Application of Heterodox Economics Theory: Farmernomics and Farmerpreneurship Role in Generating Income Distribution

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ABSTRACT

Indonesia's trade system for agricultural products is inefficient. One of the reason is because the interminable chain of product distribution to the consumer. The condition made the cost of products for end-consumer higher compared with the cost of products for manufacturer. Farmers as producer of agricultural product, is a party that received the lowest revenue than any other agencies in trading system. Traditional farmers usually limited capital, therefore they usually have to get loan to start farming. This situation also made them unable to sell their products directly to consumer because they constrained by the loan arrangement. As the result, whenever food price increase neither farmer's income nor they welfare increase. Farmerpreneurship are activities to empowering farmers through farming assistance and the establishment agricultural products fair trade system. The new system will cut-down the marketing chain of agricultural products through the establishment of institution as a channel of distribution. Through the system, it is expected the farmers' welfare will increase and has equitable income distribution. Farmernomics is an economic system to support the necessity of farmers, for example: providing affordable seeds, regulating price reference and setting import policies for agricultural products.

Keywords: Farmernomics Farmerpreneurship, institution, agricultural trading system

1. Introduction

Agriculture is strategic sector as it provides foods for the population and alleviates poverty (Staatz, 1994). Agriculture also supports the development of Indonesian economy. During the economic recession in 1997-1998, the sector proved to perform as the crisis buffer. The contribution of the agricultural sector to Gross Domestic Product (GDP) and employment increased. Agriculture sector was able to absorb increased unemployment from the modern sector. The contribution to labor absorption slightly increased from 40 percent in 1997 to 40.8 percent in 1998 (Rifin & Anggraeni, 2010).

Despite the decrease in contribution of agriculture to GDP of 2011, the sector's share is remains high for US\$126.3 million or 14.9 percent (MOA, 2012). While for labor absorption, the agriculture sector absorption remains the highest among other sectors, for 39.3 percent or 42.12 million of labor from total labor force of 117.37 million (CBS, 2012). The percentage of population working in agriculture is the third world highest after China at 66% and India at 53.2% (IMF, 2012).

Population census 2010 shows 50.21 percent of populations live in rural area, where 40.54 percent of populations are rice and crops farmers (CBS, 2011). Most of farmers are traditional or small-scale or low-income farmers who live under the poverty line, about 64.65 percent of poor people in Indonesia are work in agriculture sector (CBS, 2010).

The poverty in agriculture sector is not caused the low productivity, but the limitation of cultivation land. Contrast with large-scale farmers in developed countries; the average cultivation area of small-scale farmers in Indonesia is less than 0.5 acre (Abdurachman, Mulyani, & Nurida, 2009; Darwis, 2008). This situation significantly gives impact to farmer's welfare, as they source to generate income are depend to the size of cultivation area (Darwis, 2008; Dassir, 2009).

The situation bourgeons; as capital

of small-scale farmers is limited, they need to get loan to start cultivating their farm. However, most of traditional farmers are less informed and not bankable, thus cannot get loan from formal financing institution. So as to get capital, farmers made loan contract with brokers. Consequently these farmers constrained by arrangement and have no access to product market. The result, whenever food price increase neither farmer's income nor they welfare increase (Irawan, Fluktuasi Harga, Transmisi Harga, dan Margin Sayuran dan Buah, 2007).

The aim of this paper is to describe the empirical case of farmer income distribution through institutionalization and trade regulation. We also try to explore whether the heterodox approach applied in the program made significant improvement toward the condition of farmers. It is important to understand the impact of the project to farmers' income. It would help to design and implement such project in other area in Indonesia.

2. Literature Review

Heterodox theory has several characteristic, Damanhuri (2010) state that this theory always adapted with reality in developing country, local value and local culture are recognized, synchronization between modern and traditional, and the important role in small scale business. In developing country, the development of agriculture sector has several main problem. To analyze this problem couldn't be approached without involving local culture and value. Limitation of cultivation area, capital, information, and access to product market are the poverty trap of farmers in the developing countries and become vicious cycle (Irawan, 2007; Darwis, 2008; Dassir, 2009; Abdurachman, Mulyani, & Nurida, 2009). Increasing justifiable access to product markets for farmers is of critical importance to the development of sustainable rural livelihoods in developing countries (Dorward et al., 2003; Conklin, 2008). Though, market access improvement for farmer believed able to improve income distribution, improving market access only is

not adequate for escape from poverty (Biénabe & Sautier, 2005; Ashby, et al., 2009)

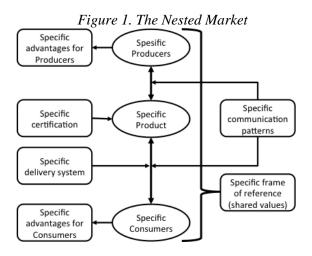
To break the cycles, the government have provides farmers with interventions by positive spillovers including rural credit systems, technological innovation, and infrastructure, communications and human capital formation (Ashby, et al., 2009). The establishment of farmers' organization or institution is a instrument to address the market access issue and way of intervention (Biénabe & Sautier, 2005; Bürli, Aw-Hassan, & Rachidi, 2008). The farmers' organization enables government and other agricultural agencies to interact with small-scale farmers and provide empowerment program (Irawan, 2004; Syahyuti, 2010).

Small-scale farmers' organization is important because most farmers in Indonesia have underlying problems, including 1) lack of insight and knowledge on the production management and market access; 2) focus at on-farm activities and separate from agribusiness activities: 3) agricultural institutions' role and function is not optimal (Dimyati, 2007). The existence small-scale farmers' institution, especially in rural area, is collective action that can address these obstacles and mitigate transaction costs. Institution can enable farmers to increase production and enhance competitiveness (Biénabe & Sautier, 2005).

However, this regulated form might results the farmers' institution capacity weak and not supporting the goal of program (Bourgeois, et al., 2003). Organizational form might damage the social structure or caused rural exodus syndrome, as a result of the inability of local institutions to adapt with social change. New institutional economics explains this difficulty can be solved by local institutional approach (Saptana et al., 2003; Bourgeois et al., 2003; Biénabe & Sautier, 2005; Syahyuti, 2010)

Local institutional approaches use the social elements, norms, ethics, and regulations relates to the activities of the local farmers (Sudiradisastra, et al., 2002; Syahyuti, 2010). Empowerment of smallscale farmers requires involvement of major institutional forms, i.e. the voluntary, private and public sectors (Saptana & Darwis, 2004). The partnership between producer and consumer could be sustain if there is supported by institutional arangements when the quality of product defended through specific certification or standard, Oostindie et all (2010)

The nested market concept follow Shanin (1973) in Oostindie H, et all (2010) by focusing on market places as specific places when specific transaction take places between specific suppliers and specific consumers who are linked through specific networks. Their transaction are embedded ini specific frameworks and specific advantages to both group. Nested market associated with distinctive products. This includes high quality product, regional specialties, organic food products, and specific forms of bioenergy agro-tourism and care facilities. Van der Ploeg et all (2010) stresses that market are socially constructed and are always embedded in a specific set of institution, more specifically, the concept reflect a range of new market has been actively created. Nested market potentially reduce transaction cost, it makes consumers saving their time for search for quality and reduce the risk disappointment. Nested market also reduces transaction cost for producers.



3. Discussion

3.1 Description of Program

The program was held from year of 2006 until 2010 in Warungkondang District, Cianjur Regency, West Java Province, Indonesia. Agricultural sector is backbone for the region's economy, Cianjur jobs in the agricultural sector of the population is about 62.99 per cent and contributed 48. 64 percent of the total Regional Gross Domestic Product (RGDP). Food crops is a sub-sectors that contributed the most of that is equal to 36.16 percent (Cianjur District Agriculture Office, 2006). Pandanwangi Rice is one of the major in commodities addition to commodities. Pandanwangi become pride of the citizens because it can only grow in certain areas, such as in the famous Cafes, Cugenang, Cilaku, Cibeber and Campaka. Generally, 58,000 ha of agricultural land planted with rice Pandanwangi amounts to 2,000 ha and 2,500 ha, with annual production capacity of 1,012 tons per month.

Warungkondang has an area of 5508 hectares with a number of villages as many as 11 villages. Rice grown by local farmer consist of several varieties. The most widely grown are Pandan Wangi and new superior variety. Rice cultivation techniques do farmers still use conventional methods. Rice production organized in farmer groups including joint institutional farmer groups (Gapoktan).

Gapoktan is formed by the Minister of Agriculture Regulation No. 237/kps/OT/60/4/2007 Institutional Development Guidelines Farmers. for Gapoktan Wangun Jaya established in September 2006 in cooperation with the Gugus Bisnis dan Kewirausahaan Agribisnis (GBIKE) are guided by the Department of Agriculture and the Ministry of Agriculture Cianjur. Gapoktan is comprised of 15 farmer groups that spread over five villages namely Bunikasih Village, Village Mekarwangi, Tegallega Village, the Village and Village Jambudipa Bunisari.

Number as many as 550 people Gapoktan members with an area of 617 hectares of rice fields. Vision of Gapoktan Wangun Jaya is to support agricultural development based on local potential in order to achieve support social welfare. While its mission is:

- a. enhance, preserve and maintain biodiversity and support agricultural development and plantation
- b. increasing both the quality and quantity of production of various commodities which have competitiveness and high economic value
- c. promote independence and participation of farmers, agricultural institutions and agricultural entrepreneurs in the agricultural development
- d. selective optimization of natural resources and environment
- e. improve knowledge and skills of human resources in an optimal
- f. encourage and facilitate the entry of construction investment in agribusiness and agro-tourism on farms and plantations.

Types ofbusiness activities conducted by Gapoktan rice production unit consists of Pandan Wangi; procurement of production inputs to make the purification of rice nurseries Pandan Wangi; accommodate production; perform processing, sorting, packaging and marketing of processed rice. In addition, gapoktan also provide guidance farmer members include the development of cropping pattern, cultivation and development of farmer groups.

3.2 Farmerpreneurship through Farmer Empowerment

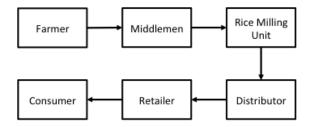
The definition of empowerment according to Oxford English Dictionary is "to give ability" or "enable to", "to give power of authority to". Empowerment has main purpose to expand the community access toward some resources by the creation process opportunity. The of empowerment covering three aspects, first create the situation that evolved the local potential, strengthen local community, and In other hand, protect community. empowerment is a process to upgrade the community in order to facing the nature of change.

Farmer empowerment in Warunkondang Sub District, Cianjur District

begins since 2006. The aim of this activity is to give a farmer an access to rice market. This program is held by G-BIKE, Department Agribusiness, of Bogor Agricultural University. There are two programs that implemented. First, giving the farmer an support to implement good agriculture practices. This method is caried by discussion held once in two week. The material is adjusted by farmer necessity. The term of "farmerpreneurship" in this program is held by giving a farmer awareness about the importance of product's quality. The improvement in rice quality such as freshness and purity will impact to higher selling price. To obtain high quality of rice, could be get by using labelled seed, amount of fertilizer that used, land mechanization, and arrangement of planting time to avoid pest. Coordination between farmer is a key succeed to built strong foundation sustainability on farm process. Farmer behaviour to get short time profit which mean only doing on farm process ordinally are eliminated with this program.

Second, the programme continued through purchase and sell farmers' products into specific market by using regional brand. The aim of this programme is to give farmer access to the market by connecting them to the consumer who willing to pay for premium rice. This activity differ the program with usual rice marketing chains. Normally, marketing chain of in Indonesia in consist of several parties which include, farmer, middlemand, rice milling unit, distributor, retailer and consumer. The process of marketing chain of rice summarized by figure 1.

Figure 1. Marketing Chain of Rice in Indonesia



By the harvest the farmer will sell paddy to the middlemen, by the price set with bargaining between them. Paddy then sold to rice milling unit to be processed into rice. Rice then sold to the distributor, and then to the retail, and last to the consumer. This long marketing channel impact to the small profit to farmer. Rice market structure such as this raises the economic rents that benefit a particular party, especially for traders who have capital. Big profit also received by merchant who speculate and overstock rice to get high margin from increasing price. Based on primary data, almost all Indonesian rice trading system going on like above mechanism. Every institution in this mechanism run separately broader scope of market. The disadvantages of this mechanism is the rice that eat by consumer has no traceability, consumer does not know the origin of their food. Other problems that appeared is the mixture of variety of rice, this impact to the quality of rice are not guaranteed, both in freshness and taste. The creation of specific market with specific producer and specific consumer which formed in it is expected to solve this problem. The building model of integrated rice marketing become long term objective of this program. The creation of market need institution specifics established its continuity, and also linkage between upstream and downstream farming process. There are several institution that needed such as farmer's group, post harvest and marketing institution, and supporting institution that must be integrated.

a. Farmer's Group

The development of farmer's institution is important to keep rice availability. Farmer as a producer are providing assistance to improve their role in production and marketing process. Coordination between farmer is important to rice continuity.

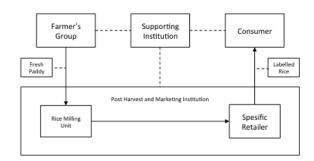
b. Post harvest and Marketing institution
Development in rice distribution network
by optimalizing rice milling unit which
managed by farmer is to make rice
marketing rice shorter than before. The
integrated rice milling unit will efficient
cost of transportation. If farmer has their

own processing machine, the role of middlemen are reduced, besides that the loss of paddy caused by remote transportation could be reduced. The program is doing by give a farmer rice processing machine. Post harvest process continued with labelling rice, the brand that use for this product is "Ayam Jago". Product delivered to specific consumer by making partnership with specific ritel in housing and some cooperation. The result of this marketing institution is the efficient rice marketing channel that impact to farmer's income.

c. Supporting institution

The role of supporting institution is to established whole system. The term of supporting institution in this system held by GBIKE. GBIKE's role as a buyer of rice and arrange the rice market, the arrangement is by doing partnership with specific retailer. GBIKE as a bridge for specific supply and specific demand. The necessity for buying rice immediately to get back farmer's capital for next planting season.

Figure 2. Integrated Marketing Channel of Rice



As a market arrangement result, the profit has increasing . Before the programm implemented, the cost for doing agriculture in one harvest season show in the tab below

Table 1. Farmers' Profit

Descriptions	Total (in Rupiah)*
Sales of Paddy	21,000,000
Seed Fertilizer Labor Pesticide Total	350,000 1,500,000 3,500,000 650,000 - 6,000,000
Profit *1 US\$= 10.000 Rupiah	15,000,000

Source : Primary Data

Based on the data, farmers get net profit reached Rp. 15,000,000,-. This amount if farmer have minimum land ownership about 1 hectare, if farmer only has 0.3 hectare, net profit is only Rp. 5.000.000,- for six month, it means farmer only lived with Rp 833.000 per month. This amount is quite not enough to give wealth. The farmer that doing paddy plantation can be separated into two, land owner and peasant who doesn't have land. Peasant received a very little income for their effort, this is because net profit also divided into two, so the peasant tonly get Rp 2,500,000 for six month or Rp 416,000 per month, Rp 13.867 per day. After this program implemented, the rice price increasing along with quality, this impact to the farmer's profit net 20 percent higher than before. Farmers get guarantee that their product will always sold as long as the consistency in product quality. The creation of this integrated rice market also give the consumer advantages such as the quality of the product (freshness and taste). The increasing of demand for this product also giving advantages to farmer. This integrated rice marketing system could be implemented in broader area, in case there are regional institution which play role as rice buyer and monitoring whole process of rice production.

Farmernomics

The term "Farmernomics" in this paper refers to the regulation that support and give an incentive for farmer to hold their on farm activities. Krisnamurti (2006) stated that agriculture is not only the products that

are subject to the law of demand, supply, prices, and profits. Value for agriculture as a God-given gift that should be used responsibly. Agriculture should be able to provide added value for the culprit, especially for farmers as an important party in the sustainability of agriculture itself.

Regulation to support on farm activities include the stabilization and the availability of agricultural input especially *seeds*, regulating *price reference and setting import policies*

Seed

Seed had important role agriculture development. Farmer could not produce good crops if there is no good seed. Seed is a blue print for development of agriculture. Based on data from Indonesian ministry of agriculture (MoA), amount of paddy seed that needed for developing food security are reached 349.000 ton. The fulfillment of this held by private and state owned entreprise. Hybrid paddy that most produced by private entreprise gives an advantages high productivity of rice, but if farmer try to use it in second generation, the productivity sharply decline, farmer could not breed the seed by theirself. The using of this hybrid seed also give extra cost for farmer and different treatment in fertilization process.

Besides that, the using of local varieties of seed also still implemented by almost farmer in Indonesia. There are a hundreds local paddy variety that most of farmer in Indonesia cultivated. The using of this local variety has advantages and disadvantages. The advantage is local variety and have different is pest resistant characteristic that fit to the land. Indonesia potentially to develop seed industry that based on local variety because biodiversity. Partnership between state owned entreprise and farmer as a seed producer should be established well.

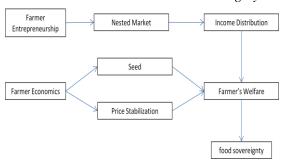
a. Price stabilisation and import regulation

Price stabilization become an important part, fluctutation of price can impact to Indonesian macroeconomic condition. Staple food, especially rice is one of factor that contributed to inflation rate. The fluctuation of food price can caused by seasonal variations and different planting and

harvesting time. Fluctuation also caused by geographical differences, especially in resources, both nature and human. Since 1967, Indonesian government has made some policies to stabilized food price. Ironically, price stabilization policy has trade off to farmer's welfare. This is happen when import implemented when harvesting time. Half of rice consumption also fullfilled by import. Based data from CBS, amount of imported rice year 2012 (April) reached 834.000 metric ton with value reached US\$ 456 million. The exporting country is Thailand, Vietnam, China, India, and Pakistan. The impact of this policy lowering rice price in farmer level. This is contrary with consumer's price level. The profit from rising price are gained by merchant who speculate by overstock rice in their storage. Abdurahman (2011) state that AFTA made producer's surplus decline due the declining of import tariff. Local rice price will be lower because high supply of rice in market. In order to keep farmer's welfare, the effective policy is raise up purchasing rice price in farmer level. By determine floor price, farmer not suffer from financial losses caused by price declining.

The important result from creating farmer's welfare could be simplify into figure below

Figure 3. Farmerpreneurship and Farmernomics to create Food Sovereignty



Food sovereignty will established if farmer as an actor has an incentive to increase production. Farmers have the right to get access to food with high purchasing power (Rahardjo, 2011). To achieve this requires an economic system embodied in the regulations that support farmers to produce food at a cheap price and is able to provide enough income for farmers in meeting their

daily needs. Policy that implemented should totally covered whole agricultural process, both upstream and downstream. The conservation of local variety of rice, for example Pandanwangi is important to keep local value and local culture.

CONCLUSION

- 1. The role of institution to establish new integrated rice marketing channel impact to raising farmer's income
- The government has important role to set policies that impact to the farmer's welfare
- 3. Farmer's welfare is important to create food sovereignty

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