contract Farming

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VERTICAL INTEGRATION IN AGRICULTURE AND CONTRACT FARMING

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Abstract: It has been widely argued recently that agriculture is undergoing a process of vertical integration with allied industries. One of the worldwide ways of vertical integration in agriculture is contract farming. Contract farming is a continually evolving process. Worldwide applications of contract farming have shown that the terms of contracts are shaped by their own conditions and varied from product to product. Also, each country has its own experiences.

Contract farming has many advantages for both producers/growers and integrators, besides some inherent disadvantages and failures regarding its implementation. Some measures, however, could be taken to outweigh these advantages for both sides.

In this study, first of all, a brief history is presented along with an explanation of contract farming concepts. Secondly, the reasons behind contract farming are discussed. And, successes and failures of contract farming are analyzed based on several research works and articles. Finally a simplified model is presented for the success of private contractual arrangements in the light of evidence taken from the experiences on the world.

VERTICAL INTEGRATION IN AGRICULTURE AND CONTRACT FARMING

1. Introduction

Firm activities, firms, industries and countries as a whole are interrelated and are in close relationship to some extent. The way and intensity of the relationship have been changing and evolving in a historical perspective. These relations, which are conceptualized as institutional and technological, are closely related to intended aims, socio-economic structure of the partners, etc. Nowadays there is a fast growing integration among firms, industries and countries for different purposes such as political, military and mainly economic. When integration is taken among firms in an industry, vertical integration is given an importance and consideration. It has been widely argued that recently agriculture is undergoing a process of vertical integration with allied industries, and that consequently the control of agriculture in the future may not rest within the industry itself (Trifon 1959). There will be more reliance on vertical coordination and contract production and producers will be less independent than today's farmer (Harryman 1994).

In this article the concepts of vertical coordination and integration are focused on and contract farming is examined rather comprehensively as a means of vertical integration.

2. Inter-firm Relations in Agriculture and Vertical Integration

Primitive agriculture was a fully integrated system itself. In a subsistence agriculture, vertical integration is nearly complete since most of the production resources and production decisions are in the same hands (Penn 1958). One family would collect seed, sow and reap a crop, rear and fatten an animal, and themselves consume the produce after reserving seed or breeding stock for the following year. The evolution from subsistence farming to the present market oriented agricultural system has been marked by a gradual disintegration of functions. Specialization is one of the distinguishing features of present commercialized agriculture.

Agriculture as a production industry is closely related to marketing activities which transform, transport and transfer food and fiber to the consumer. Additionally agriculture is served by a large number of industries which are supplying farm inputs. Coordination and/or integration between farms and the other firms in the industry, both forward and backward, is inevitable now. In advanced agriculture, however, there are now strong indications that the tendency is toward integration. The main reasons of this reversal are, of course, changes in market structure (born of supermarket revaluation) and the upsurge of high technology in farming (Barker 1972).

Integration means bringing together two or more parts into one. There are three basic kinds of integration. **Vertical integration** occurs when a firm combines activities unlike those it currently performs which are related to them in the sequence of marketing and production activities. Such integration could be illustrated by the meatpacker who decides to reach both backward toward the producer and operate his own livestock buying points in the countryside and forward toward the consumer and operate his own meat wholesaling firm. **Horizontal integration** occurs when a firm gains control over the firms performing similar activities at the same level in the production and marketing sequence. The local dairy cooperatives which are brought under a regional union is one example. Vertical integration is best reserved for ownership integration where two or more stages in the process of production and marketing are effectively controlled by a single management. This term is related to a technological rather than an institutional development (Trifon 1959).

Firms often expand both vertically and horizontally. If both vertical and horizontal operations are tied together, this is called **circular integration**. When there is organization of dairy farmers under a dairy cooperative, a vertical integration has appeared; at the same time if dairy cooperatives are organized under a regional cooperative union, a horizontal integration has occurred.

There is another type of organizational expansion which occurs when agencies or activities that do not have any direct relations among them are brought under a unified management. It is called **conglomeration**.

Another way to review integration in one industry is by studying the extent of the transfer of decisions and the ownership of the firm assets. When all the decisions and assets of the firms are taken under a single firm control, that ownership is called ownership integration or merger. In contrast when each firm retains its separate identity but leaves one or more decisions of production and/or marketing to the control of another firm that is called **quasi integration** or **contract integration**.

On the other hand the terms vertical coordination, vertical integration and contract production are often used interchangeably (Cramer and Jensen 1988; Paarlberg 1995). Of course vertical coordination is a rather broad term which encompasses all means of harmonizing vertically interdependent production and marketing activities ranging from spot markets through various types of contracts to complete integration (Frank and Henderson 1992). In agriculture four types of vertical coordination between farmers and off-farm businesses are generally recognized.

i. Coordination Without Any Contract: This is named a spot market or open market transaction. In this relationship there is no written or oral contract between the firm and the farmer for both buying and selling. In this type of coordination, the farmer buys supplies from whom he chooses and sells his products to whoever will give the best price. This type of integration does provide freedom to farmers but uncertainties both in buying supplies and selling produce are the main drawback.

ii. Contract Farming: Contract farming is sometimes called quasi integration. British and American approaches are different in this subject. The British view has drawn a sharp distinction between contract farming and vertical integration and they see one as an alternative of the other (Barker 1972). They prefer to restrict the meaning of vertical integration to what has been called "ownership integration." American practice, in particular, has been to regard contract farming as a form of vertical integration (Allen 1972). Contract farming is going to be examined in detail in the remainder of this article.

iii. Ownership Integration: In this type of integration, each individual farm loses its identity and becomes a company-owned farm. The company owns or leases the land, buildings and equipment and has its own employees.

iv. Farmer Cooperatives: An agricultural cooperative is an organization usually incorporated, owned and controlled by agricultural producers, which operates for the mutual benefit of its members as producers or patrons (Rehber 1984). One worldwide way of vertical coordination is of course cooperative organizations.

3. Contract Farming

3. 1 History and Concepts of Contract Farming

These sort of vertically coordinated production relations are not new, since contracts were employed by the Japanese colonial state for sugar production in Taiwan in the period after

1885 and by the USA banana companies in central America in the early part of the twentieth century (Watts 1994). By the late twentieth century, however, across much of Western Europe (the earliest record of forward purchase agreement is dated 1878 (Barker 1972)), North America and Japan, contract farming became an integral part of the food and fiber industry. In advanced capitalist states, it seems that contract farming was widely used by the vegetable canning industry in North America and by the seed industry in Western Europe in the 1930s and 1940s.

Contracts in a general and incomplete sense are found in agriculture everywhere in extremely heterogeneous forms. Simple market specification contracts or future purchase agreements (typically determining price, quantity and time of delivery) are common and labor contracting, supplying labor and machinery have a wide application in agriculture (Wright 1989).

Contract farming or contract production, however, must be distinguished from the multiplicity of simple marketing or labor contracts. Specifically contract farming entails relations between growers and private or state enterprise that substitute for spot market transactions between family farms and a processing, export or purchasing unit. A standard farming contract regulates in advance price, production practices, product quality and credit facilities, etc.

Arriving at a meaningful definition of contract farming is rather difficult. The one classic definition provided by Roy refers to contractual arrangement between farmers and other firms, whether oral or written, specifying one or more conditions of production and/or marketing of an agricultural product (Roy 1963). Roy's definition is perhaps too broad since it would include a forward contract in which only price and volume are set. Forward contracts that could be sold and bought are not our interest here. In the definition above, as excluding a marketing arrangement such as forward contracts, two conditions must be added. First that contracts should be non-transferable and second that the term "and/or" should be replaced by "and," that means the contract must specify one or more conditions of production and marketing (Glover 1984).

Contract farming has been promoted in the recent three decades as an institutional innovation to improve agricultural performance in less developed countries, sometimes as a key element of rural development and/or settlement projects (Ghee and Dorall 1992). This system was accepted and used as one of the promising institutional frameworks for the delivery of price incentives, technology and other agricultural inputs. Local governments, private local firms, multinational companies, some international aid and lending agencies like the U.S. Agency for International Development, the World Bank, Asian Development Bank, and Commonwealth Development Corporation, have been involved in these contract farming schemes (Glover 1994).

However, worldwide applications in practice have caused to appear different terms and connotations regarding contract farming in the related literature (Glover 1992). Hence **contract farming** is used only for a private sector scheme, while some other terms are used for different applications as follows.

Outgrower Scheme: Generally connotes a government scheme. In this system government usually has a public enterprise purchasing produce from farmers on its own or as part of a joint venture with a private firm. This term is frequently used in Africa and Asia.

Nucleus-Outgrower Scheme: This is a variation of the outgrower scheme in which there is a project authority which has or administers a plantation adjacent to the processing plant. This plant supplements its own plantation production by contracting in different proportions.

Satellite Farming: This is also used in referring to any of the variations of the schemes mentioned above. On the other hand, the term **multipartite arrangement** is used to emphasize the scheme in which several actors such as private firms, government and foreign aid agencies are involved.

Several types of contracts are distinguished according to the number of decisions influenced, sharing of the risks and specifying contract terms. From the production decision or management point of view, two types of contracts are determined.

i. Limited Management Contracts: In this type the farmer signs a contract to get some production inputs. There is not any real guarantee for the price. The farmer's responsibility is limited only for the production inputs which he has gotten under agreement.

ii. Full Management Contracts: In this case the farmer and the integrator firm have made a contract based on a certain amount of production. In this type of contract the farmer has to follow some provisions specified in the agreement. In this way, the producer provides a certain market for his product and insures himself against risks.

Kohls has classified contracts into three broad categories (Kohls and Uhl 1985).

i. Market Specification Contracts: These simply specify some of the product quality measures which will be acceptable to the integrator and also some regulations are placed on the price and the method of payment. Contracts are generally signed at planting time and specify how much the integrator will buy and at what price. Little or none of the farmer's management decisions are transferred. From the producer viewpoint, they guarantee a buyer if the specifications are met.

ii. Resource Providing Contracts: In this type, the integrators provide production resources with certain conditions and managerial help and supervision. Product prices are usually based upon the spot markets and income guarantees to the producers are minimal.

iii. Management and Income Guaranteeing Contracts: These types of contracts often include the production and marketing stipulations of the former two types. In addition, market and price risks are transferred from farmers to integrators in this type. On the other hand, the integrator takes a substantial part of the managerial responsibility of the farmers.

A fair contract should contain reciprocal obligations with a balance between the rewards and the risks accruing to each party. A production contract should at least contain the provisions presented below:

i. Define the parties.

ii. Specify type and quality of the produce.

State the quantity of the produce. Contracts could be signed on acreage or tonnage basis. Processors bear the yield risk if the contract is signed on an acreage basis. In the other way, farmers bear the yield risk.

State clearly the responsibilities of both parties concerning production and marketing practices.

Indicate the manner, including timing, of delivery or collection.

Determine the price (specific or formula) or other consideration and indicate the effects of variations in quality, quantity or manner of delivery and also specify the manner and timing of payment. Price is frequently left variable in contracts. Fixed or negotiated prices are frequently used in one to three year contracts. If the majority of transactions in a commodity are priced through such negotiations, the fixed price becomes the market price. Sometimes contract prices are established by a scale or formula that relates the contract price to various economic indicators (Buccola and French 1981).

Indicate the duration of the contract and the way in which it may be terminated and/or renewed. Contracts for processing vegetables and field crops are mostly signed on an annual basis. Fruit contracts tend to span more than one year (Buccola 1980).

Appoint an arbitrator or otherwise specify how disputes are to be resolved.

Provide an assignment of the contract.

3.2. Reasons for Contract Farming

An agricultural production and marketing system includes different stages or sectors: the suppliers of input items, the farm operator, the processor of farm products, the distributor and the final consumer. In the Western World the relationships and transactions between these sectors could be realized in different manners (Allen 1972):

i. Spot market or traditional free marketing system which is still accounting for the lion's share of the present world marketing system.

ii. Complete vertical integration as in ownership integration or agricultural cooperatives and producers groups (e.g., marketing and processing cooperatives, marketing boards and other producers associations).

iii. Vertical coordination and contractual relationships.

The first traditional form of market organization and price determination will remain the appropriate means of coordinating the links in the system if some conditions occur such as:

Production occurs close to the points of final consumption.

Control over short-term variation in prices and sale volumes either through government or producer organizations.

Imprecise grading is acceptable to the purchaser or government and producers groups can set grading standards with sufficient and possibly ever increasing precision as market requirements change.

Agricultural extension and advisory services which are running as government functions are sound and effective.

In a competitive open (free) market system, the hidden hand of the pricing controls the market mechanism. The message reflected in price would be passed back to the processor through the final supply points (supermarkets or groceries) then to the farmer, and to the supplier of input items. But this system works very slowly. This system could be changed by a centralized decision-making mechanism, not under a collectivist system, but by the private sector via group action such as cooperatives or vertical integration changing from contract farming to ownership integration.

This contract/integration system is described as the most profound system (Paarlberg 1995). Organizing under an agricultural cooperative or producers' group is also a type of ownership integration. Sometimes the relationship between the cooperatives or groups and their members is more of a constitutive than contractual relationship. It could impose obligations in respect of production methods, product specification, timing of delivery and so on. Even if it is subject to dispute to some extent and needs rather detailed investigation, some empirical evidence shows that contract production between farmers and their own cooperative processing company has very real consequences. This was observed in the USA and Turkey. In the U.S. sugar industry, a grower-owned processing cooperative appeared in the 1970s (Koening 1995). In Turkey, in the 1980s privatization period, some of the sugar industry companies turned to grower-owned ones, which formerly had been a kind of state enterprise (Rehber 1997).

The primary motivation for such arrangements is to obtain greater control over the physical characteristics and quantities of commodities exchanged and to reduce the economic terms of trade (Buccola and French 1981).

Another main important force behind integration and contract farming are changes in the market structure. Well-trained buyers in the market, and the necessity to supply produce with a certain quality and quantity over time are the main reasons.

It is a fact that production technologies have been improving very rapidly. Contract farming is seen as a sound way to push innovation of new technologies and provide more efficient production.

Establishment of a processing plant needs a big investment and such a firm has high fixed costs. An uneven supply of raw material greatly increases unit costs. Therefore these firms have an interest in keeping raw material inflows at a steady level close to the plants' capacity. Relying on open market purchases is unlikely to achieve this steady raw material flow.

Contract farming is also thought of as a way of commercialization and industrialization in agriculture. Contract farming will help the small family farms and farm laborers who need capital and managerial assistance (Moore 1994).

In short, from the general or industry viewpoint some of the reasons for contracting include (Roy 1963; Harryman 1994):

The ability to guarantee a required supply of raw material in a timely manner.

The desire to secure products of specific quality standards.

The introduction (expansion) of new technologies to producers, altering or improving producer management skills.

The reduction of overall firm risks with contracts rather than with ownership integration.

The control of the costs.

The gaining and improving of market position.

Advantages of contract farming could also be summarized from the producer's point of view as follows (Roy 1963; Doye et al. 1992). The majority of farms are small and subsistent. It is commonly recognized that small family farms are potentially an important source of growth in agricultural production and small scaled agriculture has some socio-economic advantages (Rehber 1996). But there are serious constraints on small farm production related to problems of access to production inputs, services and information. Small farmers often lack the necessary production and marketing information particularly about the new crops and varieties. Even with sufficient information they do not have enough financial resources and also the credit facilities are limited mainly because of lack of collateral. This structure needs to investigate institutional mechanisms. Contract farming is an example of such a mechanism that deals with many of these constraints in an integrated manner. Government intervention and subsidization policy could be seen as an alternative to contract farming. But especially in the developing countries public interventions and support policies are ineffective and do not help to remove the obstacles mentioned above. Government efforts to subsidize are also mostly in favor of large farmers. At this point the "New World Order" of global restructuring of the food industry symbolized by the GATT and newly established WTO, which are mainly aiming at lessening or cutting agricultural subsidies, must be considered here.

Besides the reasons mentioned above, recent sophisticated ideas such as environmentally sound, sustainable and economically viable agriculture are main initiatives behind the fast growth of contractual arrangements.

In general, along with a variety of related problems such as delays in delivery or payment, quality deterioration, etc., which are emerging from the applications, contract farming generally also has some disadvantages or problems as a production system.

One of the economic factors favoring the increasing use of production contracts is the need to realize efficiencies through risk management. But contract farming creates its own risk, despite reducing others.

i. For the producer, the failure to produce to contract standards will result in loss of the contract's premium prices. Other risks include the non-renewal or termination of contracts, perhaps for non-economic reasons. For the processor, the main risks are the failure to line up supply, or losing timely receipt of desired quality and quantity of product, loss of technological advantage, and liability to the producers and to third parties (Kelley 1994).

ii. The farmer loses his independence to some extent varying with the contract conditions. That means, the farmer's management function is transferred to another person. It is arguable that a skilled farmer may worsen his circumstances under a contract compared to taking his chance in an open market.

iii. It is a fact that contracting is a negotiation between unequal, economically powerful agri-business and rather weaker farmers. But farmers can cooperate to gain bargaining power to ensure fair contract terms. In the USA, for instance, agricultural bargaining cooperatives have become an integral part of the marketing system of certain agricultural commodities (Marcus and Frederick 1994). By the early 1960s there were more than 325 cooperative bargaining associations involved in contract negotiation (Allen 1972). By working together in their cooperatives, farmer-members can better control their own economic destiny (Ling and Liebrand 1995).

iv. If the integrator has gained a monopsony position, he could abuse his own position to violate contract provisions in his favor. That means when alternative marketing opportunities are closed out, an overly integrated firm or sector may beat down the terms of the contract. Of course this is not a desirable consequence for improving agricultural marketing.

3. 3. Success and Failure in Contract Farming

When evaluating success and failure of the contract farming applications and their outcomes, contractual arrangements might be summed up into two broad categories as private contract arrangements and outgrower schemes. The first one is mainly used by the developed world while the latter one is used in the less developed and developing countries. Of course there are some important differences in detail.

First of all the origin of contract farming is so different. One of the initiatives of contract farming for developed and for the developing countries to some extent is providing a steady flow of the raw material to the marketing or processing industry with certain quality standards. But in the less-developed world, it was initiated by complementing, occasionally competing with and partially replacing plantation and estate agriculture or by subsuming independent farmers and sometimes newly settled families under state or private auspices to produce a variety of products for domestic consumption and export (Watts 1994). Therefore contractual relationships have been appearing as outgrower schemes in developing and less developed countries while it was in the form of private ones mainly between an individual or a group of farmers and private companies in the developed world. Hence, while aims and the structure of contract farming are almost similar and rather definite in the private contract farming system, the outgrower schemes have a hybrid structure and multiple objectives (Glover 1987). The reviewed literature reflects the tremendous variety of contracting schemes in Africa and Asia regarding both the contracted parties, social organization of the schemes and the heterogeneity of the contract itself.

The nature of the crops and the technology in use for their production are the most crucial determinants of the success and failure of contract farming in practice. For instance basic grains that are not perishable and do not require strict quality or prompt harvesting and processing do not generally require contracts arrangements (Andrews et al. 1994). On the other hand, the perishability and bulkiness of some products requires concentrated production and careful scheduling and are generally subject to contractual relationships. For the commodities for which supplies of both inputs and outputs are inelastic and shifting, and cost is very high, such as broiler production, contract farming is rather successful.

On the other hand the structure of contract farming has a great variety: the form it takes and the attitudes and background of the growers are affected mainly by the availability of other alternatives and the peculiarities of the political, economic, and social circumstances at the local and national levels, along with the specialization of the product (Minot 1993). Therefore, evaluation of using contract farming as a way of increasing agricultural productivity, improving marketing and fostering rural developments cannot be assessed independently from those factors mentioned above. Then it can be indicated that the reasons behind success and failure of contract farming in developed, developing and less developed countries are so different depending on the related infrastructure (Carney et al 1994).

In the developed world, sophisticated market structure, high technology level, farming structure, and attitudes of the governments create a rather suitable environment for private contracting arrangements depending on the product features.

The use of production contracts is increasing in the developed world. For instance in U.S. agriculture from 1980 to 1990, the percentage of pigs produced under contract increased from 2% to 18%. In 1990 contract production accounted for 7% of food and feed grain production and 12% of cotton production. In the sectors where contract production began, more than 90% of broilers and 80% of processed vegetables are produced under contracts (Kelley 1994). It can be realized that in the U.S. the broiler industry is almost entirely vertically coordinated as in almost all of the developed countries (Vukina and Foster 1996). Much of the increase in use of vertical coordination in the U.S. swine industry has taken place through contract production. A variety of contractual arrangements are available through feed companies, integrators, genetic firms and packers. However little is known about the profitability and risk characteristics of these alternatives. One of the researches on this subject suggests that risk neutral producers in the Midwest would prefer independent production and risk averse producers would prefer to choose among the various types of coordination arrangements (Johnson and Foster 1994; Rhodes and Grimes 1993). In the other developed countries, for example, broiler integration is 23% in the Korean Republic as compared to 75% in Japan in 1989 (Yi et al. 1993).

In the European Union the production aid system has been encouraging contract farming. This approach, of course, has a considerable role in the development of contract farming in the Union. For instance, one of the observed changes in the Spanish food industry after joining the EU is the increase of the contractual arrangements. In Spain the number of farmers involved in contract farming reached 77,000 in 1988 while it was only 28,000 in 1986 (Erkan et al 1993). When the contribution of vertical integration and contract farming to German agriculture was analyzed, it was concluded that these approaches can result in substantial advantages for cooperating farmers but do not automatically improve the competitive position of the parties involved

(Zurek 1993). In Germany vertical integration through contract production is already common in the dairy, poultry and sugar sectors accounting for around 38% of agricultural production. Outside these sectors, however, only about 6% of output is produced under contract. This type of integration benefits both sides and is likely to continue (Grosskopf 1994).

A study based on the data of the Agricultural Census of Italy shows that contract arrangements are closely associated with farming in all the region and reflect the state and conditions of agricultural development in each of them. This suggests that contract farming is a continually evolving process and also determines that agricultural development is linked to overall development and affects the forms that contract farming takes in different areas (Pecci and Lipparini 1993).

In the improved feed sector, the spread of contract farming has accelerated a narrowing of the genetic base of Western agriculture which has accompanied the development and widespread use of new crop varieties (Burch and Rickson 1990). Biotechnology companies are also expected to develop vertical integration by responding to speciality markets and involvement in contract farming (Shimoda 1994).

Contract farming is offered as a vehicle for the transfer of technology, modernization of peasant smallholders, and the creation of a stable and politically conservative class of family farmers. Overall, contract farming has spread enough in the region that it can be considered a significant road of capitalist development in agriculture (Clapp et al. 1994). Contract farming represents an expanding and much suggested method of agro-industrial integration for developing economies. Contract farming is depicted as a method by which agriculture in the developing world is converging with that in the developed world (Watts 1992).

In the developing world available infrastructure needs intensive government involvement and also the financial support of domestic and foreign donor agencies and initiatives of national and multinational companies. In the recent two decades there has been a tendency for transnational corporations to shift from land ownership to a contracting system. This system of coordination holds great potential for rural development if it can be integrated easily into the national economy. In such a structure, agricultural policies which are shaped by public institutions both at the level of national governments and international organizations are shrinking in importance and are in the process of being replaced by unregulated, transnational market forces (Nanda 1995). There is a possibility of exploitation as an unorganized mass of smallholders faces a single buyer. Political as well as economic factors are thus of crucial importance in determining the distribution of benefits resulting from contract farming (Glover 1983).

In the years following World War II, contract farming has been substituted for several different forms of agricultural production in Latin America. In Honduras, for example, bananas once cultivated on corporate plantations, are now grown by associate producers under contract. In Peru breweries that once bought barley on the world market are now supplied by contracts with a network of farmers.

A study based on the experience of seven countries in East and South East Africa with contract farming and outgrower schemes in Kenya, Tanzania, Zambia, Zimbabwe, Lesotho, Swaziland and Malawi shows that in most cases, performance in delivering services and providing income increases to farmers has been quite good, although high management costs limit the extent to which this form of organization could be more widely applied. It was concluded that looser control and relying more on price incentives and farmer participation might lower overhead costs while developing management capacity among growers (Glover 1990).

Experiences in the same sub-regions of the world have shown variations. For example, the Malaysian schemes appear to be the most successful. They are long established and increase in size and number. The Indonesian schemes are also widespread and active (Glover and Ghee 1992). But Thailand's experience is quite the opposite. Attempts and efforts have failed in almost every case examined (Manarungsan and Suwangindar 1992). Both farmers and firms enjoy greater flexibility, and more production, marketing and ensuring supply options if the farms are small and have diversified production activities. Of course, the failures in the related government policies also have negative impacts on contract farming. Perhaps the most important reason for the success of the Malaysian and Indonesian experiences is the strong and continuous support provided by government (Ghee and Dorall 1992).

Analysis of the Kenyan experiences has shown that contract farming has the potential to provide a Pareto-improving form of governance, and it can be used to increase the income available to the rural sector. It is a practice which may be engaged in for both efficiency and anti-competitive motives (Gross 1994). Also other research shows that contract farming within smallholder tea production in Kenya has changed family member relations and the role and stature of women and men in the family (Bulow and Sorensen 1988).

In Swaziland, the Fourth National Development Plan advocates the development of outgrower schemes based on the example of Vuvulane Irrigated Farms as an alternative strategy for rural development (Levin 1988). With reference to tobacco production in Sri Lanka, it is argued that contract farming can only contribute to meeting basic needs if the income and employment it generates can be distributed with a measure of efficiency (Kirk 1987). In the rapidly growing economies of Southern Asia, besides emergence of processing enterprises which meet the diversifying and growing domestic and international demand, contract farming systems are a feature of the rural growth process.

A research study which was based on case studies of village level processing and marketing activities involving soybean, cassava and tobacco in Indonesia illustrates that significant additional income and employment can accrue to farm producers from such agricultural marketing and processing activities at the village level (Kawagoe et al. 1994). India has become the second largest producer of fruit and vegetables in the world. When the facilities to improve this production potential are discussed, one of the measures suggested is contract farming (Bhatia 1994).

One of the important reasons behind the failure of contract farming is the availability of other ways of vertical coordination and open market facilities. This is clearly experienced in the Turkish hop industry. In the hop market, there are three marketing alternatives that farmers are faced with (Rehber 1989). One private company is trying to grow some amount of raw material in its own plantation along with contractual relationships with the farmers. One private company and the state monopoly are in the market only at harvesting season as buyers with an advance-paid price system. There is also a farmers' cooperative organization as a third alternative. In such a structure, despite the favorable offers, the private company could not succeed in increasing the number of the contractee farmers and its market share over 60% (Rehber 1997).

4. Structure of Contract Farming

Outgrower schemes have been used mostly in the developing world and have shown a great variety with their hybrid structure and multiple objectives. Therefore it is not easy to point out a standardized form for those schemes. A simplified model is discussed here for a standard (private company scheme) contract production form to have a fair and successful implementation of contract farming for both sides, the agricultural sector and economy as whole (Figure 1).

First of all both producer/grower and integrators (handler, processor, etc.) must have collaboration consciousness. Both for the producers and processors, it is important to have established reputations for honesty and fair dealing. That means, farmers should look at integrators as partners who are working for them rather than rivals. And also the same behavior is expected from the integrators. Both sides are in need of each other in order to make a contractual relationship which operates for their mutual benefits. Otherwise, this cooperation would be always a source of dispute and dissatisfaction.

In contract farming systems, the individual producer has perhaps had most reason to feel weakness in his lack of market power. However, the history of agricultural producers demonstrates that growers have been seldom rewarded appropriately in the market place due to weakness in their states as farm entrepreneurs compared with other participants in the food industry. That is why it is very important for the producers to act in an organized manner. Recognition gained by organized groups is better as opposed to the lack of recognition accorded to unorganized farm producers (Anderson 1994). Organizing a bargaining cooperative among farmers makes them rather powerful in a contracted relationship (Scheid 1991; Moore 1994). Such an organization also could give opportunity to collaborate with the integrators' organization. The producers and processors could act together. For example the California Tomato Growers Association needed to take a more active role in controlling imports. This led to the formation of National Association of Growers and Processors for Fair Trade (Marcus and Frederick 1994). This attempt was successful in imposing some regulations on imports and in other aspects, such as market development, political action, making adjustments to consumer demand, etc.

Contract Farming

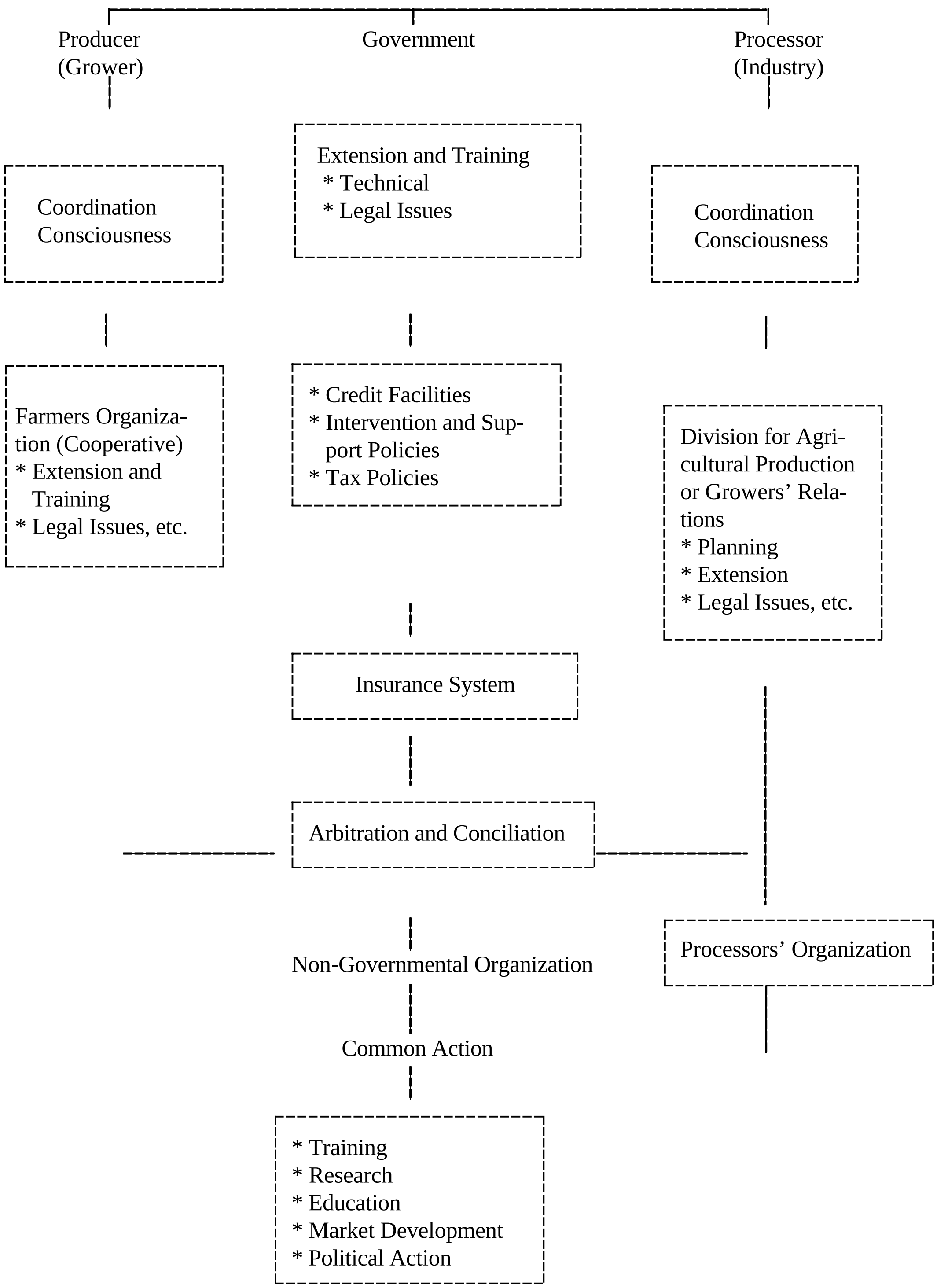

Figure 1. Structure of Contract Farming

Of course, these local bargaining organizations are to be organized on the national level. But in practice, under such organization, the level of negotiation is an arguable problem. It could be said that, in general, the collaboration and negotiation between farmers and processors might be better carried out in a decentralized way, at the firm basis. A nationwide farmer and food industry organization could act as an administrative organism. It could retain a role as arbitrator and guarantee the application of private agreements. Experimentation and development of reference and agricultural techniques would probably remain the responsibility of the central body. Experience in France has shown that, between 1961 and 1990, a considerable shift had emerged to decentralize the contracted economy from the national level negotiations which are having difficulty reconciling industrial and marketing coordination (Valceschini 1995).

In contractual arrangements, the role of the integrator firm is so important by determining most of the production and marketing practices and measures. Therefore the efficiency of the firms' activities directly affect the efficiency of contract farming. The first step in successful implementation is the organization of a sound organizational body. Contracts could vary from company to company, but all of them must have a special unit which is dealing with all contractual issues and is equipped with necessary persons and equipment. And its relationship to the other functions of the firm must be determined clearly (Brown et al 1994).

The role of government is another important factor for successful application. The first function for state authority might be legislative arrangements. In agriculture, with a tremendous variety of the production enterprises, it is not possible to put out comprehensive contract models which have strict rules. Instead, government could determine a framework for a contract and enact some regulations to solve disputes and take part in arbitration to some extent.

Besides this direct role of the government in contractual mechanisms, agricultural support and intervention policies which aimed, in general, to improve contract farming could be rather effective and functional. For instance, in the U.S. for some products the bargaining strength of farmers is reinforced by marketing orders. In the European Union, according to the Commission Regulation, the production aid system is based on contracts between producers and processors and the particulars to be included in the contracts for the purposes of the aid system should be specified (Anonymous 1984).

Tax policy is another aspect which must be considered to promote contract farming. Contract farming is a way of recording systems of production. Farmers are presently reluctant to gain on arrangements for fear that they may pay more taxes. Therefore adopting a tax policy which facilitates and remedies the situation could be recommended.

On one hand specialization to produce a single product through contract farming has been increasing the profitability level. On the other hand, it will increase the risk farmers face. Agricultural crop insurance policy could be a considerable way to promote reducing risks for both farmers and firms. Ineffective extension and training policies of the governments could be improved through contract farming. Credit policies in agriculture also could be realized by contractual arrangements that consider the contract itself as a collateral.

It is recommended that there should be an independent organization to resolve disputes between firms and farmers, which are the major causes for failure in contract farming. For solving the disagreements and disputes between producers and processors over quality standards, delays in delivery and payments and default on loans and the like, going through the court systems created long delays. Thus an arbitration and/or a conciliation system would be useful (Spolter 1992) by involving government and non-governmental organizations' representatives.

In arbitration, an arbitrator renders a decision and a third party imposes it, taking all the control away from the parties. But in a conciliation or mediation process, the parties retain control of the process and the outcome.

4. Conclusions

Vertical integration or coordination in agriculture has varied from spot market transactions to ownership integration. One of the worldwide ways of vertical integration is contract farming.

Of course contract farming is not a panacea to solve all related problems of agricultural production and marketing systems. But contract farming could be evaluated as a way of providing easier access to credit, input, information and technology and product markets for the small scale farming structure. Contract farming might also be seen as a way or as a part of rural development and promoted to improve agricultural performance especially in Third World countries. Contract farming could be evaluated as a form of structural convergence between First and Third World agriculture and also as a way of achieving a higher synthesis between agriculture and industry.

Contract farming is a continually evolving process. Worldwide applications of contract farming have shown that the terms of the contract are shaped in their own conditions and varied from product to product. Also each country has its own experiences.

Besides the advantages of contract farming to both sides, it has some disadvantages and could create some problems, such as losing some measure of independence for the farmer, creating a monopsony position, etc. Of course some measures could be taken to outweigh the advantages of contract farming. It can be concluded that for successful implementation of contract farming, having coordination and collaboration consciousness and acting in an organized manner are advisable for both sides. On the other hand, government attitudes and incentives are also important aspects.

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