

Existence, Types and Opportunities of Contract Farming in East Java

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Summary

Agricultural development in East Java is still regarded as the most important one among other economic sectors as a whole. Although the potentials were very large, however the agricultural sector was still under developed. This was indicated by that most of the farmers still existed in a poor category. One possible mechanism for improving the livelihood of rural smallholders in this area and providing them with the benefits of economic liberalization is contract farming.

Contract farming refers to a system where a central processing or exporting unit purchases the harvest of independent farmers and the terms of the purchase are arranged in advance through contract (Baumann, 2000; Singh, 2002). The success of many contract farming in developing country in other part of the world inspired to review this kind of institution. It is institutions as a response to missing markets in an environment of pervasive risk, incomplete markets, and information asymmetry, which is found in many rural areas in developing countries such as Indonesia.

Objective of this paper is to clarify and discuss several types of contract farming existing in study area, also the opportunities of the agribusiness development all together. Analysis of this study based on the observation and survey of contract farming existing in 37 East Java's regencies/municipalities was conducted in the last 2001/2002. Literature references and some case of this agribusiness system in other developing countries using in this paper to give perceptive on this institution and a deep assessment point of view.

Several outcome found in this study are commodities under contract between farmers and agribusiness company established in East Java found in 21(57%) from 37 East Java's regencies/municipalities. A diversified structure of contract farming depend upon the crop, the objectives and resources of the sponsor and the experience of the farmers. Through the characterization by partnership structures based on relationship between farmers and agribusiness firms, in study area three forms of contract are discovered, i. e. informal model, intermediary model and multipartite model. Whereas, according to the contract agreement among farmer/group farmers and sponsor company, more various types contract were found in East Java.

In order to get the perfect figure of contract and to understand it profoundly, continuity of the study on this topic is necessary. Some comparative study between all the types of contract farming existing in East Java is needed. Positive and negative aspect of contract farming to the local community have to be considered, so we could be remark the ideal representation of this collaboration scheme between farmers and agribusiness firm.

Keywords: contract farming, East Java, smallholder, economic liberalization

1. Introduction

Agricultural development in East Java, "the largest population province in Indonesia", is still regarded as the most important one among other economic development as a whole. The rational base of the thought are: 1) the large potentials and the variation of the resources, 2) the large contribution to the domestic income, 3) the large percentage of her population dependent on the agriculture, and 4) this sector was being the basis for the rural economic growth, especially in the central and southern part of East Java.

Although the potentials were very large, however the agricultural sector was still under developed, and this was indicated by that most of the farmers still exist in a poor category. This indicated that the government has lack of focus on empowering the agriculture sector. The government has implemented the wrong strategy. Namely, industrialization policy focused on the capital-intensive industry, while the agricultural development only focused on food security through the increase of rice production. The inappropriate policy by the old government, lead to the footloose industries, and in the other side the development of the other agricultural sector became very poor, and traditional. Furthermore, agro industry, the most powerful agribusiness motor which involved the most of Indonesian societies, were also ignored. As a result agribusiness was still dominated by: (a) small scale, (b) limited capital, (c) simple technology, (d) very seasonal manner, (e) limited market area (local market), (f) usually operation by family labor, (g) low accessibility in credit, technology and market, (h) mono/oligopsony market of agricultural product, so that there are price exploitation existing on the farmers.

In an age of market liberalization, industrialization, globalization and expanding agribusiness, there is a danger that small-scale farmers will find difficulty in fully participation in the market economy (Yang, 1995; Murray, 2001; Rigg and Nattapoolwat, 2001). In Indonesia as developing countries, which continue on the path of economic liberalization, there is an urgent need to bring the benefits of new trade and market opportunities to rural areas. The governments decide a vision on development in the period of 2001-2004, i.e.: the achievement of prosperous society, especially farmers through the development of agribusiness system and powerful, people oriented, sustainable and decentralized agribusiness. Based on this, one possible mechanism for improving the livelihood of rural smallholders and providing them with the benefits of economic liberalization is contract farming.

Contract farming refers to a system where a central processing or exporting unit purchases the harvest of independent farmers and the terms of the purchase are arranged in advance through contract (Baumann, 2000; Singh, 2002). Eaton and Shepherd (2001) in FAO Agricultural Services Bulletin defined that it is an agreement between farmers and processing and/or marketing firms for the production and supply of agricultural product under forward agreements, frequently at predetermined prices. Regarding Warning and Key (2002), the liberalization of agriculture markets and the removal of trade barriers have accelerated the formation of these vertical relationships between growers and agro industrial firms.

The success of many farms contract in developing country in other part of the world inspired to review this kind of institution in East Java, one of the main agriculture provinces in Indonesia. In Asia region, for example, there has been widespread use of contract farming and in many in-

stances smallholders are actively participating. In Punjab, India Contract Farming in Vegetable Crops led to higher farm income and more employment for labor (Singh, 2002). In Thailand and Malaysia contract farming has been a central component of the government development plan and its strategy of integrated agricultural development generated through the private sector especially for tree crop such as palm oil and rubber (Baumann, 2000). The Philippine introduced more crop such as coffee, banana, pineapple, asparagus and hybrid maize seed (Baumann,2000; Vellema, 2002).

For Latin America, in Mexico, smallholders are contracted to produce frozen vegetables for export to the United States (Rusten and Key, 1996; Key and Rusten 1999). The processing tomato developed under contract with growers in Mexico and Dominican Republic in response to excess supply in the fresh tomato market and has the increasing demand of labor (Rusten and Key, 1996;Raynolds, 2002). An emerging trend in many parts of Africa: farmers and agribusinesses are linking up in mutually beneficial contracting arrangements that offer producers lower market risk and greater access to inputs and financing, and ensure processors a guaranteed supply of farm produce. In Senegal, a private firms from French works with 32,000 contracting farmers who produce 40,000 tons of peanuts annually for processing into oil peanut and export to the Europe market (Warning and Key, 2002). In Zambia, Zimbabwe and Uganda, contract farming has a vital role to play in provision of agricultural service to smallholder particularly for cotton, tobacco and some high valuable horticultural commodity for export (Coulter et al.,1999). By the mid-1980 s more than 230,000 households in Kenya were involved in the contract production of tea, sugar, oilseeds, tobacco and horticultural commodities. In Ivory Coast, smallholdings-called "Plantation Villageoises"-are expending around the large industrial complexes created by government for the exploitation of rubber and palm oil (Baumann,2000). In each of these cases, smallholders are realizing the economic benefits of liberalization.

2. Contract Farming: The Intersection of Production and Market, In Response to Market Failure

Contract farming is a widespread and important tool for organizing agricultural product in line with corporate strategies and market demands. Around the world, growing number of small farm enterprises are being integrated into expanding agro-industrial sectors through the use of production contracts (Raynolds 2002;Vellema, 2002). It is institutions as a response to missing markets in an environment of pervasive risk, incomplete markets, and information asymmetry, which are found in many rural areas in developing countries (Rusten and Key,1996; Key and Runsten,1999;Warning and Hoo, 2000; Singh, 2002; Warning and Key, 2002).

For different reasons both farmers and farm product processors/distributors may prefer contracts to complete vertical integration. The contract may link corporation buyers with growers ranging from small household producers to large commercial enterprises. A farmer prefers a contract which can be terminated on reasonably short notice, in order to complete vertical integration which is virtually irreversible. Formal contracts specify production and purchasing procedures as well as credit and pricing mechanism. Typically growers provide the requisite land and labor, while buyers provide specialized planting material and chemical input. They also get access to

new technology and other inputs which otherwise may be outside their reach. On the other hand, for an agribusiness firm besides providing the raw materials of the assured and stable quality, the contract are more flexible in the face of market uncertainty (Raynolds, 2002; Singh 2002).

At the macro economic level, the contract can help to remove market imperfections in produce, capital (credit), land, labor, information and insurance market, lead to better coordination of local production activities which often involve initial investment in processing, extension, etc., and can reduce transaction cost (Rusten and Key, 1996, Key and Rusten 1999). This institution can have potential benefits both for farmers as producer and for the contracting firms which act as marketing channel, and it can overcome some of the market failures inherent in rural economic systems in developing countries such as Indonesia.

There are three observations that it is useful to bear in mind in considering the constitution of contracts. The first is that the contract is the means by which risk is distributed between the out grower and the contractor. The second is that the contract is a representation of a relationship rather than the relationship itself (White, 1997) and in relation to this, the constitution and administration of a contract is highly dependent on the political and economic environment in which it is embedded. Contracts can be thought of as the difference in intensity between those that pay the market price on delivery and those in which every detail, including the production process and price, is fixed (Glover and Kusterer, 1990). The division of value added between the grower and the contractor is determined by the policy objectives of the scheme (whether purely commercial or not); crop characteristics and the dependencies upon these create; the economic strength of the contractor and out grower; and the alternative markets available to them. The following table outlines the typical rights and obligations in smallholder contracts.

Table 1. Rights and Obligations of Farmer and Project Authority in Smallholder Contracts.

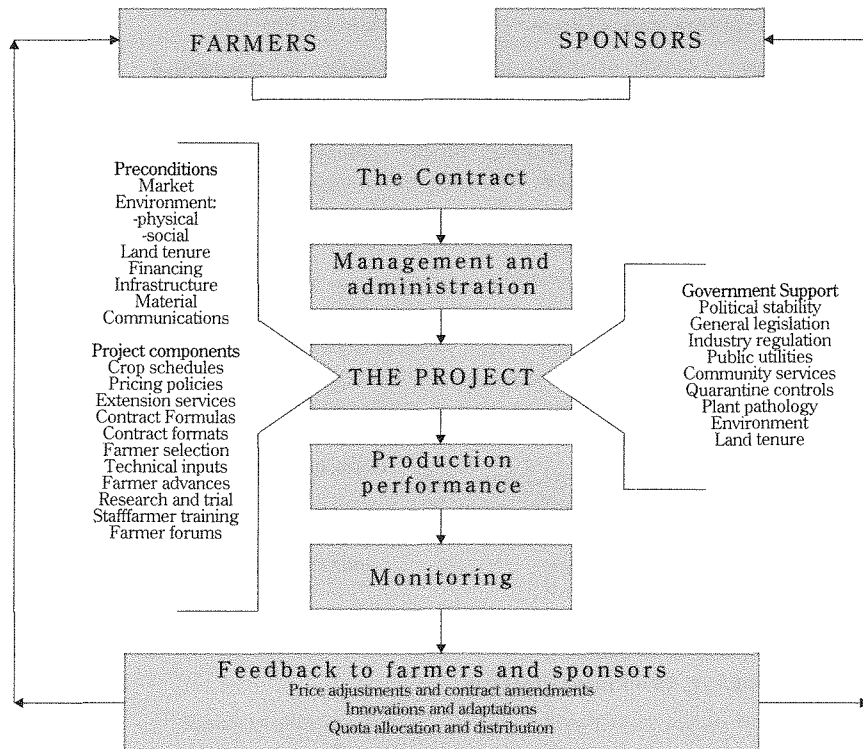
Farmer's Obligations	Project Authority Obligations
1. Use land for purposes specified in contract	1. Supply credits and inputs
2. Follow production regulations specified in contract	2. Provide technical and managerial support
3. Maintain internal farm roads and drains	3. Maintain infrastructure
4. Sell crop through project authority	4. Purchase all production of acceptable quality
5. Reply loan	5. Pay farmer according to agreed formula
	6. Maintain accounts in a comprehensible form
Farmer's Rights	Project Authority Rights
1. Timely receipt of service and payments specified as obligations of project authority	1. Timely recovery of payment for services provided to farmers
2. Compensation in the event of default by project authorities on any of its obligations	2. Purchase of crops as specified in contract and imposition of penalties in the event of default

Source: Baumann, 2000

To be successful, it requires a long-term commitment from both parties in the contract farming project. It must be stressed, however, that the decision to use the contract farming modality must be a commercial one. It is not a development model to be tried by aid donors, governments or non-governmental organizations (NGOs) because other rural development approaches have failed. Projects that are primarily motivated by political and social concerns rather than economic

and technical realities will inevitably fail (Eaton and Shepherd, 2001). Figure 1 shows diagrammatically a hypothetical contract farming framework.

Figure 1. A Contract Farming Framework



Source: Eaton and Shepherd, 2001

From an institutional economic perspective, contract farming could be looked upon as a way of creating positive externalities, which can result in overall rural development, if they are better created by agribusiness firms than by the open market or the state. Thus, besides raising grower's incomes, contract farming may also create positive multiplier effects for employment, infrastructure, and market development in the local economy (Key & Runsten, 1999).

3. Contract Farming in East Java

A diversified structure of the contract farming depends on the crop, the objectives and resources of the sponsor, and the experience of the farmers. Contracting out production is a commercial decision to facilitate an adequate supply within a designated period and at an economic price. Any crop or livestock product can theoretically be contracted out by using any of the models; however, certain products favor specific approaches. Based on the observation and survey of contract farming existing in 37 East Java's regencies/municipalities conducted in the last 2001/2002 several outcome found are as follow.

3.a. Commodities and Location

Commodities under contract between farmers and agribusiness company found in 21(57%) of 37 East Java's regencies/municipalities. The result of survey is presented in table 2 below, which is summarized from inventory of contract farming.

Table 2. Commodity and Distribution of Contract Farming Established in East Java

Commodity	Regencies where Contract was Established	Total Regency
1. Food Crop		
a. Rice/Paddy	Pasuruan, Malang, Gresik, Lamongan, Magetan, Tulungagung, Ngawi, Blitar, Tuban, Nganjuk, Banyuwangi, Sampang, Pamekasan, Sumenep	14
b. Corn	Malang, Gresik, Probolinggo, Blitar, Jember, Nganjuk	6
c. Soybean	Pasuruan, Jember,	2
d. Cassava	Bondowoso	1
2. Horticulture		
a. Vegetables	Pasuruan, Probolinggo, Kediri, Magetan, Jember, Sampang	6
b. Fruits	Pasuruan, Gresik, Pacitan, Trenggalek	4
3. Estate Crop		
a. Sugarcane	Malang, Probolinggo, Kediri,	3
b. Tobacco	Bondowoso, Jember	2
c. Coconut	Jember	1
d. Cotton plant	Pacitan,	1
e. Cocoa	Pacitan,	1
f. Herb	Kediri,	1
g. Sengon, bamboo (Timber/pulp)	Bondowoso, Magetan	2
4. Livestock		
a. Cow/cattle	Bojonegoro, Malang, Pasuruan, Blitar	4
b. Poultry	Malang, Probolinggo	2
5. Fisheries	Kediri, Probolinggo, Banyuwangi, Blitar	4

Source: Field Survey, 2001

3. b. Characteristic by Partnership Structures

According to Eaton and Shepherd (2001), in the system of Agribusiness, there are five forms of Contract Farming based on relationship between farmers and agribusiness firms. The five forms of Contract farming are: (1) The centralized model, (2) The nucleus estate model, (3) The multipartite model, (4) The informal model, and (5) The intermediary model. Decisions by sponsors on the type of model to follow should be made on the basis of market demand, production and processing requirements and the economic and social viability of plantation versus small-holder production. Generally, characteristic of contract Farming structure as presented in table 3.

From various commodities under contract founded in East Java, we discovered and defined contract farming pattern in East Java into three types as described below.

3.b.1. Informal Model

This type of contract farming is more popular in East Java as a traditional system of market-

Table 3. Characteristics of Contract Farming Structures

Structure Model	Sponsor	General Characteristics
Centralized	Private corporate sector; State development agencies	Directed contract farming. Popular in many developing countries for high value crops. Commitment to provide material and management inputs to farmers.
Nucleus estate	State development agencies Private/public plantations; Private corporate sector	Directed contract farming. Recommended for tree crops, e.g. oil palm, where technical transfer through demonstration is required. Popular for resettlement schemes. Commitment to provide material and management inputs to farmers.
Multipartite	Sponsorship by various organizations, e.g. ● State development agencies ● State marketing authorities ● Private corporate sector ● Landowners ● Farmer co-operation	Common joint-venture approach. Unless excellent coordination between sponsors, internal management difficulties likely. Usually, contract commitment to provide material and management inputs to farmers.
Informal developer	Entrepreneurs Small companies Farmer co-operation	Not usually directed farming. Common for short-term crops; i.e. fresh vegetables to wholesalers or supermarkets. Normally minimal processing and few inputs to farmers. Contracts on an informal registration or verbal basis. Transitory in nature.
Intermediary (tripartite)	Private corporate sector State development agencies	Sponsors are usually from the private sector. Sponsor control of material and technical inputs varies widely. At time sponsors are unaware of the practice when illegally carried out by large-scale farmers. Can have negative consequences.

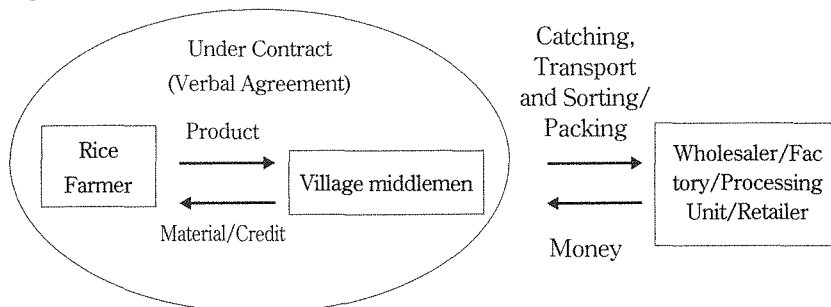
Sources: Eaton and Shepherd, 2001

ing agricultural product such as vegetables, fruit or food crop especially rice, corn, and cassava. Each farmer will sell his products to middlemen with whom they had a contract before. This type has verbal agreement between both of them. The farmer will buy materials himself or obtain credit from middlemen. This debt will be cleared after the farmer sells his products to the middlemen. Farmers of this kind of contract farming may feel free or independent but there is a risk with price fluctuation in the market.

This model applies to individual entrepreneurs or small companies, who normally make simple, informal production contracts with farmers on a seasonal basis. Crops usually require only a minimal amount of processing. Material inputs are often restricted to the provision of seeds and basic fertilizers, with technical advice limited to grading and quality control matters. A common example of the informal model found in East Java shows where the sponsor, after purchasing the crop, simply grades and packages it for resale to the retail trade. Supermarkets frequently pur-

chase fresh produce through individual developers and, in some cases, directly from farmers. Financial investment by such developers is usually minimal.

Figure 2. Case of Informal Model Type (Rice Farmer's Contract) in East Java

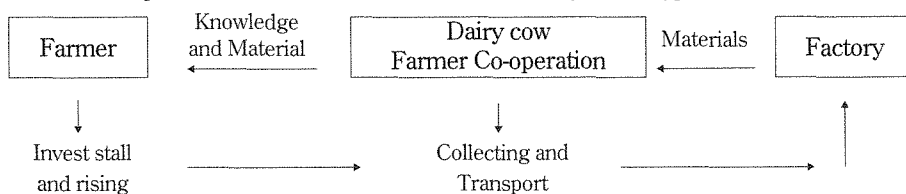


Source: Field Survey, 2001

3.b.2. The Intermediary Model

In this model commonly large food processing companies and fresh vegetable or fruit entrepreneur purchase crops from individual "collector" or from farmer committees/co-operation, who have their own informal arrangement with farmers. The company needs some middlemen to supply a given quota and lets them identify farmers to be the members. The company supplies farmers with some material to maintain the quality of production and collects their products. In East Java this type of contract farming is concerned with the agro-industry or agribusiness companies (such as some kind of fruits and vegetables, tapioca, baby corn, broiler-chicken, milk processing factory, etc.) that need raw material for their factories.

Figure 3. The Contract Farming System of Dairy Cow, Case of "Setia Kawan" Dairy Cow Farmer Co-operation with PT Nestle Indonesia (Intermediary Model Type)



Source: Field Survey, 2001

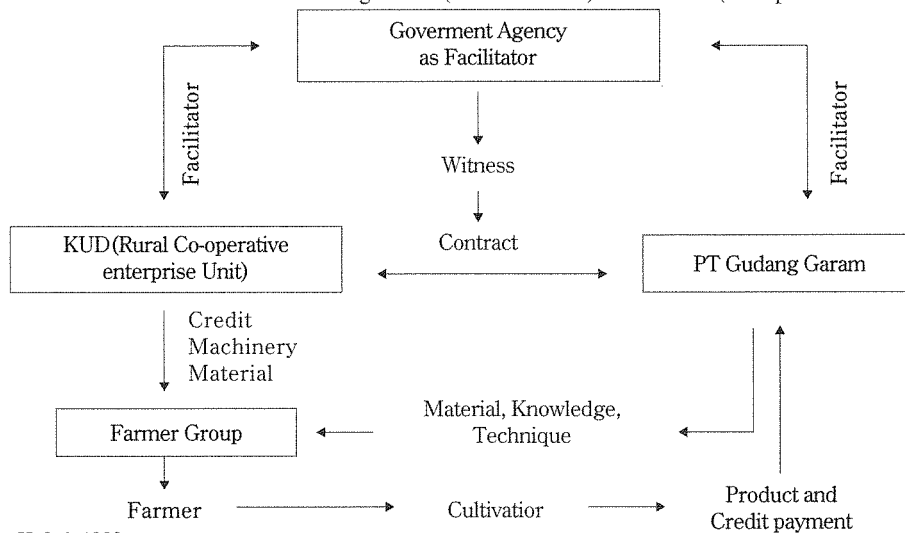
3.b.3. The Multipartite Model

This type of contract farming involves legal bodies such as group farming or co-operation farming and private companies jointly participating with farmers. Multipartite contract farming may have separate organizations responsible for credit provision, production, processing, management, and marketing. Recently in East Java, government has actively invested in contract farming through joint venture with the private sector. The agribusiness companies which export these products to the world market need to control both quality and quantity of the production, so they must deal directly with contract farmers to set up the farmer groups with support from the government. In this type of contract farming, farmers will have more power and security with the

market and price of products but they must manage their farm under the directions of the group.

This form is characterized by that contract partner groups provide land, infrastructure, and labor from their member farmers, while the partner companies provide cost, capital, management, and the provision of inputs in order to carry on or cultivate an agricultural commodity. Besides that, the partner companies also often play the role as the market insurers for the product, amongst all also process the product and pack it to be marketed. Many of such partnership form are found in estates, such as sugarcane estate, tobacco estate, hybrid Seed Company and some of valuable horticulture product. Such partnership form is marked by the agreement about the distribution of products and risks in the agricultural commodity business.

Figure 4. Case of Contract between PT Gudang Garam (Tobacco Estate) and Farmers (Multipartite Model Type)



Source: Hafsa, 1999

The main characteristic of each contract farming types that exist in East Java are summarized in table 4 below.

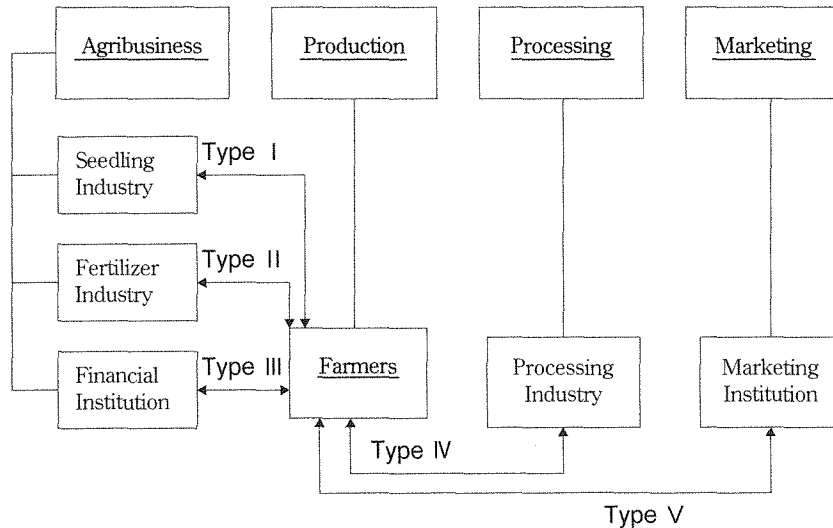
Table 4. Characteristics of Contract Farming Structures in East Java

Structure Model	Informal developer	Intermediary	Multipartite
Sponsors	Most of invest by farmer and some part from middlemen with interest	Most of invest by farmer and some part from factory through local middlemen or "collector" or Farmers Committees	Agribusiness company support some input and technology to get high quality of product
Agreement	Non or verbal or gentlemen agreement	Loosely written agreement between factory and quota middlemen or collector	Written agreement between group and agribusiness company
Commodity	Local consumption good such as vegetable and local fruits	Raw material for agro-industry, or valuable fruits and some estate crop	Export good or seed that need high quality of product
Marketing	Local middlemen come to collect the product with the market price	All product collected by quota middlemen or collector and send directly to factory or exporting company	All product collect by group with fixed price all year and standard quality

3.c. Characteristic by Contract Agreement

Based on the contract agreement between farmer/group farmer with sponsor company, in East Java hypothetically contract farming could be differentiated by: a) the kind of agribusiness institution which is collaborated with farmers, in detail, as figure 5 illustrated, and b) type of farm activities which supported by sponsor company, as illustrated in table 5.

Figure 5. Types of Contract Farming based on the kind of Agribusiness Institutions Involved



Type I for example (collaboration between seed industry and farmers), usually are associated with food crops such as rice, corn and soybeans. Type II is implemented in food crops, vegetables, and fruit crops, this collaboration is between fertilizer industries and farmers who need material support. Type III (between financial institution and farmers) implemented in Food crops, almost

Table 5. Types of Contract Farming based on Farm Activities which Supported by Sponsor Company

Types	Credit Supply	Input Supply	Technology Transfer	Post harvest & Processing	Marketing
Type A					X
Type B	X				X
Type C		X			X
Type D			X		X
Type E				X	X
Type F	X	X			X
Type G	X		X		X
Type H	X			X	X
Type I		X	X		X
Type J		X		X	X
Type K			X	X	X
Type L	X	X	X		X
Type M		X	X	X	X
Type N	X		X	X	X
Type O	X	X		X	X
Type K	X	X	X	X	X

all of horticulture product, and fruit crops. Type IV usually for commodities sugarcane, animal husbandry (diary cattle), and fisheries, while type V are implemented in fruit crops, vegetables, tobacco, coffee, coconut, cacao etc.

In table 5, these types of contract farming are implemented differently among commodities presented in table 2. In East Java each kind of commodity under contract might be obtaining more than one type. Food crops for example, commonly are implemented type B, C, and may be A, while horticulture and fruit crops typically included in type K, E, or just B, and so on.

4. Conclusion

This paper illustrated existence of contract farming in East Java and the opportunities in the agribusiness development all together. Contract farming can be seen as the vertical integration or vertical coordination of two or more firms (or between farmers of an agricultural product and buyers or processors of those products). Contracts may provide production inputs, credit, and extension services to farmers in return for market obligations to buyers or processors. In order to get the perfect figure and of how to understand it profoundly, continuity of the assessment on this topic is necessary. The essential things that have to be considered in the study is, based on the preliminary observation there are many types of contract farming exist in East Java, which associated with the characteristic of the type of farming and commodities. However, some comparative study between all the types of contract farming in East Java is needed. Positive and negative aspect of contract Farming to the local community have to be considered, so we could be remark the ideal representation of this collaboration scheme between farmers and agribusiness firm.

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東ジャワにおける契約農業の存在、形態と設立機会

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摘 要

東ジャワにおける農業部門の発展は、経済諸部門発展のなかで、最も重要なものとしてみられてきた。その農業部門の潜在力は極めて大きいけれども未発達な状況にあり、貧困層に属する多くの農民達によって担われている。この東ジャワ地域で、零細経営農家の生活水準を改善し、経済自由化の利益を農民に供与できるメカニズムが契約農業であると思われる。

契約農業は、中央の加工業者や輸出業者が自営農家から農産物を購入するシステムであり、その購入諸条件をあらかじめ契約によって調整できるシステムである（バウマン、2000年、シン、2002年）。世界の他の発展途上国における多くの契約農業の成功事例は、この種の制度を再吟味すべきことを示唆している。契約農業は、拡大するリスク、不完全な市場、情報不均衡の環境下における市場消失への対応としての制度であり、インドネシアのような発展途上国の多くの地域で見られる。

この研究の目的は、この研究対象地域にある契約農業の幾つかのタイプを特徴づけ比較分析し、同時にアグリビジネス発展の条件を検討することである。この研究における分析は、2001年から2002年にかけて行った東ジャワ37地方自治体にある契約農業に関する調査結果に基づいている。また、他の開発途上国におけるこのアグリビジネス・システムに関するいくつかの参考文献と実態報告は、この制度に関する十分な知覚と深い評価を行うのに、参照されている。

この研究によって判明したいくつかの成果は、農民達と東ジャワの37地方自治体のうち21地方自治体（57%）で設立されているアグリビジネス会社との契約下、多様な農産物の契約農業が行われていることである。契約農業の多様な構造は、その作物、スポンサーの種々の目的や資源、農民達の経験に依っている。契約関係の特徴は農民とアグリビジネス間の関係に基づくが、この研究地域では、3契約形態、すなわち、非公式のモデル、中間のモデルと多部に分かれたモデルが発見された。さらに、農民や農民グループとスポンサー会社間の契約協定に基づき、より多様なタイプが東ジャワで見られている。

契約農業の完全な形を得る為に、それを深く理解するために、この課題の研究は継続される必要がある。東ジャワに存在する契約農業全てのタイプ間の比較研究が必要であり、地域社会に対する契約農業の積極的、非積極的な面が検討されなければならない。その結果、私達は農民とアグリビジネス間共同の理想的な契約農業形態を提示できると考える。