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**Global Partnership in Poverty Reduction:
Contract Farming and Regional Cooperation**

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Abstract

With globalization, market liberalization, and the rapid development of rural infrastructure, new market opportunities for high-value crops and livestock production are expanding in both developed and developing countries. This has translated into increased use of contract farming to establish market linkages for the poor in developing countries. In poor areas where smallholder subsistence production is the norm and where infrastructure and institutions to facilitate market exchange are not well established, contract farming is providing farmers with the assured sale of their crops and agro-business firms with a steady supply of agricultural output required by the market. In many instances, agro-business firms provide additional provisions, including technical support, improved farm inputs, credit, product accreditation, and assistance in the formulation of farmers' groups. Consequently, poor farmers are able to transform from traditional cultivation and management practices to market-oriented commercial production, resulting in employment generation, income growth, and greater security. This paper reviews the pros and cons of contract farming from the point of view of different stakeholders, e.g., firms, farmers, government, and donors. In particular, this work examines contract farming in the Lao PDR and Cambodia and points to contract farming of organic crops as a promising option for poor farmers as the practice is consistent with traditional practices while associated with lower health and environmental risks.

While the development of market linkages for farmers is traditionally viewed as a public sector responsibility, the establishment of necessary agro-services for a large number of small, unorganized farmers requires a tremendous amount of public sector resources. Given the limited availability of government and donor resources, private sector endeavors that serve to generate pro-poor growth may be the key to poverty alleviation.

JEL Classification: O43, Q17, Q56

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I. INTRODUCTION

The Millennium Development Goals, the blueprint for development intervention adopted by UN member countries, highlights global partnership in development as one of the main goals toward poverty reduction. Among the recent consequences of globalization is the increased coordination of food production. With a majority of the world's rural poor engaging in agriculture, agricultural globalization is arguably the single most important global partnership for poverty alleviation.

In emerging economies in the Greater Mekong Sub-Region (GMS) such as Cambodia, the Lao PDR, and Myanmar, close to 90% of the poor are smallholders who depend on agriculture for their livelihood. With the rapid development of rural transport infrastructure, new market opportunities for higher-value crops are expanding in these countries. In order for the rural poor to successfully participate in a market economy and to benefit from globalization, backward and forward market linkages need to be established. These linkages include the provision of information on market demand, technical support, rural credit, improved farm inputs, product accreditation, and markets for the produce.

Beyond initial linkages to local markets, with market liberalization, the rural poor in these countries must also respond to worldwide competition governed by international trade agreements and food safety standards requirements. Without assistance to cope with the changes brought about through international trade agreements, the poor could be further marginalized from the markets.

While the development of market linkages for farmers is traditionally viewed as a public sector responsibility, the establishment of necessary agro-services for a large number of small, unorganized farmers requires a tremendous amount of public sector resources. Given the limited government and donor resources available, private sector generation of pro-poor growth may be key to large-scale poverty reduction.

In recent years, in the less developed GMS countries, contract farming¹ has been expanding rapidly. The practice of contract farming entails the contractor² providing farmers with improved seed, technical advice, in-kind credit, and market services. Farmers produce a specified quantity and quality of crop that is sold exclusively to the contractor, usually at a pre-determined price. This promising arrangement includes the poor in the market economy.

Contract farming is global, with both positive and negative impacts. The widespread emergence of contract farming in the emerging GMS countries has prompted the need to revisit such issues associated with contract farming in the globalized environment. This discussion paper is the first in the series of the ADBI research project on "Making Globalization Work for the Poor through Contract Farming."

This paper begins by defining contract farming and examining its theoretical evolution. The subsequent section discusses the importance of contract farming as an institution for facilitating exchange and accelerating the transition from subsistence to commercial production. Sections IV and V review the advantages and concerns surrounding contract farming. Section VI examines strategies for mitigating contract farming challenges. Section

¹ Contract farming in this study is defined as arrangements whereby development assistance or agri-services are provided to farmer. This could include improved farming practices, provision of extension services, quality control mechanisms, credit, and market for products. Contract farming in this study does not include informal contracts between local traders and farmers without provision of technical assistance and quality improvement. These informal contracts provide only in-kind inputs at the start of the season, and cost of inputs is deducted when the farmer sells outputs to the trader.

² The terms contractor, purchaser, and firm are used interchangeably in this paper, although the majority of the contractors in the context of this paper are largely agri-business firms.

VII looks at the different types of Asian contract farming schemes, while Section VIII discusses how contract farming can be a viable means of promoting regional cooperation. The final Section summarizes recommendations for the successful promotion of contract farming as a strategy for poverty alleviation in the context of agricultural globalization.

Definition of Contract Farming

Contract farming is a contract between a farmer and a purchaser established in advance of the growing season for a specific quantity, quality, and date of delivery of an agricultural output at a price or price formula fixed in advance. The contract provides the farmer with the assured sale of the crop and at times provides for technical assistance, credit, services, or inputs from the purchaser (Binswanger et al., 1995). The purchaser gets a guaranteed, steady supply of produce.

II. EVOLUTION OF CONTRACT FARMING—MARKET AND INSTITUTIONAL FAILURE

Agriculture sectors in developing countries, in particular those found in transitional economies such as the Lao PDR and Cambodia, are characterized by market failure and institutional failure. Market failure arises from the endemic lack of information on market demand, price, production technology, and credit, all of which stem mainly from low-level infrastructure development. Institutional failure is largely a result of economic transformation from a socialist central control system to a market-driven system. This section reviews the theoretical basis for the emergence of contract farming.

Institutional Failure, Market Failure, and Contract Farming

Institutions are defined as rules of the game in a society or, more formally termed by North, “the humanly devised constraints that shape human interaction” (1990). Institutions affect the performance of the economy by their effect on the costs of exchange and production (North, 1990). According to new institutional economics, institutions evolve to minimize the costs of resource allocation (Williamson, 1979). Williamson (1979) also suggests that different governance structures and contracting forms arise depending on the frequency of transactions, the level of certainty to which transactions are subject, and asset specificity.

Warning and Soo Hoo (2000) emphasize the role of transaction costs and imperfect information in determining the structure of agrarian institutions. Key and Runsten (1999) and Patrick (2004) suggest that contract farming has evolved to ensure the participation of smallholders unable to gain access to spot markets due to market failure in credit, information, factors of production, marketing, and so forth.

Simmons (2002) states that three factors contribute to transaction costs:

- Bounded rationality—differences in information between contracting parties
- Opportunism—either party taking advantage of the other
- Asset specificity—risks associated with protecting “sunk costs” in processing plants, logistical systems, market development or, for smallholders, the cost of protecting investments in specialized machinery and knowledge (Simmons, 2002, citing Dorward, 2001)

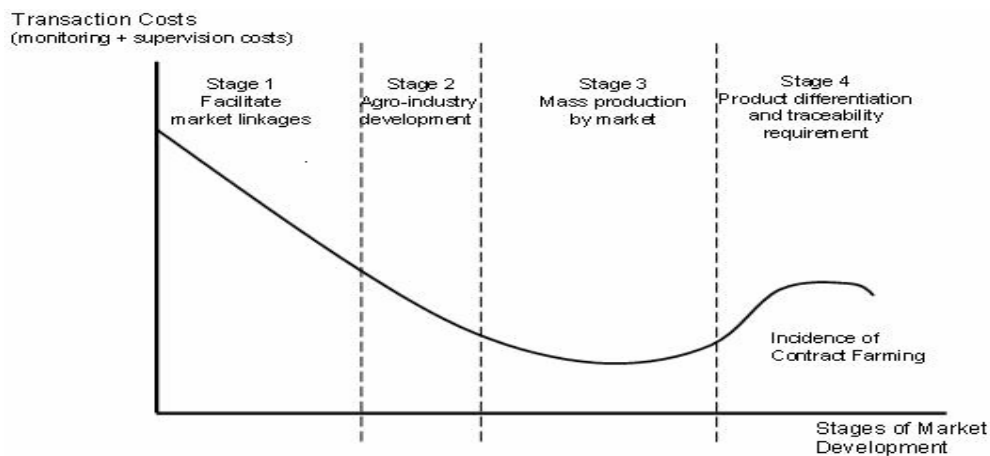
As Simmons (2002) writes: “In the absence of these factors, contract farming may not occur since buyers could acquire produce in spot markets that would be instantly and perfectly responsive to their demands.”

In the case of agricultural products with special attributes that are often difficult to measure, contract farming and vertical integration may lead to better control of inputs, resulting in more uniform product attributes and a reduction in the cost of measuring quality, grading, and sorting of the products (Martinez, 2002). To facilitate transactions in environments where spot markets fail to address information and institutional failure, contract farming and vertical integration are increasingly being adopted as a supply chain governance strategy.

III. IMPORTANCE OF CONTRACT FARMING IN DIFFERENT STAGES OF MARKET DEVELOPMENT

Based on stylized facts from developing countries across Asia, the importance of contract farming as an institution for facilitating market exchange differs at each stage of market development.

Figure 1. Stages of Market Development and Contract Farming



If contract farming is to be classified based on its main function, it could be summarized as follows:

Stage 1. Transformation from subsistence to commercial agriculture: the main function of contract farming is facilitating transformation from subsistence to commercial farming.

Stage 2. Development of agro-industry and crop diversification: contract farming is essential in the growth and development of the agro-processing industry.

Stage 3. Mass production and spot market transaction: the market functions well, and the importance of contract farming is relatively limited.

Stage 4. Product differentiation and globalization: contract farming functions as an institution to address market failures associated with product attributes in the globalized market.

IV. BENEFITS TO FARMERS FROM CONTRACT FARMING

A. Market Access

The most important constraint faced by smallholders is the lack of assured market with fair price. For farmers, technical constraint in transforming from a traditional crop to a new crop is less inhibiting than market constraint. Therefore, one of the principal motives for smallholders to enter into a contract farming arrangement is the promise of a steady and

increased income from having an assured market. Contract farming arrangements serve to link farmers to distant markets where the demand for and price of crops are often more favorable.

Market access can also result in the expansion of growing areas. In a banana contract arrangement in Thailand, farmers without contracts in the same area were observed to be cultivating smaller areas since they had limited market opportunity to sell produce. Once farmers entered into contract farming, they doubled their growing areas and brought unused land into production (author's field visit, 2004).

B. Increased Incomes

Contract farming promotes farming of non-traditional crops that are sold for a higher price and may be grown without significant extra effort. Although contract farming is not applicable to all crops in all stages of market development, numerous empirical studies from around the world demonstrate that contract farming can lead to improved income of same-crop-growing without contract. Income generated by organic rice farming in Thailand is 70% to 100% higher than conventional farming (Setboonsarng et. al, 2006). Glover and Ghee (1992) and Glover and Kusterer (1990) in their studies in Southeast Asia, Latin America, and Africa confirmed that the majority of contract farming efforts appear to contribute to smallholders' welfare by improving income. Such arrangements enable farmers to forecast income levels, which aids in planning (White, 1997).

C. Reduction in the Risk of Price Fluctuations

Increased income in contract farming is generally accompanied with lowering price risk for farmers. In agriculture, prices can fluctuate drastically from region to region and within a growing season. Smallholders have little access to information and face the risk of losing substantial income if prices fluctuate downward. In contract farming, however, a predetermined price for the crop is generally established during contract negotiations at the onset of the growing season. As a rule, firms typically purchase the crop that falls within specified quality and quantity in accordance with the contract, and farmers are not subjected to incur losses in sales due to price fluctuations. In this respect farmers can lower their price risk in addition to gaining market access (Binswanger et al., 1995; Baumann, 2000; Eaton and Shepherd, 2001).

D. Credit and Financial Intermediation

Lack of access to credit remains a large constraint in improving agricultural productivity. Formal credit markets in rural areas of developing countries seldom exist, and where they do exist banks are reluctant to lend to smallholders. Even in areas where microfinance institutions exist, these institutions tend to offer loans to microenterprise and not to agriculture production.

The production of non-traditional cash crops generally entails greater expense than production of traditional subsistence crops. Firms are in a better position to provide credit than banks since they usually possess greater ability to monitor and enforce credit and therefore overcome problems caused by financial market imperfections. Additionally, firms may extract the debt that farmers owe from the payment of the procured crop (Key and Runsten, 1999). Firms can also lend to farmers in-kind, e.g., seeds and modern inputs (Baumann, 2000). In cases where firms do not extend loans to farmers, banks often accept the contracts as collateral (Glover and Gee, 1992). As in Thailand, government policy can also play a role in encouraging such a strategy.

E. Timely Inputs and Production Markets

In remote areas with low inputs and limited transportation infrastructure, timely access to inputs is a significant problem for smallholders. Lack of non-traditional inputs and production resources such as improved seeds, fertilizers, or tools is a common constraint for productivity improvement of smallholders. Underdeveloped inputs and product markets may make it difficult for firms to obtain the desirable quantity and timely delivery of crops. To achieve projected yields and desired quality, contracting firms frequently undertake measures to ensure that contracted producers have timely access to inputs including seeds and fertilizers, in addition to training support and the monitoring of proper crop husbandry practices (FAO, 1999; Baumann, 2000; Eaton and Shepherd, 2001). While farmers benefit from timely access to inputs and markets, firms benefit from ensured delivery of the quality products.

F. Monitoring and Labor Incentives

It is argued that smallholder contract farming is more efficient than other forms of institutional arrangement for production, as production efficiency depends largely on the work efforts of the laborers. In large farms or plantations where laborers are employed, the cost of supervision is generally high and hired laborers may be motivated to shirk job responsibilities (Eswaran and Kotwal, 1985). In small family farms, laborers have the incentive to work conscientiously for the sake of their own family's wellbeing (Hayami and Otsuka, 1993; Hayami, 2003). Booth (1998) and Hayami (2003) reported that although Thailand started canned pineapple production relatively recently, production had surpassed that of the Philippines, previously the world's leading exporter. Whereas the Thai system is based on contract farming, Philippine production is largely based on the plantation system. In this respect family-run ventures appear to be equally or more efficient than plantations based on hired labor. It appears that contract farming can evolve to mitigate extensive monitoring and labor supervision costs.

G. Reduction of Production Risk for Farmers

Contract farming arrangements facilitate risk sharing in the case of production failure due to uncontrollable circumstances including poor weather or disease. Through contractual arrangements, the risk of total income loss due to crop failure can be reduced for farmers. Where production problems are widespread as a result of uncontrollable events, firms will often defer the repayment of production advances until the following season (Eaton and Shepherd, 2001).

In addition, upon contract authorization, subsidies may be provided to diminish risk during the startup of the new enterprise. Glover and Kusterer (1990) report that for smallholders, whose contracts were subsidized in the early years of their participation, extension from the contracting firms was important in reducing yield risk.

H. Introduction of Higher-Value Crops

According to Baumann (2000) small-scale farmers are often reluctant to adopt new technologies and diversify from traditional crops due to the possible risks and costs involved. Through contract farming, firms can provide the support needed for smallholders to shift from subsistence agriculture to market-oriented production (Eaton and Shepherd, 2001; Patrick, 2004). Since agro-business firms possess a vested interest in the production of high-value crops, their contractual arrangements often facilitate the introduction of new production techniques and further measures that serve to upgrade agricultural commodities (Baumann, 2000).

The function of many introduced measures is to increase productivity while preparing crops to achieve the high-quality standards required by international markets. Manarangsang and Suwanjindar (1992) report that farmers in Thailand contracted to grow palm oil, pineapples, and asparagus gained new technical knowledge from training programs financed by the firms and were closely supervised and instructed on crop management.

The aid provided to smallholders by agro-business often includes training and assistance in crop production, soil and water management, bookkeeping of inputs and outputs, and at times even gender awareness training. More recently, firms have introduced traceability systems into contractual arrangements. The value-added benefits of the skills passed on to farmers continue after agreements have expired. Glover (1987) attests that aside from straightforward technology transfer, farmers gain experience of “the system” through contract farming. Farmers can become astute in learning how markets work, how to manage accounts, and run their farm as business.

V. BENEFITS TO FIRMS AND PUBLIC SECTOR

A. Cost Efficiency for Firms

Contract farming allows agro-business firms to improve cost efficiency and minimize risk by avoiding the purchase of land or the hiring of labor (Hayami, 2003; Patrick, 2004). Furthermore, risks involved with agricultural production, including fluctuations in demand and supply, can be avoided through the procurement of produce from farmers.

B. Quality Consistency

With firms extending production and methods and monitoring farmers' practice, product quality consistency is improved under contract farming. The degree of effectiveness and cost associated with quality monitoring, however, may differ with types of crops. For example, large plantations are suited to banana crops since management tasks are clearly defined, frequently uniform, and do not require many judgment decisions or a great deal of initiative on the part of workers (Key and Runsten, 1999). In soybean contract farming in Thailand, acreage cultivated is limited to the farmers' ability to maintain quality levels. In contrast, non-traditional crops such as vegetables for export are unlikely to be successful in a plantation environment since they are technically more sophisticated and require worker initiative to achieve satisfactory yields and meet quality requirements (Glover and Kusterer, 1990; Hayami and Otsuka, 1993).

C. Facilitation of Trade Standard Requirements

One consequence of globalization and trade liberalization of the food business is the growth of multinational corporations sourcing food from developing countries where the cost of labor is low and natural resource endowments are more favorable. In response to the increasing demand for food with specific attributes by consumers in high-income countries and in response to the new stringent food safety, social, and environmental standards, and also requirements under international trade agreements, multinational corporations are opting for contract farming arrangements to maintain control over all inputs throughout all stages of production and processing.

In recent years, consumer concerns surrounding food safety has led to an influx of food traceability systems. Consumers are increasingly insisting on information related to country of origin, inputs, and food production processes. The public sector in importing countries is responding to consumer demands and public health concerns by requiring formal documentation of the food traceability system of the whole supply chain for imported food. Contract farming allows firms to impose greater control on inputs and processes and is

therefore poised to fulfill traceability requirements. The relative ease of implementing traceability systems through contract farming is another factor increasing its importance within the agricultural sector both in developed and developing countries.

D. Political Acceptability and Reduced Fiscal Burden

Aside from economic aspects, contract farming is more politically acceptable than plantation schemes operated by multinational firms (Eaton and Shepherd, 2001). Upon economic restructuring, many African governments have promoted contract farming as an alternative to private, corporate, and state-owned plantations (Baumann, 2000).

Beyond its political acceptability, contract farming can also significantly reduce the fiscal burden of promoting agricultural development, particularly in countries that face chronic budget deficits. These benefits to government include the following:

- Savings on research and development
- Effective extension system and traceability system
- Financial intermediation

VI. CONCERNS SURROUNDING THE PROMOTION OF CONTRACT FARMING

Although there is a range of benefits in contract farming, it is by no mean a panacea to agricultural commercialization and poverty reduction. Several concerns have been raised regarding the desirability of contract farming from a poverty and equity standpoint, foremost of which involves the opportunistic nature of such arrangements. The major concerns are discussed in this section.

A. Monopsony Control

Contract farming as a development tool has been criticized for the exploitative effects of monopsony control, whereby farmers are tied to one purchaser (Grosh, 1994). The firms generally possess more information, resources, and organizational ability than small farms. Their strong bargaining position enables them to potentially extract significant rents from smallholders, leaving them only marginally better off.

Many examples reveal farmer vulnerabilities whereby their bargaining power is reduced due to coercive contractor practices (Little and Watts, 1994). Once farmers invest in new crops and production to adhere to contractual requirements, financial and time constraints render them unable to easily switch to other types of crops (for example, tree crops take a long time to establish and grow). Lacking alternatives, farmers become dependent upon buyers, and firms are then able to elicit more self-serving contract terms.

In addition, the transition from subsistence farming to cash crop production has the potential to render households vulnerable to food shortages and nutritional loss. Many contract farming arrangements are based on monocropping of a non-traditional crop, causing farmers to become reliant on income from the sole cash crop. If the firm does not live up to its the contractual obligations, farming households may thus be vulnerable, since they no longer grow a variety of edible crops and lack the funds to purchase food (Key and Runsten, 1999).

B. The Burden of Labor Management

Although contract farming may reduce the cost of labor management for the agro-business firm, the burden of labor management is in fact transferred to the poor farm households. The act of purchasing directly from farmers rather than hiring wage workers shifts the burden of labor recruitment and control onto the producer (Baumann, 2000). In this respect, although

agro-business firms may benefit from reductions in labor management and land cost, such practices may also lead to exploitation since family labor is inclusive of women and children. White's (1997) study of dairy contract farming ventures in West Java determined that in "family" run dairy farms women and children provided an estimated 60% of all labor inputs (White, 1997). However, contractual agreements are often signed and the proceeds controlled by the male head of the household. The burden of farming practices may be placed on the most vulnerable members of the household.

C. Contract Enforcement

Many developing countries lack the laws and ensuing legal framework to support contractual agreements. Agreements themselves may not be easily enforceable or legally binding. Opportunism on the part of both parties can result. In most developing countries contract farming arrangements are operated in accordance to traditional values and norms rather than legal agreements (Glover and Gee, 1992).

In the absence of legally binding contracts, firms can suffer from the effects of extra-contractual sales of outputs (Eaton and Shepherd, 2001). Contract default by farmers often increases with a rise in the number of willing purchasers. When alternative markets develop and competing buyers offer competitive prices, farmers are given the incentive to break their contracts, often failing to repay input credit to the contractor (Coulter et al., 1999). The absence of an effective legal system and the lack of collateral held by small farms can result in considerable risks for agro-business firms. An issue involving input diversion occurs when farmers are tempted to use inputs supplied by the firm for non-intended purposes (Eaton and Shepherd, 2001; TDRI, 1996).

Much can be done to mitigate the opportunistic behaviors of both contractual parties. At the local level, farmer organizations and NGOs can play a pivotal role in protecting farmer assets by establishing their own systems for quality management, input production (fertilizers), traceability, and, if possible, certification (IFAD, 2005). Local government bodies and NGOs can ensure a firm's capacity to offer profitable contracts to farmers prior to the establishment of agreements by checking a contracting firm's financial and managerial capacities.

D. Bias Toward Large Farms

One criticism of private-led contract farming is that agro-business firms favor large-scale farmers (Key and Runsten, 1996). Agro-business firms may be motivated to seek contracts with larger farmers to reduce transaction costs and allow for the procurement of more uniform products (Baumann, 2000). In this respect, the cost of managing a large number of small farms may indeed influence a firm's decision to establish such relations. Nevertheless, in the context of developing countries, contract farming with small farms has proven successful in some instances.

Agro-business firms prefer limited land size to ensure easier maintenance and greater quality control over a given crop as is the case with asparagus and cucumber farming in Thailand. Often smallholders can produce a high-quality, labor-intensive crop if given the appropriate technical supports.

Nevertheless, although contract farming appears to involve small farms, such arrangements may exclude the poorest of the poor. Landless peasants and households possessing only limited marginal lands tend to be overlooked by firms.

E. Requirement for Increased Management Skills

Contract farming requires high-level managerial skills on the part of the agro-business firms. Although the level of supervision is likely to be significantly less than that required for plantation operations, highly skilled management is needed to properly supervise farmers. Poor management and a lack of communication among contractual parties may lead to farmer dissatisfaction and a breakdown in contractual agreements (Eaton and Shepherd, 2001; TDRI, 1996).

By employing local staff or community leaders in managing farmers, contracting firms can improve their conflict resolution management and avoid cultural challenges as seen in one firm's hiring expatriate management in Africa.

F. Increased Risk

Firms are required to bear increased risk in contract farming. Most contracts stipulate that the firm will purchase all the produce, usually at a price higher than the prevailing market price. The firm may bear the price risk as well as the risk of crop failure due to poor management or seasonal factors. To ease potential losses, the firm may maintain tight control over management and offer seasonal or annual contracts so as to exclude unproductive farmers from the future contracts (Patrick, 2004).

Farmers also face greater production risk in the case of newly introduced crops which may take time to adapt to new growing environment and required new growing techniques which are new to farmers. For example, cashew nuts contract farming in Thailand had initial success but failed after a few years due to unanticipated pest outbreak associated with non-traditional crop.

G. Health and Environmental Implications

In countries where contract farming has been practiced over a few decades, experiences indicate that poverty reduction impacts should be assessed in a holistic framework. In situations where contract farming of cash crops (monocropping) were undertaken with a heavy reliance on agro-chemicals, yields generally increased substantially during the initial period. As a result, household incomes were greatly improved during the first decade, but yields tended to stagnate or decline as soil conditions deteriorated due to excessive use of agro-chemicals. The heavy use of these chemicals has also led to serious health conditions for farmers while threatening environmental resources, including water resources and aquatic animals. Many of the pesticides that are banned or strictly controlled in the West have been introduced to farmers in developing countries through contract farming, resulting, for example, in negative health impacts on farmers.

VII. OVERCOMING CONCERNS SURROUNDING CONTRACT FARMING— IMPORTANCE OF FARMERS' GROUPS

Overcoming the negative aspects of contract farming requires action on several fronts and entails the involvement of various stakeholders, as summarized below:

A. Improving Bargaining Power, Community-Level Enforcement, and Contract

Management—The Role of Farmers' Groups and NGOs

The type and amount of benefits acquired by smallholders depend largely on the strength of their bargaining power. Small farms typically have limited bargaining power, particularly if they possess few assets and scarce alternative income opportunities (Key and Runsten, 1999). Farmers' groups can play an important role in the success of contract farming

arrangements through the power of group clout (Glover, 1987). In an effort to reduce transaction costs, firms often prefer to organize farmers into groups or deal with existing farmer organizations. Farmers' groups appear not only to improve the bargaining power of smallholders, but also serve to lessen some of the criticisms of contract farming.

More specifically, farmers' groups can perform the following beneficial functions to facilitate and improve contract farming ventures:

- Facilitate communication between firm and farmer
- Provide technical transfer and farmer training
- Facilitate credit provision and group guarantee
- Achieve economies of scale
- Aid quality control and assurance
- Improve bargaining power and upgrade processes

Aside from the aforementioned beneficial functions of farmers' groups in facilitating participation of the poor in contract farming, effective farmer organizations can form the basis of community empowerment. They can serve to generate social capital and therefore contribute to sustainable poverty reduction.

B. Minimizing Monopsony and Mitigating Opportunistic Behavior—The Role of Government

Contract farming in the first stage of development generally places firms in a monopsony position. The monopsony power of firms would decline with increased number of firms operating in the same area; thus, government-created policies for investment and competition would lead to decline of monopolistic power of firms over farmers. Grosch (1994) asserts that government has substantial latitude to promote contract farming by:

- Making the establishment of estate agriculture difficult or impossible.
- Creating joint ventures with private firms that want to use contracting.
- Providing complementary infrastructure.
- Regulating the terms of the contract.
- Using the police and court systems to help enforce the terms of the contract.

State promotion of contract farming can also serve to ameliorate some of the negative effects associated with opportunistic behavior. Simmons (2002) has identified the role of governments as market regulators to guard against agro-business abusing its market power.

Patrick (2004) asserts that government's role in promoting contract farming may improve conditions at both the macro and micro levels. Macro changes would be directed at reducing costs of contracting for all parties. Micro reforms may include training, arbitrating disputes, undertaking research, and providing extension services relevant to the expansion of contracting. Training programs for smallholders in literacy, accounting, and cash management may reduce miscommunication in contracts. Experience has shown that a government's ability to plan and execute economic policies can have significant effect on agrarian transition.

C. Promoting Sustainable Technologies to Achieve Social and Environmental Objectives—The Role of Corporate Social Responsibility

In recent years, fueled by development of communication technology, an increasing number of consumers are making choices on the basis of social and environmental attributes of the products. In response to this, firms have started adopting more socially and environmentally responsible ways of production, under the broader ambit of corporate social responsibility

(CSR). This increasing importance of CSR has played a key role in the growth of investments in pro-poor sustainable technology to mitigate negative health and environmental consequences. These pro-poor and pro-environment technologies include promoting low-external inputs, recycling farm resources, and avoiding premature mechanization or replacement of labor.

D. Ensuring that Contract Farming Benefits Smallholders Instead of Large Farms—The Importance of Exploiting Comparative Advantage

While it cannot be denied that contract farming has benefited large farms instead of smallholders in several cases, there have also been a number of successes in contract farming with smallholders. As discussed in the previous section, firms may choose to contract with smallholders when enforcement costs associated with large farms was high enough to outweigh the various fixed transaction costs.

Apart from the issue of contract enforcement costs, however, firms may also decide to contract with smallholders when the contracted crop is labor- and knowledge-intensive rather than capital-intensive. Contract farming of labor- and knowledge-intensive crops could potentially benefit the poor smallholders since they generally have large families and can provide high-quality labor to meet quality requirements of such crops.

One promising area in this regard would be promoting contract farming for organic agriculture, more so in the case of poorer farmers in marginal areas, since it is organic agriculture rather than conventional methods that can lead to higher yields and better incomes. One ADBI study found that the smaller the farm, the higher the profitability and profit efficiency (Setboonsarng et al., 2005).

VIII. TYPES OF CONTRACT FARMING IN ASIA

Contract farming initiatives in Asia can be classified into two broad categories: a) based on motivations and goals of contractors and b) based on structure and scale of operation.

A. Based on Motivation and Goals of Contractors

Contract farming schemes have been initiated by a range of drivers in pursuit of different goals or objectives. NGOs and government use contract farming to promote poverty reduction and environmental protection while private agribusiness firms are involved in contract farming for purely commercial reasons. International agribusinesses, on the other hand, adopt contract farming to demonstrate corporate social responsibility in international trade.

1. Socially Motivated Contract Farming

The modernization of the agriculture sector has been characterized by the increased use of agro-chemicals. At its very worst, agriculture modernization has contributed to an increase in poverty in many rural areas. Many of the grassroots organizations and NGOs turned to contract farming to promote alternative agriculture systems, such Japan's *teikei* system, capable of protecting the environment and improving the welfare of farmers.

2. NGOs' Use of Contract Farming to Promote Alternative or Community Supported Agriculture

These alternative agriculture and CSA schemes are predominantly small-scale and mainly target the domestic market. Products are either distributed through consumer cooperatives or sold through farmers' markets. In some instances, however, the schemes have been initiated by foreign NGOs or Fair Trade organizations acting as sponsors for contract farming

in poor areas of developing countries. For example, the Japanese International Volunteer Center has been long involved in promoting contract farming of organic crops as part of its sustainable rural community in Thailand (Furusawa, 2005).

With multiple goals of achieving health and environmental objectives along with maintaining fair distribution of profit among stakeholders involved, the NGO-based contract farming is often limited in scale of operation.

3. Contract Farming Promoted by Local Government

The second stream of contract farming involves a multipartite arrangement initiated by government, usually in pursuit of broader development or poverty objectives. The arrangement typically involves a government agency, such as that of the Lao PDR, and a private company jointly participating with farmers.

4. Purely Commercial Contract Farming

The third stream of contract farming in Asia is characterized by its purely commercial or business orientation. Initiated by private agribusiness firms, this second type of contract farming is becoming increasingly important for the agriculture sector in Asia. In countries such as the People's Republic of China (PRC) and Thailand, private-sector-led contract farming is extensively used for the production of non-traditional, high-value agricultural products for export.

Interest in promoting private-sector-sponsored contract farming has likewise gained momentum in other Asian countries such as Viet Nam, the Lao PDR, and Cambodia. In the case of such transitional economies, however, government has played a more central role by facilitating agribusiness firms' access to land and financing.

Unlike socially motivated contract farming, contract farming for profit is not limited to crops produced under alternative agriculture systems. As such, while this type of contract farming can potentially help improve farmers' incomes, its non-income dimensions of poverty, such as issues of health and environmental sustainability, are open to question.

5. Contract Farming for Socially Responsible International Trade

The fourth stream of contract farming is somewhat of a cross between the two types described previously. With consumer choice increasingly being influenced by food safety, health, social, and environmental concerns, private agribusiness firms in developed countries are no longer just expected to deliver quality products, they are also expected to deliver quality products in a socially responsible way. In this regard, agribusiness firms in developed countries—Japan in particular—are increasingly adopting contract farming of safe food in developing countries to lower production costs as well as to demonstrate corporate social responsibility. Of the types of contract farming, this last stream seems to be the most promising in terms of its potential contribution to large-scale poverty reduction in developing countries.

B. Based on Structure and Scale of Operation

The choice of structure and scale of operation are dictated by a number of considerations, including: a) type of crop; b) degree of processing; c) size of investment; and d) relative importance of labor to capital (Eaton and Shepherd, 2001).

Based on these considerations, contract farming ventures can opt to follow the large-scale, centralized model or the small-scale, decentralized model.

1. Large-Scale, Centralized Model

In general, large-scale, centralized model is preferred for crops that are subject to stringent processing standards, that require a high-level of experience from farmers, that entail frequent changes in farm technology, and that involve significant long-term investment (Eaton and Shepherd, 2001). This model is preferred for crops that require more capital than labor input.

2. Small-Scale, Decentralized Model

The small-scale, decentralized model is preferred for crops that do not require a significant degree of processing, such as fresh vegetables, fruits, or horticultural products that only need to be graded and packaged for resale. Production typically involves minimal short-term investment (Eaton and Shepherd, 2001). This model is preferred for products that are labor-instead of capital-intensive.

In developed countries, small-scale, decentralized contract farming is mainly characterized by direct supply contracts between large retailers and smallholders for fresh produce. Due to increasing vertical integration and consolidation in the food industry, direct supply contracts are also becoming more common in developing countries.

In Asia, however, small-scale and decentralized contract farming is still largely characterized by the subcontracting of crop production through intermediaries. Such brokers are emerging as the preferred arrangement for contract farming in less developed areas. In this type of arrangement, agribusiness firms purchase crops from intermediaries who in turn make their own (typically informal) arrangements with farmers.

IX. CONTRACT FARMING AND REGIONAL COOPERATION

Initiatives for using contract farming as a key institutional arrangement are under way in the Mekong region. Thailand, for example, has been actively pursuing contract farming as a tool for regional economic cooperation. At the second Summit of the Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS)³ held in December 2005, Thailand announced that it would allow tariff-free importation of all approved agricultural products produced under contract farming in ACMECS member countries. As a result, the Summit Declaration included an agreement to “accelerate cooperation on contract farming by setting up as soon as possible joint bilateral working committees to discuss measures to encourage long-term investment, cultivation and cross-border transportation of agricultural products for mutual benefit, including the conclusion of Memorandum of Understanding (MOUs) on contract farming.”

In keeping with this agreement, the Thai government has signed an MOU with the government of Myanmar that would provide Thai agribusiness firms with access to seven million hectares of arable land in Myanmar. The MOU is intended to facilitate investments by selected Thai companies in crops for which there is unmet local demand in Thailand. Thai firms will provide seeds, technology, and equipment for the farmers and will purchase all the products from contract farms.

The table below summarizes data on contract farming initiatives registered in the pilot locations as of 2005. It is noted by the National Economic Social and Development Board of Thailand that the registered size of contract farms represents about one percent of the total size of the contract farming operation by Thai firms in other GMS countries.

³ ACMECS is a cooperation agreement among Thailand, Myanmar, Cambodia, the Lao PDR, and Viet Nam, which aims to promote balanced development in the Mekong region. The establishment of ACMECS was proposed and initiated by Thai Prime Minister Thaksin Shinawatra in 2003. More information is available at the ACMECS web site: www.acmecs.org.

**Table 1. Registered Contract Farming Firm under ACMECS:
Performance of Pilot Projects in 2005**

Pilot Location	Firms	Land Area	Products	Output Tonnage
Mae Sot-Myawaddy	23	60,200 <i>rai</i>	maize, mung beans, peanuts, castor seeds	28,270 tons
Loei-Xaignabouli	2	210,000 <i>rai</i>	soybeans, peanuts	203,000 tons
Chantaburi-Batdambang	21	43,680 <i>rai</i>	maize, sweet corn, mung beans	46,770 tons

Note: 1 *rai* is a Japanese measurement for 1,600 m². Source: MFA Thailand, 2005

The ACMECS initiative makes it possible to use Thai agribusiness firms with successful previous experiences in contract farming as a mechanism for expanding the scheme in Cambodia, the Lao PDR, and Viet Nam.

X. CONCLUSIONS AND RECOMMENDATIONS

The combined effects of globalization, the rising demand for high-value crops, and the development of transport infrastructure in rural areas has opened up new opportunities for the rural poor to participate in the global marketplace, though including the poor in the market has some challenges. The public sector traditionally has not involved the poor enough in agriculture production and marketing efforts. The private sector has made great strides in bringing poorer farmers into the larger agricultural picture through including them in contract farming structures. Internationally, contract farming offers many benefits and is receiving increasing support from multinational firms.

Conclusions

Based on review of the literature, contract farming appears to be a promising institutional arrangement to facilitate farmers' access to an array of agricultural services from which they are typically excluded. Contract farming enhances the agricultural productivity and efficiency of poor farmers by introducing improved farming practices through the provision of inputs, transportation, extension services, and, most importantly, market access. It also brings investments and technical expertise to rural areas, facilitates cross-border quality control, contributes to employment, and fosters sustainable cooperation within the region.

Though this review focused primarily on GMS transition economies, the potential benefits of contract farming are relevant in the broader context of other developing countries. This review highlights the strong potential uses of contract farming in the following context:

1. As a development tool in facilitating the transition from subsistence production to commercial production.
2. In facilitating growth of the agro-processing industry to add value to primary products.
3. In facilitating crop diversification through transition from conventional, low-cash crops to high-value crops for niche market in domestic and export markets.
4. In fulfilling new stringent trade requirements for export market.

Although it appears that contract farming can potentially lead to large-scale rural poverty reduction, there are several concerns that need to be addressed by the public sector. The concerns are perhaps best discussed in the general context and also in the context of different stages of development.

While contract farming can be effective in introducing new technologies and providing external inputs to farmers, danger lies in firms extending technologies that bring financial benefits in the short-term but result in negative long-term health and environmental impacts. The public sector must make conscious efforts to ensure that sustainable production practices are being introduced through contract farming, particularly to poor farmers who are often illiterate and more prone to inappropriate use of agrotoxic chemicals.

Several concerns have been raised regarding the desirability of contract farming from a poverty and equity standpoint. The small economies of scale and the high transaction costs associated with smallholders mean that firms are likely to favor plantation-style contract farming or select farmers with larger land area and higher education for contract production, leaving poorer farmers behind. In addition, contract farming is not appropriate for all types of crops. To have a significant poverty impact, crops produced under contract farming should be labor-intensive rather than input-intensive and should be appropriate for production on small plots of land.

Although there is a tendency toward bias against small farms in contract farming, experiences suggest that contract farming of a labor-intensive or high-value crop for niche markets is more pro-poor and should be further promoted.

Many developing countries lack the laws and ensuing legal framework to support contractual agreements, and thus contracts may not be easily enforceable or legally binding. As a result, it is inevitable that distrust and the potential for opportunistic behavior exist between firms and farmers, undermining the viability of contracting.

In successful examples of contract farming, firms invested extensively to build trust among farmers, often incurring losses in the first year of the contract agreement. The success of contract farming may be dependent on sound managerial skills and the demonstration of corporate social responsibility and cultural understanding on the part of the firm.

Recommendations

To ensure that contract farming is inclusive of smallholders, production systems in which smallholders have comparative advantages should be promoted. With limited land and excess labor, smallholders typically can only compete effectively with crops in which intensive labor is required. To take further advantage of the relatively less contaminated environment in newly-opened production areas in GMS transition countries and other developing countries, however, production systems such as organic agriculture should be further explored and supported.

Firms are discouraged from engaging in unsustainable agricultural practices involving the use of high levels of chemicals. Areas in developing countries where current practices are already low-input or “organic by default” are likely to be attractive for firms wishing to produce and market safe food. Contract farming of organic food, where the supply gap is substantial in particular, is recommended as a pro-poor development strategy.

In this context, the public sector should take a strategy of encouraging more than one firm to operate in the same area to promote competition among firms. As much as possible, the public sector should avoid establishing bureaucratic requirements for firms or farmers’ organizations in order to prevent officials from seeking personal gain from private firms.

The public sector can play an important role in the development of farmers’ groups. Local governments may want to develop an information disclosure system on contract farming for farmers as well as firms. Using a “name and shame” strategy based on local values, the opportunistic behaviors could be mitigated. As a long-term strategy, as legal systems and

enforcement capacity improve, specific laws and regulations should be formulated for contract farming arrangements. Finally, public support for technical, social, and economic research and development, particularly empirical research, will be essential for effective policy formulation.

With regard to regional cooperation, contract farming represents a promising way of creating or promoting market linkages in the Asian region. Countries with well-established market linkages that are more experienced in contract farming but are now facing land and labor constraints would have it in their interest to partner with countries where such factors or production are readily available. The example of the ACMECS initiative highlighting contract farming as the single most important institutional arrangement for regional cooperation could be a consideration for other regional cooperations in Asia and the Pacific region.

The ACMACS initiative is clearly a step in the right direction, and it seems logical for these countries to capitalize on such regional initiatives, including ADB's GMS project, which further builds capacities in this area. Apart from the poverty reduction benefits, the governments of partner countries also benefit from bringing informal border trading into the formal sector through contract farming.

References

- ADB. 2004. Lao People's Democratic Republic Country Strategy and Program Update 2005-2006. Manila.
- Barrett, H.R., A.W. Browne, P.J.C. Harris, and K. Cadoret. 2002. Organic Certification and the UK Market: Organic Imports from Developing Countries. *Food Policy*, 27: 301-318.
- Baumann, P. 2000. Equity and Efficiency in Contract Farming Schemes: The Experience of Agricultural Tree Crops. Working paper 139. UK: Overseas Development Institute.
- Binswanger, H., K. Deininger, and G. Feder. 1995. Power, Distortions, Revolt and Reform in Agricultural Land Relations in Jere Behrman, and T.N. Srinivasan, eds., *Handbook of Development Economics*. Vol. 3B, Chapter 42. Amsterdam: North-Holland.
- Booth, A. 1998. *Agricultural Development in Indonesia*. Sydney: Allen and Unwin.
- Coulter, J., A. Goodland, A. Tallontire, and R. Stringfellow. 1999. Marrying Farmer Cooperation and Contract Farming for Service Provision in a Liberalizing Sub-Saharan Africa. *Natural Resource Perspective*. Oxon: CAB International.
- Dorward, A. 2001. The Effects of Transaction Costs, Power and Risk on Contractual Arrangements: A Conceptual Framework for Quantitative Analysis. *Journal of Agricultural Economics*, 52: 59-73.
- Eaton, C. S., and Andrew W. Shepherd. 2001. Contract Farming - Partnerships for Growth. *AGS Bulletin* No. 145. Rome: Food and Agriculture Organization.
- Eswaran, Mukesh, and A. Kotwal. 1985. A Theory of Contractual Structure in Agriculture. *American Economic Review*, 75(3): 352-377.
- Furusawa, K. 2005. International Cooperation and Community Development in Poverty Reduction through Organic Agriculture: The Case of Teikei and Community Direct Market Projects in Japan and Thailand. Paper presented at the ADBI Workshop on Organic Agriculture, Poverty Reduction, and the MDGs. 15-17 November 2005. Tokyo: ADBI.
- Ghee, L. K., and R. Dorell. 1992. *Contract Farming in Malaysia* in Glover, D.J., and L.K. Ghee, eds. *Contract Farming in Southeast Asia*, 71-118. Kuala Lumpur: University of Malaysia.
- Glover, D.J. 1987. Increasing the Benefits to Smallholders from Contract Farming: Problems for Farmers Organisations and Policy Makers. *World Development*, 15(4): 441-448.
- and K. Kusterer. 1990. *Small Farmers, Big Business: Contract Farming and Rural Development*. London: Macmillan.
- and L.T. Ghee. 1992. *Contract Farming in Southeast Asia: Three Country Case Studies*. Kuala Lumpur: University of Malaysia.
- Grosh, B. 1994. Contract Farming in Africa: An Application of the New Institutional Economics. *Journal of African Economics*, 3(2): 231-61.

- Hayami, Y. 2003. Family Farms and Plantations in Tropical Development. FASID Discussion Paper, Series 2003-001.
- Hayami, Y., and K. Otsuka. 1993. *The Economics of Contract Choice: An Agrarian Perspective*. Oxford: Claredon Press.
- Key, N., and D. Runsten. 1999. *Contract Farming, Smallholders, and Rural Development in Latin America: The Organization of Agroprocessing Firms and the Scale of Outgrower Production*. *World Development*, 27(2): 381-401.
- Little, P. D., and M. J. Watts, eds. 1994. *Living Under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*. Madison: University Wisconsin Press.
- Martinez, S.W. 2002. Vertical Coordination of Marketing Systems: Lessons from the Poultry, Egg, and Pork Industries. United States Department of Agriculture Agricultural Economic Report No. 807. Available: <http://www.ers.usda.gov/publications/aer807/aer807.pdf>
- MFA Thailand 2005. *Contract Farming ACMECS (in Thai)*. Available: <http://www.exim.go.th/doc/research/ACMECS/4874.pdf#search=%22ACMECS%20%22contract%20farmin g%22%20%22>
- North, D. 1990. *Institutions, Institutional Change, and Economic Performance*. Cambridge: Cambridge University Press.
- Patrick, I. 2004. Contract Farming in Indonesia: Smallholders and Agribusiness Working Together. *ACIAR Technical Reports* No. 54. Canberra: Australian Centre for International Agricultural Research.
- Setboonsarng, Sununtar, P.S. Leung, and J. Chai. 2006. Contract Farming and Poverty Reduction: the Case of Organic Rice Contract Farming in Thailand. In *Poverty Strategies in Asia*. Edited by John Weiss and Haider Khan. ADB and Edward Elgar.
- Simmons, P. 2002. Overview of Smallholder Contract Farming in Developing Countries. FAO working paper, ESA/02-04. Rome: FAO.
- Thailand Development Research Institute (TDRI). 1996. *The Potential for the Development of Contract Farming: The Case of Cotton Production in Thailand*. Final report prepared for Monsanto Thailand Limited. Bangkok: The Sectoral Economics Program, Thailand Development Research Institute.
- Warning, M., and W. Soo Hoo. 2000. The Impact of Contract Farming on Income Distribution: Theory and Evidence. Paper presented at Western Economics Association International Annual Meeting.
- White, B. 1997. Agro-Industry and Contract Farmers in Upland West Java. *Journal of Peasant Studies*. Vol. 24, No. 3.
- Williamson, O.E. 1979. Transaction-Cost Economics: The Governance of Contractual Relations. *Journal of Law and Economics*, 22: 3-61.