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Institutional Arrangements of Sugar Cane Farmers in East Java – Indonesia: Preliminary Results

Ahmad Erani Yustika

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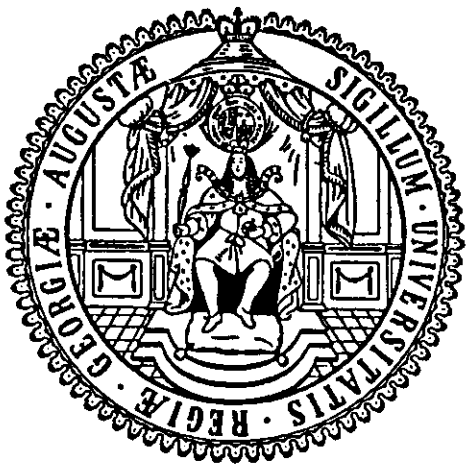

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Ahmad Erani Yustika

Abstract

In 1930's decade, Indonesia was recognized as one of the great sugar producing countries in the world. Sugar cane is mostly grown in East Java Province. This area contributes about 50 percent to national sugar production. However, the performance of sugar industry in East Java during the last decade has declined, which is shown in decreasing volume of production and increasing sugar price. Some analyses concluded that the decrease in production results from old milling machine. Another analysis inferred that the sugar cane farmers shift to other plants due to the long procedure in sugar production. The findings, of course, provided the description of the cause of the deterioration of sugar industry in East Java.

Nevertheless, a deeper investigation for the cause of decreasing production and increasing price of sugar should be made again. This study utilized the analysis of institutional arrangement to identify the problems. In details, this research empirically compared contract (credit) and non-contract (non-credit) sugar cane farmers. This research found that institutional arrangements between economic actors in sugar industry is not suitable, especially for sugar cane farmers. In the case of share-yield system, due to lack of institutional arrangements, sugar cane farmers rarely get any molasses share from sugar mill. Another, in the credit point of view, cooperative usually bears on sugar cane farmers the higher interest from legal rules. Lastly, when cooperative gives aid in the form of seed/fertilizer to sugar cane farmers, it is done intransparently.

Key words: institutional arrangements, contract systems, sugar cane farmers, East Java, Indonesia

1. Introduction

1.1 Background

East Java has at least begun to attract some attention as an important economic region in its own right and as a counterweight to the longstanding economic dominance of Jakarta-West Java. **East Java's pioneer industries were established as early as the mid 19th century to serve an emerging plantation economy** (DICK, 1995:41). Trading networks in East Java and beyond quickly developed to carry the produce of the more intensive and diversified practice of agriculture onto the markets (ELSON, 1984:9). West and Central Java also produced sugar, coffee and tobacco, but East Java's output soon surpassed those parts of Java that had been more intensively exploited by the East India Company. The sugar industry was able through improved cane varieties and application of chemical fertilizers to boost its productivity, especially during the 1920s (DICK, 1995:43). Also, a high yield of sugar per hectare was achieved by intensive and efficient cultivation based on an excellent irrigation system, by the utilization of the best land in every region and, last but not least, by the use of superior quality cutting developed by the research institute maintained by the sugar mills (MUBYARTO, 1969:40).

Because of heavy damage to factories during the Revolution, post-independence exports never exceeded the 1954 figure of just 212,000 tones for the whole of Java, and they then rapidly fell away, ceasing altogether after 1966. (DICK, 1995:45). In order to cope this problem, in April 1975 the **Government issued Presidential Instruction (Inpres) 9/1975, setting up the Intensified Smallholder Cane** (*Tebu Rakyat Intensifikasi*, hereafter TRI) programme (MUBYARTO, 1977:29; BROWN, 1982:39; ISMA'IL, 2001:4). Briefly put, the programme had two prime objectives: changing the basic structure of the industry from one in which the mills grew cane on land rented in from smallholders to one in which the smallholders themselves took on the entrepreneurial role producing cane on their own land; and raising the nation's total production of refined sugar, reducing the import bill and eventually achieving self sufficiency (BROWN, 1982:39; MARDJANA, 1995:96).

1.2 Problem Setting

The experience of the **TRI programme shows that individual smallholder have frequently not received the full benefits** of the programme to which they are entitled (BROWN, 1982:59; MARDJANA, 1995:96-97). *First*, farm size: The efficient cultivation of cane generally requires blocks of land at least 10 hectares in area. With average farm sizes in Java of less than 0.5 ha, smallholders have had to find ways to amalgamate their land. *Second*, under the programme, the landholder became the cultivator and the mill in a sense a contractor to the farmer. It is in connection with the

provision of these services that most of the new conflicts between landholders and mills have arisen, such as profit-sharing activity (ROESMANTO, 2000:48). *Third*, problem relating with institutional setting (management) of mills (sugar factories) that usually placed farmers in the marginal position, for example in the calculation of sugar content of the cane (*rendement*).

In short, the recent condition of Indonesian sugar industry have a same situation like in Fiji, which what the calls "**core inefficiencies**." The series of core inefficiencies are: (i) low sugar cane quality; (ii) cane burning; (iii) mill inefficiencies; (iv) transport inefficiencies; and (v) payments system to farmers (SNELL and PRASAD, 2001:261-262). Some of the research were conclude that sugar industry inefficiency is caused by lack of raw material, decreasing of productivity and sugar content (ISMA'IL, 2001:6-9), milling process inefficiency (MARTOYO, 2000:10), and sugar loss during cut-load-carry/TMA (DARMAWAN, et. al, 2000:6). **However, from their research were not study sugar industry inefficiency from an institutional perspective** (ARUM, 2000:39), in which the factor is very likely to be the source of sugar industry inefficiency. With this background, **this research focus on efforts to describe institutional arrangement of sugar cane farmers and economic actors.** Sugar cane farmers issue will be divided into contract (credit) and non-contract (non-credit) sugar cane farmers.

1.3 Research Questions and Objectives

1.3.1 Research Questions

The research will be addressed to the following questions:

1. Who are the economic actors/parties (institutions) that related to sugar cane farmers in sugar industry?
2. How are the relation pattern between sugar cane farmers (contract and non-contract) and economic actors in sugar industry?
3. What are the institutional arrangements that have been done by sugar cane farmers (contract and non-contract) and economic actors in sugar industry?

1.3.2 Research Objectives

The objective of this research is to examine three issues:

1. To describe the economic actors/parties (institutions) that related sugar cane farmers in sugar industry
2. To identify the relations between sugar cane farmers (contract and non-contract) and economic actors in sugar industry
3. To analyze the institutional arrangements between sugar cane farmers (contract and non-contract) and economic actors in sugar industry

2. Theoretical Framework

2.1 New Institutional Economics: From Individuals to Institutions

In recent years economists have given increasing attention to the set of ideas that has come to be known as **New Institutional Economics** (NIE). These ideas have been developed by a variety of writers, the first of whom began working on them in the 1930s. It is only recently that the similarities in the ideas have led to them being considered under the common banner of NIE. NIE is both a challenge to, and a development of, the idea of neoclassical economics. As such, NIE has contributors of various political persuasions. RONALD COASE, one of the "founding fathers," developed his ideas on economic organization to spearhead an intellectual assault on American competition policy and industrial regulation in the 1960s, championing the cause of economic and entrepreneurial freedom. However, NIE is also attractive to some left-wing thinkers, who see it as providing an intellectual basis for challenging the supremacy of neoclassical, free-market economics (POULTON, et. al., 1998:8).

WILLIAMSON coined the phrase "New Institutional Economics" to distinguish it from the "**Old Institutional Economics**" pioneered by COMMONS and VEBLEN (KHERALLAH and KIRSTEN, 2001:2; COASE, 1998:72; NABLI and NUGENT, 1989:3). The old institutional school argued that institutions were a key factor in explaining and influencing economic behavior, but there was little analytical rigor and no theoretical framework in this school of thought. It operated outside neo-classical economics and there was no quantitative theory from which reliable generalization could be derived or sound policy choices made. Neo-classical economics, on the other hand, ignored the role of institutions; economic agents were assumed to operate almost in a vacuum.[1] **The NIE acknowledges the important role of institutions, but argues that one can analyze institutions within framework of neoclassical economics.** In other words, under NIE, some of the unrealistic assumptions of neo-classical economics (such as perfect information, zero transaction costs, full rationality) are relaxes, but the assumption of self-seeking individuals attempting to maximize an objective function subject to constrains still holds. Furthermore, institutions are incorporated as an additional constrains under NIE framework (KHERALLAH and KIRSTEN, 2001:2).[2]

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[1] Old institutionalists believe in path dependency (i.e. the importance of historical contexts), the autonomy of institutions, evolutionary economics, and holistic approach to economics, that is, one that considers cultural and political factors of motivation, interaction, and organization. See, Anil Hira and Ron Hira, The Institutionalism: Contradictory Notions of Change, *American Journal of Economics and Sociology*, Vol. 59, No. 2, April 2000, p. 268

[2] The new institutionalism draws greater legitimacy because of its roots in (traditional) neoclassical economic theory. Rather than seeking to replace neoclassical economics, the new institutionalists wish only to modify the rational choice, utility-based neoclassical model by relaxing some of its assumptions. The new institutionalism focuses on the central assumption of zero transactions costs in neoclassical

A key difference between the "old" and the "new" institutionalism here is that in the former the concept of habit is central. **For the "old" institutionalists, habit is regarded as crucial to the formation and sustenance of institutions. At the opposite end of the spectrum, the "new institutional economics" gives no more than weak stress to the processes of institutional conditioning, and focuses primarily on the emergence of institutions out of the interactions of given individuals** (HODGSON, 1998:180-181; WILLIAMSON, 1998:75). The characteristic "new" institutionalist project is the attempt to explain the emergence of institutions, such as the firm or the state, by reference to a model of rational individual behavior, tracing out the unitended consequencies in terms of human interactions. An initial institution-free "state of nature" is assumed. The explanatory movement is from individuals to institutions, taking individuals as given. This approach is often describes as "methodological individualism" (HODGSON, 1998:176).

At the core of the NIE stands the COASE theorem (COASE, 1960): In a hypothetical world with no costs of reaching and enforcing contracts –and generally only in such world- would all potential gains from trade be realized irrespective of the distribution of property rights and institutional arrangements.[3] In the real world, however, carrying out a transaction is associated with costs. Transaction costs arise especially because of contractual hazards of trade between opportunistic actors under uncertainty. To realize (most of) the potential gains from trade parties involved have to cooperate. Their actions have to be coordinated and the parties must be motivated to comply with their contractual duties. The contractual relationship must be carefully *designed* and *governed.* **For analyzing institutional arrangements, NIE focuses on the specific features of transactions, the nature and size of transaction costs, and on the way institutions affect these transaction costs** (BICKENBACH, KUMKAR, and SOLTWEDEL, 1999:2).

2.2 Institutional Environment and Institutional Arrangement

It is important to note that the NIE operates at two levels –macro and micro. The macro level deals with the ***institutional environment***, or the rules of the game, which affect the behavior and performance of economic actors and in which organizational

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economic models as the main gap to be filled. New institutionalists therefore seeks to integrate institutional analysis within a neoclassical economic framework and to include institutional change as an important variable to be studied. See, Anil Hira and Ron Hira, ibid, p. 269

[3] NIE deals with the question of how individuals adapt their behavior to the constrains imposed by institutions, i.e. by specified systems of rules. It examines how the costs of economic transactions are influenced by the structure of property rights and contractual relations. See, Dietrich Müller-Falcke, *Informal Sector Enterprises in the Light of New Institutional Economics*, International Business Series 24, International Department Institute of Small Business, University of Göttingen, Germany, 1997, p. 3

forms and transactions are embedded. WILLIAMSON describes it as the set of fundamental political, social, and legal ground rules that establish the basis for production, exchange and distribution. Rules governing elections, property rights, and the rights of contract are examples of ground rules that make up an economic environment. The micro level analysis, on the other hand, also known as the ***institutional arrangement***, deals with the institutions of governance. An institutional arrangement is an arrangement between economic units that governs the ways in which these units can cooperate or compete. An ownership arrangement is an institutional arrangement that allocates the property rights to individual, a group of individuals, or government (TIAN, 2001:387; KHERALLAH and KIRSTEN, 2001:4; GROENEWEGEN, et.al, 1995:5). These, according to WILLIAMSON (KHERALLAH and KIRSTEN, 2001:5), refer more to the modes of managing transactions and include market, quasi-market, and hierarchical modes of contracting. The focus here is on the individual transaction and questions regarding organizational forms (vertical integration versus out-contracting) are analyzed. **For WILLIAMSON, the institutional arrangement is probably the closest counterpart of the most popular use of the term "institution."**

All these definitions, "new" and "old" institutionalists alike, involve a relatively broad concept. They encompass not simply organizations –such as corporations, bank, and universities- but also integrated and systematic social entities such as money, language, and law. The case for such a broad definition of institutions is that all such entities involve common characteristics (HODGSON, 1998:179):

- All institutions involve the **interaction of agents**, with crucial information feedbacks
- All institutions have a **number of characteristic and common conceptions and routines**
- Institutions sustain, and are sustained by, **shared conceptions and expectations**
- Although they are neither immutable nor immortal, institutions have **relatively durable, self-reinforcing, and persistent qualities**
- Institutions **incorporate values, and process of normative evaluation**. In particular, institutions reinforce their own moral legitimation: that which endures is often –rightly or wrongly- seen as morally just.

NIE starts from the reality that information is rarely complete, and that individuals have different ideas (or mental models) of the way in which the world about them works. Transactions thus have costs associated with them which are assumed not to exist in the neo-classical model: these are the costs of finding out what the relevant prices are, of negotiating and of concluding contracts, and then of monitoring and enforcing them. **Institutions are broadly defined as means of reducing these**

information and transaction costs. To summarize, according HARRIS, HUNTER, and LEWIS (1995:3), the NIE is a development of neo-classical economics to include the role of transaction costs in exchange and so to take account of institutions as critical constraints on economic performance.

2.3 Contractual Arrangements and the Diversity of Contracts

In transaction cost economics (TCE), the basic unit analysis is a "contract" or a single transaction between two parties in an economic relationship. The contracts are generally promises whereby one party agrees to take an action of economic value to the other, in return for some reciprocal action or a payment.[4] These actions are generally taken with different degrees of observability, at different points in time, and with different degrees of sunkenness or reversibility. In TCE, an external contract-enforcement agency, namely the legal institution governing the contract, is assumed to exist, although its performance is again constrained by the difficulties of verifying whether, or how well or badly, the parties have met the conditions of the contract, and it is recognized that sometimes bilateral private mechanisms of dispute resolution may outperform external enforcement. In other words, TCE assumes that contracts are enforceable within the limits of the existing legal institutions and the available information (DIXIT, 1996:48).

The concept of the contract in NIE is, just as the concept of property rights, broader in scope than the legal concept of the contract (RICHTER, 1994). Basically; each type of exchange of property rights can be modelled as a transaction that is governed by a contract (BIRNER, 1999:48). **In standard (neoclassical) theory it is usually assumed that *complete contract* can be costlessly written and enforced. In reality, however, to write and enforce complete contracts is very difficult, because of transaction costs**. One possible way to model problems related to informational impactedness is to assume transactors be able to write and enforce *comprehensive contracts* only. Such contracts are conditioned only on contingencies that are observable by both parties, and in case of dispute can be verified by third parties (such as courts). This is usually assumed in the normative principal-agent theory (incentive theory under incomplete information). However, as long as it is assumed that comprehensive contracts can be written (and enforced) at no cost between all relevant parties, the boundaries of the firm

[4] The contract is one whereby the factor, for a certain remuneration (which may be fixed or fluctuating), agrees to obey the directions of an entrepreneur *within certain limits*. The essence of contract is that it should only state the limits to the powers of the entrepreneur. Within these limits, he can therefore direct the other factors of production. See, Ronald Coase, *The Firm, the Market, and the Law*, The University of Chicago Press, Chicago and London, 1988, p. 39

and the allocation of competencies in private or public organizations are difficult, if possible at all, to explain (BICKENBACH, KUMKAR, and SOLTWEDEL, 1999:3-4).

In reality contracts are always incomplete because of two main reasons[5] (KLEIN, 1980:356-358). *First*, **uncertainty** implies the existence of a large number of possible contingencies and it may be very costly to know and specify in advance responses to all of these possibilities. *Second*, **particular contractual performance**, such as the level of energy an employee devotes to a complex task, may be very costly to measure. Therefore contractual breach may often be difficult to prove to the satisfaction of a third-party enforce such as a court. Most actual contractual arrangements consists of a combination of explicit –and implicit, enforcement mechanism. Some elements of performance will be specified and enforced by third-party sanctions. In addition to contract costs, and therefore the incompleteness of the explicit contract, we emphasized the presence of appropriable quasi rents due to highly firm-specific investment.

Therefore, in a world of positive transaction costs, **contractual or institutional arrangements (government structures) are both costly and imperfect**. Therefore, measured against the standards neoclassical first-best, not all potential gains from trade can be realized. Some arrangements, however, are associated with lower transactions costs than others; the choice of governance structure influences efficiency. Which governance structure will (*should?*) actually be chosen is influenced by the *institutional environment*, i.e. the basic political, legal and social rules of the game that define the context in which economic activity takes place. The institutional environment influences both the set of governance structures that can actually be chosen, and their comparative efficiency (BICKENBACH, KUMKAR, and SOLTWEDEL, 1999:5).

An important and intriguing issue concerns the persistent coexistence of different contractual arrangements within the same sector and within the same institutional environment. Using a very extensive study based on more than 21,000 questionnaires completed by interviews who visited contracting partners in the poultry industry, MÉNARD (2000:236) showed that three different forms of contractual arrangements persisted over time, namely: **fixed-price contracts, buy and sell contracts, and contracts of the putting-out type**, with the last dominating.[6] One

[5] We can analyze of incomplete contracts by two approaches. *First*, incomplete contract theory version, in which incompleteness is assumed to be the result of information asymmetries between contracting parties on the one hand, and third parties on the other. *Second*, transaction cost economics version, in which contractual incompleteness is assumed to be the result of this behavioral (opportunism) assumption. See, Stephane Saussier, When Incomplete Contract Theory Meets Transaction Cost Economics: A Test. In Claude Menard (ed), *Institutions, Contracts and Organizations: Perspectives from New Institutional Economics*, Edwar Elgar, UK and USA, 2000, p. 377-378

[6] There are three main forms of contracts in agriculture; namely, a fixed-rent contract (rent per acre stated in cash or in crop), a share contract, and a wage contract. See, Steven N.S. Cheung, *The Theory of Share*

possible explanation for this durable diversity of contract within the same class of transactions is of dynamic nature. Path dependency, which creates social patterns of behavior, may promote the survival of otherwise less efficient contractual arrangements.[7]

Further, the context of the contract can be significant, as there are many actors and environmental factors which influence the working and outcome of contracts (SINGH, 2002:1621). In fact, contract farming[8] is similar to the practice of subcontracting in the industrial sector under which the large firms farm out many production activities to small firms and benefit from lower costs and better skills. It is important to recognize, that this restructuring of the agricultural production sector is taking place due to policy and market changes outside the sector, i.e. in the industrial and trade sectors. Moreover, these macro-policy changes drive micro-changes such as contract farming which have the potential to change the production structure and relations of production in the agricultural sector (SINGH, 2002:1622).

For different reasons, both farmers and farm product processors/distributors may prefer contracts to complete vertical integration. A farmer prefers a contract which can be terminated on reasonably short notice, to complete vertical integration which is virtually irreversible. **Contractual arrangements are attractive to farmers seeking additional sources of capital to expand their businesses and also a more certain price by shifting part of the risk of adverse price movement to the buyer.** They also get access to new technology and inputs which otherwise may be outside their reach. On the other hand, for an agribusiness firm, besides providing assured and stable quality raw material supplies, the contracts are more flexible in the face of market uncertainty.

Tenancy with Special Application to Asian Agriculture and the First Phase of Taiwan Land Reform, The University of Chicago Press, Chicago and London, 1969, p. 66-67

[7] At least two reasons may be offered for the existence of different types of contractual arrangements. First is the existence of *natural* risk, defined here as the contribution by nature or the state of the world to the variance (or standard deviation) of the product value. Under the postulate of risk aversion, an individual will seek to avoid risk if the cost of doing is less than the gain from the risk averted. A second reason for the existence of different contractual arrangements is the different transaction costs that are associated with each. Transaction costs differ because the physical attributes of input and output differ, because institutional arrangements differ, and because different sets of stipulations require varying efforts in enforcement and negotiation. See, Steven N.S. Cheung, ibid, p. 63-64

[8] Contract farming refers to a system for the production and supply of agricultural produce under forward contracts, the essence of such contracts being commitment to provide and agricultural commodity of a type, at a time and a price, and in the quantity required by known buyer. It basically involves four things - pre-agreed price, quality, quantity or acreage (minimum/maximum) and time. The contracts could be of three types: (a) procurement contracts under which only sale and purchase conditions are specified; (b) partial contracts wherein only some of the inputs are supplied by the contracting firm and produce is bought at pre-agreed prices; and (c) total contracts under which the contracting firm supplies and manages all the inputs on the farm and the farmer becomes just a supplier of land and labor. Whereas the first type is generally referred to as a marketing contract, the other two are types of production (SCOTT, 1984; WELSH, 1997). See, Sukhpal Singh, Contracting Out Solutions: Political Economy of Contract Farming in the Indian Punjab, *World Development*, Vol. 30. No. 9, 2002, p. 1621

Contracts make smaller demands on scarce capital resources, and impose less of an additional burden of labor relations, ownership of land, and farm production activities, on management compared with that under captive farming (SINGH, 2002:1623-1624; KHERALLAH and KIRSTEN, 2001:26).

A political economy view of contracting, however, rejects these benefits to consumers and farmers and argues that contracting develops only when there is diminished role of the state in agriculture, increased specialization of agricultural production processes, and the agricultural markets such as farm produce or credit become less competitive or inefficient. In fact, it argues that contract production is one mode of capitalist penetration of agriculture for capital accumulation and exploitation of farming sector. This even leads to processes of "self-exploitation" of the farmers, and the companies gain indirect control of land. The political economy approach rejects the various rationales of contracting such as perishability of produce, specialization of a crop, capital intensity of production, etc. and argues that it is the social relations of production which determine these aspects of production system and that product differentiation and monopolistic tendencies cause contracting (WILSON, 1986; as quoted by SINGH, 2002:1624).

3. Methodological Explanations

3.1 Research Design

3.1.1 Research Location

The survey carried out in two different regions in East Java - Indonesia, i.e. in **Kediri and Malang Districts**. The research locations are purposely determined. The research locations represented regions that more or less have some **similarity on the aspects of agricultural farming system**. Yet, Malang and Kediri Districts, chosen as location for this research, are also relative progressive regions compared with other districts in East Java. Much progressions are because their location are adjacent with East Java Province capital city, that is Surabaya. Malang District is about 75 km from Surabaya meanwhile Kediri District is about 150 km from Surabaya. The rapid economic development in Surabaya has raised much implication for economic progression in Malang and Kediri Districts.

3.1.2 Selection of Samples

This research used **stratified random sampling** to obtain a comprehensive description for all of the research objectives. The stratified random sampling approach has the advantage of ensuring that specific groups (strata) are included proportionally in the sample. Because this research used empirical research and comparative institutional

analysis, researcher intends to take sample two kinds of sugar cane farmers, i.e. **contract (credit) and non-contract (non-credit) sugar cane farmers** in two districts (Kediri and Malang Districts). Lastly, number of samples was taken on 120 sugar cane farmers in two districts (30 samples for each type of sugar cane farmers).

3.2 Research Methods

3.2.1 Data Sources

The research used two sources of information. *First*, **primary data**. Primary data was collected by using a questionnaire and an open interview of a number of respondents. Interviewing some respondents is the main way for obtaining primary data from the sugar cane farmers. In addition, individual in-depth interviews are also taken to obtain more detailed information. *Second*, **secondary data**. Secondary was collected from many sources, such as government's white papers on the agricultural sector in particular on sugar cane (industry), statistical bureau, board of national development planning, and ministry of agriculture.

3.2.2 Method of Analysis

In general, researcher used **qualitative analysis** method to explain the institutional arrangements of sugar industry in Indonesia. A qualitative approach was used to analyze the institutional arrangements between sugar cane farmers and economic actors in sugar industry. The aim of the analysis was to get an inside perspective of the process of establishing the institutional arrangements. On the other hand, **quantitative analysis** methods such as frequency distribution tables was utilized to ease the description of empirical data. From these two methods, it is anticipated that more comprehensive picture of institutional background on sugar cane farmers in Indonesia will be attained. The combination of the two analyses will significantly bridge the gap between macro and micro type of analysis, which happened quite frequently.

4. Preliminary Results of Empirical Research

4.1 Credit Sources and Repayment Systems

One of important pillar supporting production process of farmers is the available of financial/capital source (credit). This credit factor is important for sugar cane farmers because characteristics of sugar cane plants are different with rice and vegetables, it has longer planting time (12 months), wider land size (average > 2 ha), and higher cost of seed/fertilizer. With the characteristics, credit availability is an important factor that the existence of it is expected by sugar cane farmers to support production process. In the case of sugar cane farmers in Indonesia, especially in East Java, government itself has

been designing credit aid to help farmers.[9] Even, government has been giving credit to sugar cane farmers that involve sugar mill and cooperative (KUD) as institutions that select sugar cane farmers who will get credit. **Sugar cane farmers who bound in credit schema based on this government program are then known as contract (credit) sugar cane farmers** (*Petani Tebu Rakyat Kredit*/TRKs). Yet, as a consequence of capital limitation and credit requirements that seem complex for part of farmers, make only a part of the sugar cane farmers get credit from government. **Farmers who do not get credit rely the production costs on their own capital or borrow from middleman (money lender), those farmers are then known as non-contract (non-credit) sugar cane farmers** (*Petani Tebu Rakyat Mandiri*/TRMs). Although TRMs have wider freedom, yet their access to sugar mill is limited because they are not involved in the contract schema.

As seen in Figure 4.1, sugar cane farmers' credit can be characterized into three groups: (i) **credit originating from sugar mill/KUD**, where the money comes from the government program distributed through banks determined. The distribution of KKP-TR (Food Security Credit – Smallholders Sugar Cane) for one planting season in 2002/2003 is conducted by 7 banks with credit level of Rp 676,500.00 million (SUGAR OBSERVER, Year 1 No. 14, 2003:2).[10] Banks predetermined then conduct coordination with sugar mill and KUD to distribute their credits. Sugar mill usually select those farmers who entitle for getting credit and simultaneously collecting their guarantees, while KUD has duty to distribute their credit. This credit should use guarantee and credit interest imposed is about 16-20%[11]; (ii) **credit originating from middleman**.

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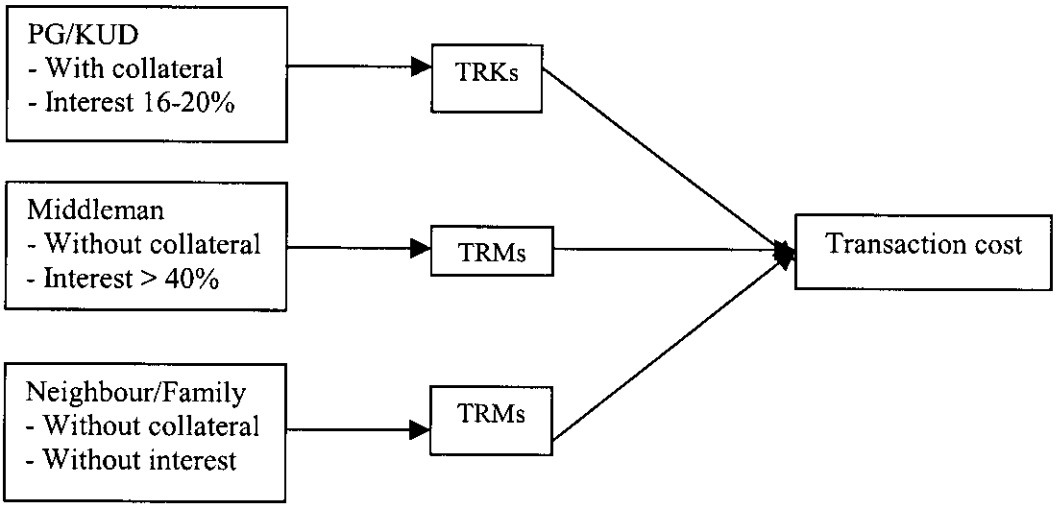
[9] This credit grand policy actually has been begun since the Intensified Smallholder Cane (TRI) established in 1975. Because, in general, sugar cane farmers (and other farmers) have limited capital, government provides production credit facility through Bank of Indonesia People/*Bank Rakyat Indonesia* (BRI). In earlier, credit that is provided is Permanent Working Capital Credit/*Kredit Modal Kerja Permanen* (KMKP) for People, then changed to be Working Capital Credit/*Kredit Modal Kerja* (KMK), and replace again to be Farm Enterprise Credit/*Kredit Usaha Tani* (KUT) given through KUD. Farmers who get credit are known as credit TRI. Credit farmers have obligation to return it back and pay interest one percent every month. Thus, credit TRI farmers are led to utilize the working capital with the high efficient and effective. See, A.T. Birowo, et. al., *Seri Manajeman Usaha Perkebunan: Perkebunan Gula*, Lembaga Pendidikan Perkebunan, Yogyakarta, 1992, p. 283

[10] In a whole, total credit given by banks, both from government initiation and bank desire itself, are very limited. Total credit distributed by banks that are categorized as Persero Bank, Regional Development Bank (*Bank Pembangunan Daerah*), National Private Bank (*Bank Swasta Nasional*), and Foreign Bank (*Bank Asing*) in 2001/1002 are Rp 158.023 trillion. If detailed according to economic sector, from the total credit: Rp 17.226 trillion (10.9%) for agriculture, Rp 3.990 trillion (2.5%) for mining, Rp 48.338 trillion (19.3%) for industry, Rp 30.555 trillion (19.33%) for trade, Rp 31.189 trillion (19.73%%) for service, and Rp 65.114 trillion (41.2%) for miscellaneous. See, Sugar Observer, Year 1, No. 14, 2003, p. 3

[11] Government actually imposes credit interest (distributed through cooperative/KUD) to sugar cane farmers only 16% per year, but in the reality the cooperative took interest rate between more than 16% (16-20%), therefore the difference interest rate can be computed as transaction cost that should be paid by sugar cane farmers.

The middleman is also sugar cane trader (in many cases they also plant sugar cane), so beside providing credit they also commonly buy sugar cane from TRMs. Credit from middleman does not prerequisite guarantee, yet the interest is very high (more than 40% per year). Farmers who get credit from middleman usually feel pleasant because the credit can be realized on time needed, despite of the high interest; and (iii) **credit originating from neighbor** (from sugar cane's farmers' friend) or relatives. This credit is usually very small (less than one million) and does not prerequisite guarantee or interest so that it actually very benefits for sugar cane farmers. But the credit source is usually difficult to find because the credit's providers are limited and they do not get profit at all, as interests.

Figure 4.1: Sugar Cane Farmers Credit Sources



Note: - PG/KUD = Sugar Mill/Rural Unit Cooperative
- TRKs = Contract Sugar Cane farmers'
- TRMs = Non-contract Sugar Cane Farmers'

Source: Own design, 2004

Result from the research showed information deal with sugar cane farmers' credit in Malang and Kediri Districts (Table 4.1). In the case of credit source, most of sugar cane farmers' credits in Malang District are originated from cooperative/KUD (70.7%), while in Kediri District most of credit source are originated from Sugar Mill (58.4%). Virtually there is no difference of credit source between the two districts, because in Kediri District the cooperative is only one and managed adjacent to sugar mill's location it is called KUB (*Koperasi Usaha Bersama*) "*Gula Anugerah.*" KUB office is in one location with Ngadiredjo Sugar Mill, so farmers assume that the credit is gained from sugar mill, although it must be processed through KUB and the sugar mill

is only as an institution providing location facility. For other thing, the characteristics of the credit are not different with in Malang District, where the existence is part of government program. Meanwhile, if we classify the credit source based on type of farmers, then most of the TRK credit originating from cooperative (85%) and TRMs credit originating from cooperative only 7.7%. Most of the TRMs credit originating from middleman (53.8%). **The data indicate how far the role of middleman in providing credit facilities to TRMs, although the interest rate imposed is very high (more than 40% per year).**[12] Other things need to be informed, to be able to get credit from government, sugar cane farmers should not be as member of cooperative so that most of them certainly are not member of cooperative. Sugar cane farmers who are as member of cooperative/KUD only have advantage to credit access easier compared with those who are not as member of cooperative.

Table 4.1. Credit Aspects Based on the Location and Type of Farmers'

Description	Malang	Kediri	TRKs	TRMs
Credit source	70.7% (cooperative)	59.4% (sugar mill)	85.0% (cooperative)	7.7% (cooperative)
Credit repayment	100% (after harvest)	100% (after harvest)	100% (after harvest)	100% (after harvest)
Amount of credit	17.1% (Rp 1.4 million)	15.6% (Rp 1.9 million)	13.3% (Rp 1.4 million)	23.1% (Rp 1 million)
Credit cutting	82.5% (no)	66.7% (no)	70.7% (no)	100% (no)
Type of cutting	87.5% (cost of administrative)	100% (cost of administrative)	100% (cost of administrative)	-
Comission	92.5% (no)	93.3% (no)	91.4% (no)	-
Interest	69.4% (16-20%)	89.3% (16-20%)	83.3% (16-20%)	54.5% (> 40%)
With collateral	63.4% (yes)	92.9% (yes)	92.9% (yes)	0%
Type of collateral	78.6% (BPKB/STNK)	73.1% (BPKB/STNK)	68.3% (BPKB/STNK)	-
Punctuality of credit	69.2% (on time)	48.1% (on time)	50.0% (on time)	91.7% (on time)

Source: Own research (treated), 2003/2004

[12] Institutions of informal credit, of course, are well developed in rural people as a result in is not reached by credit service from formal financial institution (bank) for most of rural people, mainly small farmers and farm labors who always need credit with service reached by them. At least there are three informal credit source in rural community: (i) landlord for tenant; (ii) tenant for farm labor; and (iii) middleman (moneylender). See, Faisal Kasryno, Kerangka Analisa Ekonomi Pengembangan Pedesaan. In Faisal Karyno (ed), *Prospek Pembangunan Ekonomi Pedesaan*, Yayasan Obor Indonesia, Jakarta, 1984, p. 33

Concerning with credit repayment duration, different with type of credit received by other economic actors such as credit for industrial sector, the credit repayment for farmers (including sugar cane farmers) is not paid in gradual monthly, but all loan will be returned after the harvest (STOCKBRIDGE, et. al., 1998:204). The characteristics are common applied in agricultural sector because planting duration is relative long, even for sugar cane farmers can reach 12 months. It means, for 12 months they do not get revenue at all, even they continually spend money for caring their plants. Thus, it is impossible for farmers to return the credit routinely every month, as the other economic actors. From the Table 4.1, it can be seen that **credit repayment duration is paid after the harvest (100%) and it also apply for farmers who lend money from middleman (money lender).** While the amounts of loan are various, yet most of sugar cane farmers only borrow money less than Rp 2,000,000.00. The amount of loan is small because of the requirement that made by cooperative. The farmers is given credit up to Rp 1,000,000.00 maximally who have every one hectare of land size, also the farmers should have collateral requirement. With such conditions, only a few sugar cane farmers who can propose credit in a big amount. Nevertheless, there are remain exist farmers who have big loan, for example, there is contract sugar cane farmer who get loan Rp 40,000,000.00.

The majority of credit received by sugar cane farmers is not imposed deduction by cooperative, whereas as those who get credit from middleman can receive credit as amount as total credit proposed (there is no deduction). Likewise, **majority of sugar cane farmers do not necessary give commission to cooperative or middleman to get credit.**[13] Nevertheless, from further investigation, cooperative plays an important role in transaction process with sugar cane farmers. In the credit, for example, cooperative certainly does not impose commission, but it usually bears on farmers with the higher interest from legal rules. **Likewise, when cooperative gives aid in the form of seed/fertilizer to sugar cane farmer, it is usually done intransparently.** With this description, it can be said that the credit system distributed to farmers has not been already managed well as expected.[14] Meanwhile, sugar cane farmers who are imposed

[13] Nevertheless, in order to become a member of cooperative, In KUB (*Koperasi Usaha Bersama*) Kediri District, for example, each farmers who want to be a member must pay preliminary contribution (paid at once) Rp 1 million and regularly contribution (paid every month) Rp 50,000.00. This amount is clearly very high for farmers because, in general, the farmers' income per capita is very low.

[14] This practices similar with cotton and wheat farmers in Sindh Province – Pakistan, where some padhys prefer not to charge an explicit interest rate and instead refer to a "commission." This may consist of an additional surcharge on the price of inputs, a reduction in the price that the padhy pays for the zamindar's cotton or combination of the two. See, M. Stockbridge, et.al., Cotton and Wheat Marketing and the Provision of Pre-harvest Services in Sindh Province – Pakistan. In A. Dorward, J. Kydd and C. Poulton, *Smallholders Cash Crop Production under Market Liberalisation: A New Institutional Economics Perspective*, CAB International, United Kingdom, 1998, p. 205

deduction when propose the credit are almost in the form of administration and notaries costs. Administration cost is various in the range of Rp 42,000.00 (without notaries) to Rp 67,000.00 (with notaries). Yet what still becoming question is, why administration and notaries costs rule are not applied uniformly for all farmers. With this condition, it can be said that the administration cost is actually illegal practice in the credit schema, therefore that it can be concluded as the illegal cost. According WILLIAMSON, this situation so-called "opportunistic behavior," where some individuals (either principals or agents) are likely to be dishonest in the sense that they may disguise preferences, distorts data, deliberately confuse issues, etc. There is, in WILLIAMSON'S phrase, "self-seeking with guile," and since it is normally very costly to distinguish opportunistic from non-opportunistic actors ex-ante, comprehensive contracting must break down (as quoted by FURUBOTN and RICHTER, 1991:4).

Furthermore, credit interest is one of sensitive issue in credit distribution system for farmers. Different with other economics actors who directly interact with bank in getting their credit, farmers usually must in contact with many other institutions, for example cooperative, to get credit, so that it is susceptible for interest rate abuse imposed. It seems that the practice is also applied in credit schema for sugar cane farmers, where government actually imposes interest rate about 16% per year, but there are many cooperative that impose interest rate more than 16% (16 – 20%). **The interest rate difference becomes 'illegal revenue' for cooperative by utilizing information limitation possessed by sugar cane farmers.** This also opportunism behavior, where one party effort to realize individual gains through a lack of candor or honesty in transactions (WILLIAMSON, 1973:317). Nevertheless, it seems that TRKs are luckier compared with TRMs that get credit from middleman with the interest more than 40% per year. With this high interest imposed, the most of the profit gained from planting of sugar cane are loss because it is used only for paying the high interest of credit.

In the case of guarantee for getting credit, **majority of TRKs must submit guarantee as the rule determined (92.9%).** Guarantee value will determine how much credit will be given by cooperative. Operationally, the guarantee is collected by cooperative and sugar mill. In the contrary, **sugar cane farmers who receive credit from middleman, they do not need guarantee at all (100%).** Relationship between sugar cane farmers and middleman has been done for long time so that mutual trustee is created between them. Even, the credit may be realized whenever needed, unnecessary waiting for many days like when they propose credit to cooperative.[15] Meanwhile, type

[15] One of farmers interest to take credit from middleman (or other informal credit sources) because its nature is flexible, its procedure is not difficult, each has known, and close relationship. These cause farmers remain borrowing to middleman although the credit interest imposed is very high. See, Jusuf M.

of guarantee given are most of them motor vehicle notice letter (BPKB/STNK) and few of them are land certificate. The guarantee option virtually indicates compromise between sugar cane and cooperative. In general sugar cane farmers only have asset in the form of motor vehicle, while cooperative considers that motor vehicle is easier to sell than land certificate if the credit is in problem.

Meanwhile, **part of farmers said that credit received from cooperative is often late**, is not suit with sugar cane farmers' needs. It is especially happened in Kediri District. Otherwise, **sugar cane farmers who get credit from middleman always comes on time needed.** It causes why there are still many sugar cane farmers prefer propose credit to middleman (beside guarantee reason), though the interest is high. This fact causes some farmers complain that their production is not optimal as a result of credit that do not come on time. For example, farmers cannot fertilize the plants in the pre planting because credit has not been already given. As a consequence of the late fertilizer giving to the plants causes sugar cane quality is not optimal, it means that the farmers' revenue will decline. There is no certain reason causes of the late credit's realization, but the most reason are because government is late in distributing credit to bank (as an institution determined by government to provide loan), or bank itself seems reluctant to provide credit for farmers because the profit incentive is lower compared when the credit is given to other economics actors (sectors).

4.2 The Roles of Cooperative and Middleman

In agricultural sector there are many institutions both made by government and farmers themselves with the aim to help production process, distribution, and marketing agricultural crops. In the case of sugar industry, there are some institutions directly dealt with farmers, such as cooperative/KUD, APTR (Smallholder Sugar Cane Farmers Association), and so on. The institutions, both directly and indirectly, interact with sugar cane farmers in various activities. Nevertheless, in theoretically the institutions that are intended to help sugar cane farmers, in fact do not go on smoothly as expected. There are many institutions that cannot function optimally, even some of them are closed because they are not capable in providing usefulness for farmers. In their development, some of sugar cane farmers themselves are also reluctant to involve in the institutions because of unclear usefulness. Thus, in order that cooperative/KUD can function well, there at least 4 interest parts that must be concerned, they are members

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Colter, Masalah Perkreditan dalam Pembangunan Pertanian. In Faisal Kasryno (ed), *Prospek Pembangunan Ekonomi Pedesaan Indonesia*, Yayasan Obor Indonesia, Jakarta, 1984, p. 306

(sugar cane farmers), people (consumer), market (input/output), and other institutions (for example sugar mill).[16]

Table 4.2: Cooperative Aspects Based on the Location and Type of Farmers'

Description	Malang	Kediri	TRKs	TRMs
Cooperative member	68.3% (no)	80.0% (no)	63.3% (no)	85.0% (no)
Cooperative official	88.9% (no)	75.0% (no)	81.8% (no)	87.5% (no)
Obligatory	30.0% (selling sugar cane)	10.0% (selling sugar cane)	15.4% (selling sugar cane)	28.6%(selling sugar cane)
Information intensity	71.7% (rarely)	81.7% (rarely)	65.0% (rarely)	88.03% (rarely)
Meeting participation	93.3% (no)	45.5% (no)	66.7% (no)	10% (no)
Advantages as cooperative member	100% (ease to get credit)	30.0% (ease to get credit)	65.0% (ease to get credit)	-
Member in another institution	98.03% (no)	95.0% (no)	93.3% (no)	100% (no)
Have relation with middleman	46.7% (yes)	45.0% (yes)	10.0% (yes)	81.7% (yes)
Type of relation with middleman	67.9% (selling sugar cane)	96.0% (selling sugar cane)	60.0% (selling sugar cane)	83.3% (selling sugar cane)

Source: Own research (treated), 2003/2004

As seen in Table 4.2, in the case of participation, in fact the majority of sugar cane farmers (both based on location and type of farmers) are not member of cooperative/KUD as one of prominent institution that help sugar cane farmers. Even in Kediri District 80% of sugar cane farmers that are surveyed state they are not to become member of cooperative, moreover 85% of TRM are not member of cooperative. **Most of the sugar cane farmers regard that there is no usefulness of following cooperative/KUD** (beside the premium/contribution (*iuran*) is also high), so the farmers decide that they are not to become member. In reality, there are also often occurred violation done by KUD officials in providing Food Security Credit – Smallholders Sugar Cane (KKP-TR), providing of agricultural production tools, schedule of cut and carry, yield-share of sugar cane farm that is distributed by sugar mill through KUD (CHURMEN, 2001:129), so that farmers are reluctant to become member

[16] In the context of sugar industry, the development of cooperative/KUD network is led to support accelerated program of economic recovery in part of food security, agribusiness program, condusive business climate creating program, development program of smallholder farm enterprise and access development for productive sources. See, Imam Syafi'i, *Pengembangan Jaringan Usaha Koperasi (KUD) dalam Bidang Gula Rakyat di Jawa Timur*, Paper presented at Agriculture Faculty - Brawijaya University, 2002, p. 2, unpublished

of cooperative.[17] While some of sugar cane farmers state that they do not know the procedure to become the member of cooperative. Special for Kediri District, only a few of sugar cane farmers who become member of cooperative/KUD as a result of the only one cooperative (KUB) that hold sugar cane commodity. Thus, sugar cane farmers who are far from KUB find difficulty to become member of cooperative. This is different with Malang District with many cooperatives exist, at least there is one cooperative in each sub district. With this condition, **sugar cane farmers in Malang District have relative better access to become member of cooperative compared with sugar cane farmer in Kediri District.** Other information, some farmers who become member of cooperative, in fact the majority of them are not to be cooperative officials but they are only ordinary member.

Cooperative has various kinds of function, besides distributing credit. Of course, the main duty of cooperative is as government's agent to distribute credit for farmers (through bank) because the limitation of government to do that. Therefore, cooperative is made as institution that handling distribution of credit because cooperative is assumed knowing more about farmers' life. But, out of this, **cooperative also conducting other activities related with sugar cane farmers' need, for example, selling of seed/fertilizer and managing sugar cane's selling to sugar mill.**[18] Even some cooperatives obligate their members to buy seed/fertilizer or sell sugar cane. As written in the Table 4.2, most of sugar cane farmers in Malang District (30.0%) are obligated to sell sugar cane to cooperative, meanwhile in Kediri District cooperative obligates their members to sell sugar cane only 10.0%. Furthermore, some of TRMs (28.6%) are obligated to sell sugar cane to cooperative, meanwhile only 15.4% of TRKs are obligated to sell sugar cane to cooperative. In the case of cooperative that obligates their members to sell sugar cane at the place, what has happened actually is cooperative facilitates farmers by giving cut-carry order letter (SPTA) as guarantee that sugar mill will receive the sugar cane. So that cooperative position is not as sugar cane buyer, but

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[17] There are some reasons why the farmers reluctant to joint member of cooperatives. *First*, the non-member enjoys the same services at no extra cost or risk to himself, i.e. the so-called free rider effect. *Second*, in most countries, cooperatives enjoy different tax and other concession that is make farmers reluctant to joint cooperative. See, Samuel C. Chukwu, *Economics of the Co-operative Business Enterprise*, Marburg Consult für Selbsthilfeförderung, 1990, Marburg, p. 147-148

[18] One of problem that have not been touched in so far by cooperative, whereas it is very vital in strengthening farmers interest, is the function of sugar marketing. Nowadays, sugar cane marketing system possessed by farmers generally done through tender process that need high cost so that only big distributor that can follow the tender process. On this point cooperative should play vital role. See, Imam Syafi'i, ibid, p. 2

it merely facilitates the meeting between farmers and sugar mill in terms of sugar cane selling.[19]

Furthermore, sugar cane farmers who become member of cooperative/KUD state that they have never got information from cooperative, both in Malang and Kediri Districts. **Majority of sugar cane farmers who become member of cooperative feel that they have never got information at all from cooperative**, for example, about supervision or other information relate with sugar cane production. According to them, cooperative usually only collect their members when the milling season will arrive, where cooperative officials will explain about cutting mechanism/management, yield-share system, pricing, and so on. Out of that, cooperative have never given information to their members for one year. Therefore, majority of sugar cane farmers cannot actively in contact with cooperative because there is no useful activity for them. Only in Kediri District that sugar cane farmers actively following cooperative meeting (less than 50% was not active in meeting).[20] This reality indicates that cooperative has not already played optimal role in helping members (sugar cane farmers) to increase their economic welfare.

With special reference to the developing countries, there are some point that make cooperative cannot play optimal role to serve its members (CHUKWU, 1990:129-130): (i) **lack of homogeneity in membership**. These factors have made member integration very difficult and internal friction very high, i.e. increased inter-personal friction resulting from extraneous factors; (ii) **extreme individualism and lack of a sense of responsibility for common work**, i.e. reduced individual labour input; (iii) **misuse of the institution** of the productive cooperative organization by prominent persons (e.g. for obtaining state subventions and circumventing laws on land reform); (iv) **increasing government and political influence intervention** have tended to gradually transform the agricultural productive cooperative into mere elements of centrally controlled economic system; (v) difficulties in obtaining the expected large sales and contract jobs the craftsmen's productive cooperative due to **poor quality work**; and (vi) considerable government involvement, giving rise to **wrong beliefs, expectations, and attitudes**.

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[19] Especially in Malang District, sugar cane farmers who are not bound in credit schema (TRMs) must deliver their sugar cane to sugar mill through cooperative/KUD because only KUD that issue of SPTA. Thus, TRMs in Malang District must remain pay fee (fee is usually paid based on sugar cane volume) to KUD (as compensation cost to get SPTA) to be able to enter sugar cane to sugar mill.

[20] Certainly, among the cooperative, KUB in Kediri District can be categorized as active. The head of KUB in Kediri District, Sigit Subinatoro, states that his cooperative often hold supervision program to sugar cane farmers, other than giving credit. Even holding cooperation with APTR and Ngadiredjo Sugar Mill, KUB of Kediri District makes special calendar contains a period of sugar cane schedule and given freely to farmers as a member of KUB.

Meanwhile, **most of sugar cane farmers state that the only advantage of becoming member of cooperative is easiness to get credit.** They state that by becoming member of cooperative, information about credit will be quicker and they have priority to get the credit. This is different if they do not become member of cooperative, where they are more difficult to get credit. With farmers who get credit from cooperative, their sugar cane is directly guaranteed to be milled in the sugar mill. While sugar cane farmers who are not bound in the credit schema, generally find difficult to deliver sugar cane to sugar mill because SPTA is managed by cooperative and sugar mill regional PPL (*Petugas Pelaksana Lapangan*/Officer of Field Implementator). Even in Malang District, impossible for all farmers can deliver their sugar cane to sugar mill if they are not included in the credit schema, so that the only way is by selling the sugar cane to middleman. Then, although the role of cooperative is minimal in helping sugar cane farmer, in fact that sugar cane farmers do not have motivation to follow other organization relate with sugar cane problems, as APTR.[21] Then about 95% of sugar cane farmers in Malang and Kediri Districts state that they are not interesting to be a member of other organization, other than cooperative/KUD. It indicates that farmers' trust toward all institutional utility effort relate with agricultural sector is very low.

Finally, as estimated, TRMs commonly have relation with middleman to smooth the process of sugar cane production and marketing. In general, **middleman has two roles: as those who give credit and buy the sugar cane**. From survey, 81.7% of TRMs state that they often make contact with middleman during planting season. Otherwise, majority of TRKs (90%) state that they have never interacted with middleman because credit and sugar cane selling have been gotten from cooperative. Based on location, there is no difference between sugar cane farmers in Malang and Kediri Districts, where in the two districts, about half of the farmers state that they have

[21] The existence of APTR in sugar cane life, of course, has raised suspicion that trust which its existence will help sugar cane farmers. As stated by Sigit Subiantoro, Head of Ngadiredjo APTR – Kediri, APTR has conducted many deviations. *First*, function of APTR that actually has to concentrate on giving supervision/guidance to sugar cane farmers, but in practice it is abused to activities for official interest, as lobbying with sugar distributor (investor). *Second*, most of APTR officials are '*leaf farmers*', means that they actually do not have sugar cane plants at all. These leaf farmers are actually only 'middleman', which their main duty is buying sugar cane from farmers and resell again to sugar mill. While '*root farmers*' (farmers who only plant sugar cane) and '*stem farmers*' (farmers who plant sugar cane and at the same time as middleman), even do not have role in the structure of APTR. As a consequence, APTR activity is only reflect the interest of '*leaf farmers*'. *Third*, APTR officials often make collusion with sugar investor (distributor), both in tender process and influence the process of government policy. *Forth*, APTR has never independent because PTPN (through sugar mill) gives routine grant to APTR. Tragically, most of the grant are taken by APTR officials and are not used to hold useful activities for farmers. *Fifth*, APTR officials have never been transparent in managing finance, they have never published finance report to members so that it is susceptible from abuse. *Finally*, as a consequence of bad attitude from the APTR officials has made their existence are not trusted by sugar cane farmers.

never make contact with middleman. Meanwhile, as discussed in the earlier, relationship between sugar cane farmers and middleman are in the terms of selling sugar cane, beside as credit source. In the planting season, TRMs usually find difficult in getting capital, yet part of them have not been able to propose credit to middleman because the interest rate is too high, so that they usually decide to sell sugar cane before crops season with the cheap price. Or, TRMs find difficulty to deliver sugar cane to sugar mill, they compelled selling their sugar cane to middleman in order to the sugar cane can be deliver to sugar mill.

4.3 Contractual Arrangements between Sugar Cane Farmers and Sugar Mill

4.3.1 Contract Systems and Sugar Content Determinations

Relationship between sugar cane farmers and sugar mill is an endless topic in the history of sugar industry in Indonesia. Unfortunately, this relationship is not framed in mutual trust. In one hand, **sugar cane farmers regard sugar mill dishonest in calculating sugar content value (*rendement*)[22] and sugar cane weight supplied by farmers** (BACHRIADI, 1995:54). Sugar mill officials are also regarded exploit farmers by imposing many 'invisible' costs that are actually nothing.[23] Otherwise, on the other hand, **sugar mills also accuse sugar cane farmers for often deceive sugar mill by covering sugar cane with soil so that the weight increase.** Cultivation of sugar cane is still traditionally, so that far from standard requirement as stated in best management practice (SUWANDI, 2003a:3). As a consequence of the improper practice, sugar mill is not only get low quality of sugar, but also its machine often in trouble because soils enter into milling machine. With this background, from past time to now, relationship between sugar cane farmers and sugar mill is colored by suspicious than mutual trust. This often causes conflict between sugar mill and sugar cane farmers so that it disturbs production process, both in farmers themselves and sugar mill itself. This potential conflict occurred because the nature of the relationship between sugar cane farmers and sugar mill is mutually exclusive. It means that the increasing of farmers revenue (for example, through the increasing of yield-share portion) will reduce sugar mill's revenue and otherwise (P3GI, 1999; in ROESMANTO and NAHDODIN, 2000:27). In the long term,

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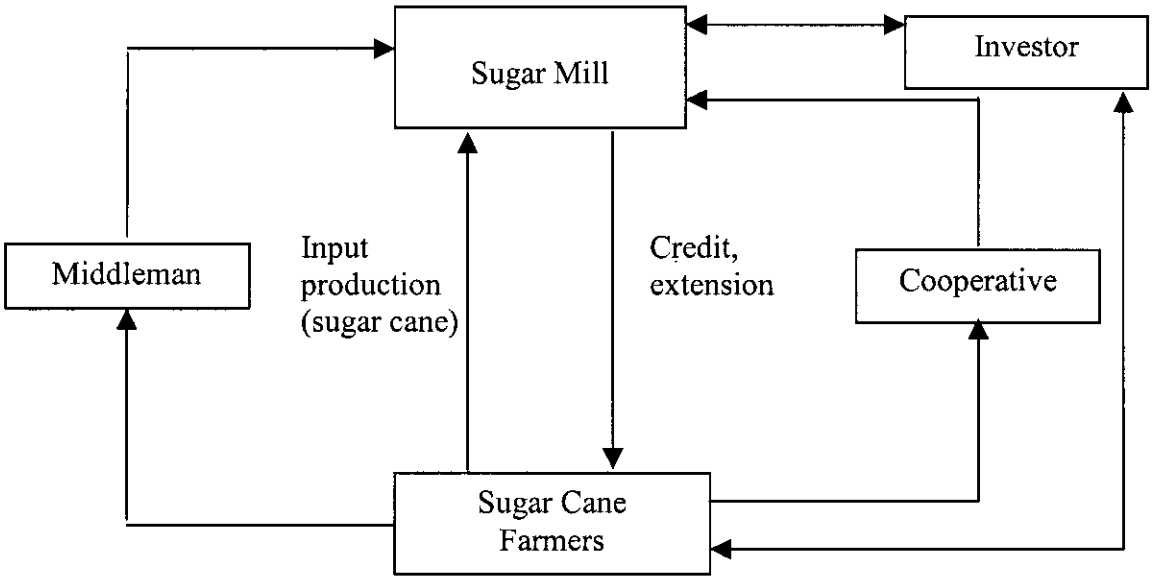
[22] Sugar content is percentage of squeezing sap value existed in sugar cane that constitute as the main substance of sugar formation (sucrose). See, Dianto Bachriadi, *Ketergantungan Petani dan Penetrasi Kapital: Lima Kasus Intensifikasi Pertanian dengan Pola Contract Farming,* Akatiga, Bandung, 1995, p. 38

[23] Virtually, the 'cut' is not only collected by sugar mill officials, but also by cooperative/KUD, local government (village, sub district, district), and so on. When TRI policy is applied, the amount of cut out of credit return and its interest –that should be borne on by farmers reach to 26.97% from their net income. If this cut added with total credit return and its interest, including cost of cut and carry, net income of farmers are only 30.29% from gross income or share from selling the sugar. See, Dianto Bachriadi, ibid, p. 57

if this kind of pattern is not improved, then the sugar industry progress in Indonesia will be difficult to achieve.

Figure 4.2: Partnership Pattern between Sugar Mill and Sugar Cane Farmers



Source: Own design, 2004

Figure 4.2 illustrates relationship between sugar mill and farmers, it is called "partnership pattern" (*Pola Kemitraan*). From the figure it can be seen that **actually sugar cane farmers can directly make contact with sugar mill without using mediator**. On one hand, sugar mill gives credit (through program of sugar cane production acceleration made by government) and supervision about good production system to sugar cane farmers. On the other hand, sugar cane farmers can directly sell sugar cane to sugar mill after meeting the determined procedure, for example, getting SPTA. But, in practice, there are many sugar cane farmers who cannot sell their sugar cane directly to sugar mill (commonly TRMs). In this case sugar cane farmers generally use mediator service (middleman) to sell the sugar cane to sugar mill. Of course, it will decline sugar cane farmers' incomes and increase transaction costs. Interaction pattern between sugar mill and sugar cane farmers are still combined with other actors, for example, cooperative and investor. So the cooperative position is as a credit agent through credit schema from government, so that only TRKs who have relation with cooperative. While the role of investor is as buyer of sugar share owned by sugar cane farmers, usually should coordinate with APTR because all of farmers' sugar are submitted to APTR for tender, especially in Kediri District. At the investor, sugar

product will be tendered in PTPN (State-owned Estate/*Perusahaan Terbatas Perkebunan Negara*).[24] If the tender price is higher than buying to farmers (basic price), then the profit is shared between farmers (60%) and investor (40%). While if the tender price is lower than basic price (although it has never been occurred), then all of loss is borne on the investor (SUGAR OBSERVER, Year I/No.12/2003:3).

Table 4.3: Contractual Arrangements between Sugar Mill and Sugar Cane Farmers

Description	Malang	Kediri	TRKs	TRMs
Contract with sugar mill	50.0% (yes)	48.3% (yes)	98.3% (yes)	0% (yes)
Is it easy to access sugar mill?	60% (yes)	60% (yes)	93.3% (yes)	39.1% (yes)
Purchase of SPTA	100%	60.0%	81.3%	7.0%
Determination of sugar content	80.0% (yield-share before milling)	53.0% (yield-share before milling)	61.7% (yield-share before milling)	71.7% (yield-share before milling)
Involve in rende-ment determination	95.0% (no)	98.03% (no)	95.0% (no)	100% (no)
Sugar content (rendement) value	4.52 (average)	6.93 (average)	5.73 (average)	5.71 (average)
Extra cost to sugar mill	51.7% (yes)	38.3% (yes)	33.3% (yes)	53.3% (yes)
Sugar mill honestly	58.3% (yes)	26.7% (yes)	60.0% (yes)	25.0% (yes)
Extension by sugar mill	55.0% (yes)	18.3% (yes)	55.0% (yes)	18.3% (yes)

Note: *Because of yield-share system differences, actually the average of sugar content value between sugar cane farmers in Malang (4.52%) and Kediri Districts (6.93%) is almost similar.
Source: Own research (treated), 2003/2004

From empirical study found in this research, there are some interesting findings that can be presented (Table 4.3). In the case of contract, most of sugar cane farmers have made contract with sugar mill in the early of planting season (except TRMs who never made contract with sugar mill). Usually contract is made when the age of sugar

[24] This tender process is coordinated by PTPN. Because Ngadiredjo Sugar Mill is under PTPN X, then the tender process is under coordination of PTPN X located in Surabaya. Likewise Kebon Agung Sugar Mill, because its location is near to Surabaya so that easier to follow tender in PTPN X. Tender process itself generally conducted in two stages. First stage is called General Offering Session, where in this stage will be taken 3 investors that offer sugar with the highest price. Second, Offering Session II, where in this stage will be taken one winner that offer the highest. If the offering is higher than basic price (HPS/price that is determined by APTR), then sugar can directly be taken by the tender winner. But if the tender winner offering price is lower than HPS, then investor is asked to increase its offering price according to HPS. If investor agrees, sugar can be taken, but if does not agree, tender will be canceled. Further tender usually done in next two week.

cane plants about three months and SPTA is given when sugar cane will be near milled to sugar mill.[25] From the table it can be seen that only all TRMs who are not bound with sugar mill. These TRMs sell their sugar cane by various ways, for example, by joining with other sugar cane farmers who have contract with sugar mill or selling it to middleman. While for sugar cane farmers who bound contract with sugar mill, mechanism that is usually taken is regional field officials[26] (PPL) of sugar mill will come to sugar cane farmers to invite them making cooperation (contract). If sugar cane farmers are willing and fulfilling the requirement, then contract will soon be done. Making this contract itself is done without burdening costs to farmers, so that, from normal view, farmers should be benefited with this kind of system.[27] The other way, sugar cane farmers come to cooperative/KUD to ask for credit that means farmers bound in contract of selling their sugar cane to sugar mill. From above data, it can be seen that **majority of sugar cane farmers may get the contract (SPTA) from sugar mill, and only few of them who pass through cooperative.** With this kind of model sugar cane farmers who have been bound in contract with sugar mill certainly will be more guaranteed in term of processing their sugar cane than TRMs who often find difficult to sell their sugar cane. Other information, in general, sugar cane farmers are not difficult in accessing to sugar mill, like delivering sugar cane to sugar mill. Only **most of the TRMs who said difficult in accessing sugar mill** (69.9%) because they are not bound in contract since the earlier with sugar mill to process their sugar cane.

Other issue, the most sensitive issue concerning to relationship between sugar cane farmers and sugar mill is determining the value of sugar content. The determining of sugar content can only be conducting by a specialist because it must be done with laboratory test, so that only sugar mill staffs can do it. As a consequence, sugar cane farmers are difficult to control the process of determining sugar content. Farmers clearly do not have academic qualification to value their own sugar content, so that with this condition sugar cane farmers regard that sugar content is susceptible to be manipulated by sugar mill (BROWN, 1982:57). With this condition, unsurprisingly that almost all

[25] SPTA that will be given during milling season (and not when the contract agreement) is actually very susceptible to be misused. Usually, the SPTA is traded during milling season because many farmers stand in the dilemma positions. One sugar cane farmers gives illustration, that each after milling season regional PPL certainly has new car because getting profit from trades of SPTA. Even, in Kediri District there is a case that similar to what Achmadi (one of sugar cane farmers) said, there is a member of local parliament who in the same time becomes a sugar cane farmer and trader (middleman) who every day ask for SPTA from sugar mill during milling season. The SPTA then is sold both to sugar cane farmers who do not have SPTA and middleman.

[26] Regional PPL is sugar mill official who is responsible for guiding and making contract with sugar cane farmers. Every regional PPL supervises one sub district.

[27] Although, according to the rule, making contract is actually not imposed cost, but regional PPL often imposes contract cost to farmers. In many cases, farmers are usually willing to pay the cost because it is the only way to get SPTA.

farmers surveyed state that they have never involved in the process of determining sugar content value, because they do not have skill to do that (beside sugar mill itself tends to close from this issue).[28] In general, value of sugar content is determined when sugar cane enter to milling process, both in Malang District (Kebon Agung Sugar Mill) and in Kediri District (Ngadiredjo Sugar Mill). But yield-share system between the two sugar mills is little different. **In Kebon Agung Sugar Mill, yield-share system is agreed in the preliminary (for example, 66% for sugar cane farmers and 34% for sugar mill on milling season 2003), the value is for all in one for all farmers.** Test of sugar content value is conducted once in two weeks and it is become standard. With this model, farmers whose sugar cane quality are bad will be more benefit, otherwise farmers whose sugar cane are good tend to be suffered. In the contrary, **in Ngadiredjo Sugar Mill, yield-share system is agreed in the preliminary, but determination of sugar content value is done randomly and it becomes the basis for valuing all sugar content in the particular period.**[29] Therefore, the difference of sugar content value between sugar cane farmers in Malang (4.52%) and Kediri Districts (6.93%) is actually not different. The low sugar content in Malang District is because the sugar content value has already "net" after subtracted with yield-share received by farmers (66%). It means sugar content value of 4.5% in Malang District are comparable with sugar content value about 6.8% in Kediri District. From the data, it can be said that there is no difference of sugar content between sugar cane farmers in Malang and Kediri Districts.

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[28] Operationally, relationship between sugar cane farmers and sugar mill has been bridged by at least three institutions, they are Sugar Mill Meeting Forum/*Forum Musyawarah Pabrik Gula* (FMPG), Regional Farmers Meeting Forum/*Forum Musyawarah Petani Wilayah* (FMPW), and Working Group of Sugar Mill Controlling/*Kelompok Kerja Pengawasan Pabrik Gula* (KKPPG). Structure of FMPG consists of farmer representatives and each of regional KUD, HKTI (*Himpunan Kerukunan Tani Indonesia*/Indonesian Farmers Association), Satpel Bimas (*Satuan Pelaksana Bimbingan Masyarakat*/Implementator Unit of People Extension), Chief of KKPPG, and representatives of sugar mill (usually administrator of sugar mill). FMPG holds a meeting every period to discuss and evaluate all of activities, including determination of sugar content value. With this kind of institutions, farmers should not be suspicious to sugar mill, especially in the term of sugar cane content. Yet, in the reality, the suspicious still exist that may be come from four things: (i) result of FMPG and FMPW do not come out to TRI (*Intensifikasi Tebu Rakyat*/Intensified Smallholder Farmers) or there is communication barriers between farmers and representative pointed in FMPG and FMPW; (ii) working result of KKPPG is not trusted by farmers although they are chosen and pointed by farmers themselves; (iii) the openness of sugar mill has not been able to eliminate suspicious of farmers; and (iv) in one hand farmers feel useless to improve sugar cane quality and productivity because there is notion that the sugar content analysis will be cut by sugar mill. On the other hand, performance of sugar mill continuously decreases because supplied with bad quality of sugar cane. See Kartono, Reformasi Sistem Penentuan Rendemen Tebu di Indonesia, *Gula Indonesia*, Vol. XXIV, No 3, July – September 1999, p. 45-46

[29] Determination of sugar content randomly is actually better than all in one system, as engaged in Kebon Agung Sugar Mill. But, according to Solekan, one of farmers in Kediri District who becomes sample for this research, states that random system also does not motivate all farmers to increase the quality of their sugar cane, because often happened that good quality of sugar cane get low sugar content value as a result sample taken is low sugar cane quality (from other farmers' sugar cane).

Other than sugar content, farmers are usually in conflict with sugar mill about other costs that should be paid. So far, sugar mill conducts two mechanisms to take sugar cane from farmers: (i) all of labors and transportation cost are coordinated with sugar mill which then the costs is deducted from revenue received by farmers (from sugar yield-share), (ii) farmers themselves who accomplish labors and transportation so that sugar mill will only receive sugar cane. Most of farmers who bound in credit schema (TRKs) are obligated to follow the first model, while sugar cane farmers who are not bound in contract with sugar mill (TRMs) generally handling process of cut and carry by themselves. On this position TRKs often do not understand that they actually are imposed extra costs by sugar mill, for example, cost for labors, transportation, sack providing, and other fee; so that most of them said that they are not imposed with the cost (66.7%). Whereas, virtually the costs exist that are taken from farmers' revenue (their yield-share). Even, the more suffering, TRKs do not know exactly how much real costs that should be borne on because sugar mill is calculating unilaterally. On this point, manipulation of calculating the costs is possible done by sugar mill. While based on the location, most of sugar cane farmers in Malang District said there is extra costs that should be spent (51.7%), while in Kediri District there is extra costs only 38.3%. There is no particular reason, because sugar cane farmers do not know exactly the rule applied by sugar mill about extra costs.

Furthermore, from relationship between sugar cane farmers and sugar mill that has been done for long time, finally approximately half of sugar cane farmers accuse sugar mill dishonest and the other half regard that sugar mill has already been honest. **Most of sugar cane farmers who regard sugar mill dishonest said that manipulation often done by sugar mill in term of determining sugar content value.** This accusation is based on the low of sugar content value determined by sugar mill. Whereas if they process by themselves (for example it is made for "red sugar"), its sugar content will be different 4% compared with sugar content value version of sugar mill. Even farmers remain suspicious with sugar mill, although in TRI era determination of sugar content is conducted through relationship of partnership institutions between sugar mill, farmers, KUD, and other government agencies (KARTONO, 1999:45). Actually, sugar cane farmers themselves do not have any evidence for what they say that sugar mill acts dishonest. This indication is more rely on farmers' feeling after making relationship for long time with sugar mill. This research showed that most of TRKs (60%) believe that sugar mill has been honest. Of course, this is normal appraisal because TRKs more often get in contact with sugar mill, especially when managing credit and SPTA, so that it makes the appraisal tend to be good. Otherwise, only few of TRMs said that sugar mill honest (25%). In Malang District, farmers regard that Kebon

Agung Sugar Mill has already been honest, otherwise only few of sugar cane farmers said that Ngadiredjo Sugar Mill honest (26.7%). Most of farmers in Kediri District regard that sugar mill dishonest in determining the sugar content value.

Finally, most of TRKs and sugar cane farmers in Malang District state that sugar mill has ever given extension to them (each 55%). Otherwise, TRMs and farmers in Kediri District state that sugar mill has never given extension to them (each 81.7%). These findings indicate that Kebon Agung Sugar Mill gives more attention to the farmers' needs by giving extension, while Ngadiredjo Sugar Mill has not regarded extension is an important thing that should be given to the sugar cane farmers.[30] Meanwhile for TRKs, it is reasonable that they are often gotten extension from sugar mill because they bind in contract since in the early with sugar mill. On this position sugar mill wants to ascertain that sugar cane planted by farmers who bound in contract have good productivity and quality, so that sugar mill tries to give extension in order that the expected target can be achieved. Nevertheless, it seems that **guidance/extension program is still limited done by sugar mill** whereas sugar mill's life and death is depended on sugar cane farmers.

4.3.2 Yield-Share Systems and Sugar Marketing Models

Yield-share system is one of mechanism in business relationship between farmers and sugar mill, beside SIPRAB (*Sistem Penentuan Rendemen yang Adil dan Berimbang*/Fair and Balance Sugar Content Determining System) and SPT (*Sistem Pembelian Tebu*/Sugar Purchasing System) [ROESMANTO and NAHDODIN, 2000: 27]. In fact, sugar cane farmers are not only conducting process of sugar cane production where after delivering it all duties have finished. Beside, after delivering sugar cane to sugar mill to be milled, farmers still must think about yield-share system and sugar marketing after the sugar has been milled. Because farmers has 66% of share and sugar mill gets 34% (according to the agreement between sugar mill and farmers in the district studied) from result of sugar milled.[31] Of course, most of farmers submit part of their share to be

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[30] The studies of contract farming show that the farmers agreed that contracting helped them become better farmers, gave more reliable incomes, generated employment especially for women, provided new skills of farming, and did away with patron-client relationship between large and small producers. But, farmers generally find that the contracts are biased and enforce strictly. Firms provide poor extension service, overprice their services, pass on the risk to the producers, offer low price of produce, favor larger farmers, delay payments, do not provide compensation for natural calamity loss, and do not explain the pricing method. Farmers felt that they had little bargaining power compared with that of the companies which they perceived benefited more than the farmers, and that they had become dependent on the firms for credit and other inputs. See, Sukhpal Singh, Contracting Out Solutions: Political Economy of Contract Farming in the Indian Punjab, *World Development*, Vol. 30. No. 9, p. 1624

[31] Through economic analysis, yield-share system between farmers and sugar mill with 65% : 35% is actually mutual benefiting because it has already suitable with cost burden borne by farmers and sugar

bought by sugar mill, but few part of them remain taken by farmers, both to be resold and consumed by themselves. Yield-share system issues introduced by sugar cane farmers is interesting to be analyzed as a knowledge of how really the process of the system. Likewise, marketing system is also admitted as one of important thing faced by sugar industry in Indonesia and various kinds of effort have been conducted to solve the problems since 1969 (MUBYARTO, 1984:65). In some cases, this yield-share and marketing system are also determining how far actors in sugar industry sector get profit from the system applied.[32]

In general, process of sugar marketing applied so far is through the following procedure. *First scenario*, **sugar mill buys farmers' sugar share by using "borrowing fund"** (*dana talangan*). This borrowing fund can be gotten through two ways, they are from private investor or from government acceleration program (through *Perum Bulog*).[33] Selling price depend on agreement between sugar mill and sugar cane farmers. Then sugar mill sells through tender in PTPN (State-own Estate). If the tender is good and gain profit, then the profit is shared (by certain formula) with those who give the borrowing fund. *Second scenario*, **investor buys sugar share of farmers with agreement price**. As done by sugar mill, investor will sell the sugar through tender. Other than above, actually there is still another way for sugar cane farmers in selling their sugar share, farmers can sell it by themselves through tender process or sold directly to shops. Yet percentages of sugar cane farmers who use this model are so few.

Nevertheless, not every district or sugar mill has uniform pattern in marketing sugar. In Kediri District, for example, one of model used is farmers take some of their sugar share and then 90% of them is sold through APTR, and the remainder 10% is sold to retailer (shop) or it is consumed by themselves. APTR sell the sugar through tender process in Surabaya (capital city of East Java). Same with sugar mill's share, where it is

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mill. If proportion of the yield-share system changed, then one of them will be lost. See, Joko Roesmanto and Nahdodin, Bagi Hasil antara Petani-Pabrik Gula Tahun 2000, *Majalah Penelitian Gula*, Vo. XXXVI. No. 1-2, January-June 2000, p. 30

[32] In practice, part of inefficiency of sugar industry in Indonesia is caused by distribution and marketing. The prominent difference is seen between sugar price for producer and sugar price for consumer, where producer is only get about 55% from retail sugar price, while distributor and further marketing chain get about 45%. As a result, consumer must pay sugar price higher. See, Imam Churmen, *Menyelamatkan Industri Gula Indonesia*, Millenium Publisher, Jakarta, 2001, p. 105

[33] System used so far is if farmers' sugar have not already sold, they will get borrowing fund first (for 2003 sugar cane farmers agree to get borrowing fund Rp 3.410/kg of sugar). Furthermore, selling authority remains at farmers and the implementation is done through open tender that can be followed by traders who meet the requirement. In a agreement, it is stated that 25% of borrowing fund is provided by *Perum Bulog*, while 75% provided by private investor. If the result of tender is lower than borrowing fund, risk will be borne by *Perum. Bulog* and/or investor. While if tender price is more than borrowing fund, then the remainder will be divided proportionally between farmers 60% and *Perum Bulog*/investor (40%). See, Adig Suwandi, Dana Talangan Gula, Mengapa Diperlukan?, *Sugar Observer*, Year I, No. 11, July 2003b, p. 4

sold directly through tender process in Surabaya. The two patterns will end with the big trader (investor) buys sugar and distribute it to the regional market, local market, and industry that need sugar supply. Out of them, in Kediri District also found free tender marketing system, where both sugar mill's share and farmers' share are sold directly through tender process in Surabaya. With this kind of model, there are no many economic actors (like KUD and APTR) involved in sugar selling process. Meanwhile, smallholders sugar marketing system in Malang is little different, where sugar mill submit their sugar share to cooperative/KUD and afterward it is sold through tender process (in Surabaya) or to investor. If selling is through tender, then the sugar will be fall into big trader. But if the sugar is sold through investor, then it will be sold directly to Surabaya market to be distributed to other regions. While farmers' sugar share, as usual, most of them (75%) are sold to retailers (shops) and the remainder (25%) consumed by themselves. With this kind of pattern, most of sugar cane farmers admit that their profit is much higher than if it is sold through tender system.

Some questions proposed by sugar cane farmers concerning yield-share system showed the following result (Table 4.4). In general, sugar cane farmers know about their sugar share, especially sugar cane farmers in Kediri District (96.7%). The farmers get 65% as their sugar share and sugar mill get share of 35%.[34] But in Malang District, only less than 50% of sugar cane farmers know exactly the amount of their share.[35] Likewise, TRMs who know their share are about 63.3% respondents. Sugar cane farmers who do not know about the amount of their sugar share are susceptible to be manipulated by sugar mill. **Even most of sugar cane farmers said that their share of 65% actually has been manipulated by sugar mill, because according to the agreement made for the milling season 2003 sugar cane farmers actually get 66%,** both in Kebon Agung and Ngadiredjo Sugar Mills. Nevertheless, from manipulation of yield-share, sugar mill gets high profit enough. This agreement is made near to milling season, but there are little different of mechanism between Kebon Agung and Ngadiredjo Sugar Mills. In Kebon Agung Sugar Mill, yield-share agreement is made by five persons consist of KUD (two persons) and farmers representatives (three persons).

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[34] In practice, sugar mill has never implement the agreement that has been made with farmers. Sugar mill gives only 65% (from the agreement of 66%) to sugar cane farmers, so that sugar mill get share 35% (from the agreement of 34%).

[35] In such situations opportunistic actors may disclose information in a selective and distorted way. If one party holds private information at the time of contract negotiation, this party may be tempted to misrepresent this information for obtaining more favorable contract terms (*adverse selection*). After an agreement has been reached, there may not the terms of the agreement have been honored. This entails incentives to not comply with the agreement (*moral hazard*). See, Oliver E. Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications*, The Free Press, New York, 1975, p. 31

Meanwhile in Ngadiredjo Sugar Mill, agreement is made by sugar mill, representative of sugar cane farmers, and KUB

Table 4.4: Yield-Share Systems and Sugar Marketing Models of Sugar Cane Farmers

Description	Malang	Kediri	TRKs	TRMs
Sugar share	41.7% (65%)	96.7% (65%)	75.0% (65%)	63.3% (65%)
Molasses share	45.0% (shared)	46.7% (shared)	77.6% (shared)	10.0% (shared)
All taken in sugar form?	88.6% (no)	85.0% (no)	91.7% (no)	98.0% (no)
In-kind (sugar)	46.7% (10%)	95.0% (10%)	68.3% (10%)	73.3% (10%)
Selling sugar	64.5% (shop)	40.0% (shop)	36.4% (shop)	36.4% (shop)
Which is more profit-able to sell sugar?	93.3% (sold by own)	73.7% (sold by own)	89.6% (sold by own)	89.1% (sold by own)
Use mediator	83.8% (no)	94.1% (no)	96.0% (no)	84.8% (no)
Collective selling	74.4% (no)	84.4% (no)	70.5% (no)	88.6% (no)

Source: Own research (treated), 2003/2004

Meanwhile, when sugar cane is milled in sugar mill, at least two products produced, those are sugar and molasses. Sugar share is based on agreement among several parts, share of molasses is determined by sugar mill itself. The general applied rule is in each one quintal of sugar farmers will get molasses share of 2.5 kg. Although the price of molasses is about one tenth from sugar price,[36] but the number is meaningful for sugar cane farmers to increase their income. As a result of rule determined unilaterally by sugar mill, many sugar farmers do not know about their molasses share. From Table 4.4 it can be seen that **most of sugar cane farmers do not get any molasses share from sugar mill, especially TRMs (only 10% get molasses share).** While in Malang and Kediri Districts, total sugar cane farmers who get molasses share are less than 50%. Only most of TRKs who receive molasses share from sugar mill (77.6%). It is because since making contract with cooperative/sugar mill, TRKs have been given information about the yield-share system that will be received. The very poor fate is perceived by TRMs that almost all of them have never received molasses share. For this fact, there are two scenarios: **molasses is taken by middleman** (or other farmers who have SPTA) as 'service-money' because they have helped farmers delivering sugar cane to the sugar mill, or the **molasses is taken by sugar mill officials** for their role in entering TRMs to the sugar mill.

[36] Price of molasses/kg in 2003 is about Rp 410,-

Furthermore, **although sugar cane farmers get sugar share of 66% from sugar mill, but farmers rarely take all of their shares in the form of sugar (in-kind).** Majority of sugar cane farmers prefer to sell the sugar to the sugar mill so that they just receive in the form of money (more than 85%). In general sugar cane farmers confess difficult if they must bring all of their sugar share to their house, because beside they must provide place (warehouse), they must also pay transport and labor costs to bring the sugar. With this consideration, sugar cane farmers prefer selling the sugar cane to sugar mill with the lower price compared with market price.[37] From the Table 4.4 it can also be seen that the most of sugar cane farmers only take 10% from their owned sugar share, while the most part (90%) are sold to the sugar mill. For sugar cane farmers, it is easier to take a little sugar share because it will be easier for them to manage.

Other information, **most of sugar cane farmers have never engaged mediators to sell their own sugar share**, both based on the location and type of farmers. It seems that the sugar cane farmers have network with retailers (shops) that are willing to receive their sugar. The sugar cane farmers admit that they sell their sugar to retailers/shops located near to their house. Beside, amount of sugar that are not too big allow sugar cane farmers to manage the selling. It will be different if amount of sugar are very much so that it needs other economic actors to help them sell the sugar. In general, **sugar cane farmers also have never made cooperation to sell their own sugar**. As seen in the Table 4.4, more than 70% of sugar cane farmers (based on the location and type of farmers) have never collected sugar together to be sold to retailers/shops or tendered. They seem more pleasant selling by themselves. Whereas if they sell sugar collectively, may be sugar price will be better because the higher bargaining position in facing the retailers/shop owner. In the long term, farmers should be given suggestions in order to conduct collective selling (or via cooperative/KUD) so that it can reach better price compared if they sell each of them.

5. Concluding Remarks

In general, **institutional arrangements of contract (credit) sugar cane farmers (TRKs) is clearer than institutional arrangements of non-contract (non-**

[37] This is different with rice milling agribusiness in Thailand, where cooperative are involved. Farmers who obtain agricultural credit from their cooperative are able to repay the debt in the form of paddy: any surplus after the debt has been paid is paid by the cooperative in cash. Primary cooperatives then deliver the graded paddy to the rice mill operated by the provincial cooperative federation. This system enables farmers to keep rice in storage until prices are high, rather than sell it all immediately after harvest. See, Masahiko Shiraishi, et. al, *Cooperative Agricultural Marketing in Southeast Asia*, Food and Fertilizer Technology Center, Extension Bulletin No. 336, September 1991, Taiwan, p. 7

credit) sugar cane farmers (TRMs). In the contract system, farmers know exactly their share sugar and molasses. This is different with non-contract sugar cane farmers, where they do not get complete information so middleman takes most of their molasses. Therefore, government must open access for farmers to be able to get credit from bank, especially for non-contract sugar cane farmers/TRMs (who are not bound in contract with KUD/sugar mill), in order they do not rely on their credit on middleman with the high interest (more than 40%) and intransparently of contractual arrangement. **Some experts suggest government to establish Bank of Agriculture to serve financial needs of agricultural sector, including farmers.**[38] This should be done because credit aid from government (in the form of Credit for Food Security/*Kredit Ketahanan Pangan*) is not enough to fulfill all farmers' needs.

Returning function of APTR (Sugar Cane Farmers Association) as a farmers' representative that struggle for farmers' interest. The most important agenda is reforming APTR officials that is in so far dominated by '*leaf farmers*' (farmers who do not have sugar cane plants at all, they have profession only as sugar cane middleman). This '*leaf farmers*' have never considered about farmers' interest as a whole, yet they only think about their own personal interest. APTR officials must be filled by '*root farmers*', farmers who all their activities are planting sugar cane, farmers who to be the majority of sugar cane farmers in Indonesia. Thus, the function of APTR in the future is institution that really becomes mediator between farmers and sugar mill. Beside, it is also important to **returning function of cooperative/KUD as institution that helps farmers to get information, guidance/extension, cheap seed/fertilizer providing, and distribute credit quickly and low interest** so that it can support the declining of production and transaction costs.

Need to establish intermediary institution that trusted by sugar cane farmers and sugar mill to determine sugar content. To date, there is always suspicion from farmers that sugar mill assumed always manipulates the sugar content rate, so that farmers only get little of them. Otherwise, sugar mill regards that sugar content announced has suited with the true value. The problem is the determination of sugar content cannot be controlled by farmers because in technically farmers do not have capability. Here is the importance of intermediary institution as mediator of sugar cane farmers and sugar mill's interest.[39] There are many suggestions to prevent

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[38] Bank of agriculture has already applied in many countries, for example, in China (Agricultural Bank of China, French (Credit Agricolé), Dutch (Rabobank), Thailand (Bank for Agriculture and Agricultural Cooperatives), and South of Africa has Land Agricultural Development Bank Act. See, Sugar Observer, Year I, No 1, May 2003, p. 1

[39] Other way can be conducted is by making cooperation laboratory as a mean to determine sugar content by involving sugar farmers and sugar mill. Farmers and sugar mill can control the truth of analysis. If

suspicion, manipulation practice, and difficulty of access farmers to sugar mill, **it is proposed that farmers have sugar mill share (as shareholders) so that control mechanism will be easy to be done.**[40] By having share spread out in many owners made the control will be easy. Conceptually, this share ownership model will eliminate mutual suspicious, difficult access, and manipulation (sugar content).

there is difference of sugar content analysis, then the third independent party may be invited to be a mediator. See Kartono, Reformasi Sistem Penentuan Rendemen Tebu di Indonesia, *Gula Indonesia*, Vol. XXIV, No. 3, July – September, 1999, p. 47

[40] In America, a sugar mill American Crystal Sugar Company, through long evolution process has occurred radical change, where its share ownership possessed by cooperative of sugar cane farmers. Now, the company fills 25% of sugar market in America. See, Sugar Observer, Year I, No. 10, July 2003, p. 1

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