Marketing and Institutional Characteristics of Dairy Industry In Indonesia

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Abstract— The aim of this study was to map comprehensively as the basis for the implementation of technologies that met the needs of dairy farmers. Specifically, the objectives were: to analyze the marketing and institutional characteristics of dairy industryy in rural farmers. The target population is dairy farmers in Central Java, Yogyakarta and East Java Provinces. The numbers of samples were selected in nine dairy cooperatives, which were three cooperatives represented each province, three milk processing industries, and totally 270 farmers as respondents. Data were taken such as demographic characteristic of farmers, farmer groups, and marketing line of milk distribution from farmers to consumers. The results showed that the institutional environment of dairy industry and governance both from Cental Java, Yogyakarta and East Java need handlers more serious, it can be seen from the dependence of farmers on the institutions that exist including cooperatives and milk processing industries still high. From the aspect of livestock farming, cows in East Java showed better performance than the two other major regions, namely Central Java and Yogyakarta. Distribution and marketing of milk which is currently still depends on the institutional binding of cooperative, and dairy processing industry, and there has been no increase of participation in enhancing the value chain.

Keywords—Institutionalization, marketing, dairy cattle, smallholder farmer.

I. INTRODUCTION

Development of agricultural sector, including livestock is one of the strategic choice to support the national economy and the region, This choice is based on the consideration that the agricultural sector has repeatedly proved itself as a sector that is resistant to the economic crisis and a property assets basis for public welfare as well as for the overall economic development activities. Farming is a field of business that is very important in the life of mankind. This is related to the readiness of the livestock sub-sector in providing public food from animals, essential for development and growth. Nutrient content of livestock and dairy products until now have better value than the original nutrient content plants. In order to achieve the goal of livestock development to meet the nutritional needs, the development of animal husbandry at this time, has been directed at the development of more advanced breeding through territorial approach, the use of appropriate technology and the adoption of a new principles that are the efficiency, productivity and sustainability.

Sustainable rural development is an issue that many developing country governments, donors and nongovernmental organisations continue to grapple with. Agricultural markets are promoted as a possible pathway to rural development, as they are seen as important for economic growth and addressing poverty (IFAD 2010). Milk and milk products are economical important is consumed as whole fresh milk or in fermented form farm commodities and dairy farming is an investment whereas 46.6% is used for butter making and only 5.2% option for smallholder farmers (Tsehay, 2001). Dairy processing and marketing are important in the development of the dairy industry (ILCA, 1980). Efficient processing apart from extending the shelf-life of milk, add value to products, while an efficient marketing system will tend to encourage production and increases income leading to better welfare of dairy farming farmers. The study of milk marketing systems is also essential to provide vital and valid information on the operation and efficiency of milk product marketing system for effective research, planning and policy formulation (Adebabay, 2009).

Access to markets for smallholder rural farmers, however, has numerous challenges. Market access issues present local to global connections that can be both opportunities and challenges for rural smallholder farmers (Kapungu, 2013). On one hand the structural changes in markets through integration on national, regional and international markets provides an opportunity for participation and profit for smallholder farmers who are able to supply new product lines and meet the market's needs (IFAD 2010). On the other hand, however, these new opportunities present risks of marginalisation of small rural farmers in favour of larger producers who are able to meet the stringent market requirements and meet the higher entry costs (IFAD 2010). Therefore, market access issues touch on a range of other issues that need to be addressed if rural

smallholder farmers are to benefit from market access (Kapungu, 2013). Duguma and Janssens (2014) suggested that improved and appropriate milk processing technologies and formal marketing system to be in place to improve milk processing and marketing for sustainable dairy production. The formation and development of smallholder dairy farmers' groups aims to increase and commercialize dairy production activities and exploit economies of scale by capitalizing on collective action through group processing and marketing. The farmer orfanizations and collective actions are seen as key factors in enhancing livestock farmers' access to market (Hellin, et al., 2008). The mobilization of smallholder dairy farmers into groups intends to provide better market opportunities through collective action. Acting collectively for market access can also help correct some of the market imperfections, such as high transaction costs and missing credit markets, and fill in coordination gaps especially for dairy products (Markelova et al., 2008).

Dairy cattle business in Indonesia mostly run as a secondary occupation so that its management is still far from the principles of good farming practices. Starting from such a condition characterized by the dairy farm in small-scale enterprises, venture capital limited capabilities, management is still semi-traditional, yet fully using appropriate technology, productivity and product quality is still low. On the other side shows the limited availability of infrastructure, both related with the procurement of production inputs, as well as post-production. These conditions make the development of domestic dairy industry tends stagnant. From the institutional side, the majority of dairy farmers in Indonesia are members of dairy cooperatives. The cooperative is an organization that acts as a mediator between farmers with milk processing industries. The role of cooperatives as a mediator needs to be maintained. The service needs to be improved by improving the quality of human resources and strengthening cooperative networking with processing industries as well as by implementing contract farming. Unfortunately, farmers are still facing problems. Among other low ability farming especially regarding animal health and a low quality of breed. These deficiencies result in slow growth besides milk production also affects the quality of milk produced. It is also the difficulty of land as a source of forage grass for feed, high transportation costs, as well as smallscale enterprises. In terms of marketing milk from farmers in the country, the presence of Presidential Decree No. 4 of 1998 on the coordination and development of national milk which is part of the Letter of intense (LoI) set by the IMF, the government regulations that restrict imports of milk, which requires the dairy processing industry absorbing domestic fresh milk as a companion of milk imports for raw materials industry became no longer valid.

Milk imports with the instruction free entry into a commodity. Processing industry has the option to satisfy the required raw material is fresh milk from domestic or imported. It is also then leads to a relatively low price of fresh milk received by farmer in the country. Another problem, the dependence of farmers on the processing industy in the fresh milk market is still high. The absence of concern of the government to farmers will lead to a tendency that the fresh milk price received by farmers is relatively low. The existence of enforcement of strict standards of raw materials by industy among dairy farmers sit on bargaining (bargaining position) is low.

Policy of dairy industry in Indonesia is firmly focused on the development of people's dairy cooperatives collected in mik container. Thus, the patterns of these efforts have not been able to increase profits optimally for dairy farmers or income level generally still low. Income reward dairy farmers new people is labor, which on analysis of revenue is never taken into account and that too with the value per month is very low, averaging only approximate value of the regional minimum wage (Santosa, 2008). Dairy farm which is actually dominated by dairy farmers of the people, an agribusiness activity that has the role of a strategic, among others: (1) Establishment of National GDP, (2) Increasing net exports or reduce the net import of national, (3) Absorption of labor, (4) Provision of national food, (5) Equitable development and development results, and (6) Protecting the environment to ensure sustainable development (Aviliani, 2008).

The role of farmer groups for the development of farming, especially dairy farmers to realize the independence of the business is very important. Function group is a place of teaching and learning for its members to improve the knowledge, skills and attitudes as well as the growth and development of self-reliance in to farm so that increases productivity, incomes grow and become more prosperous life. The objectives of this study were: 1) to describe the institutional characteristics of dairy industry in rural farmers in their respective marketing agencies and farmers, and 2) to analyze the distribution and marketing of milk, from production, processing to market.

II. RESEARCH METHODS

The target population is dairy smalholder farmers in three provinces, namely Yogyakarta, Central Java, and East Java. The study was conducted by survey method, the technique of triangulation: a questionnaire to farmers, in-depth interviews, and focus group discussion. In addition, the data also be strengthened by secondary data from relevant agencies. The samples used were milk processing industry, cooperatives, and farmers. The number of samples was selected three dairy cooperatives

that represent each province, three milk processing industry, and 30 farmers per cooperative, totally 270 farmers. Two data collection techniques were used, namely: 1) observation, data collection by directly observing the object of research; and 2) the interview, namely the collection of data by requesting information from respondents; while secondary data using recording techniques; namely the collection of data by recording data that already existed in the department or institution related to this research.

III. RESULTS AND DISCUSSION

3.1 Characteristic of farmers

Characteristic of farmers include age, education, farming experience, number of family members and occupation, as well as farming objectives influence the pattern of raising dairy cows. Farmers' characteristic data can be seen in Table 1.

TABLE 1

FARMERS' CHARACTERISTIC DATA (n=270 RESPONDENTS)						
Age group	Yogyakarta		Central Java		East Java	
(year)	Person	Percent	person	percent	Person	percent
< 20	0	(0.00%)	0	(0.00%)	1	(1.11%)
20 - 29	1	(1.11%)	2	(2.22%)	14	(15.56%)
30 - 39	16	(17.78%)	7	(7.78%)	25	(27.78%)
40 - 49	26	(28.89%)	32	(35.56%)	22	(24.44%)
50 - 59	27	(30.00%)	28	(31.11%)	19	(21.11%)
60 - 69	15	(16.67%)	16	(17.78%)	7	(7.78%)
70 – 79	3	(3.33%)	5	(5.56%)	1	(1.11%)
80 - 89	2	(2.22%)	0	(0.00%)	1	(1.11%)
Total	90	(100.00%)	90	(100.00%)	90	(100.00%)
Average	49.4	49 ± 11.31	50.97 ± 10.31		41.83 -	± 12.48

Table 1 shows that the 40-59 age group is the group that has the largest percentage amount in Yogyakarta, Central Java and East Java. But in East Java has other major groups i.e. group of 30-39. On the average, East Java has average age of farmers who are younger than the other two provinces, with an average of 41.83 ± 12.48 years. Yogyakarta has average 49.49 ± 11.31 , while Central Java has average 50.97 ± 10.31 years.

3.2 Formal education

More than 50% of farmers with low education and no schooling. This shows that there is still lack of human resources in the light of formal education. Overal was domined by elementary level. In addition to formal education is also supported non-formal education are as follow counseling and training on the maintenance of dairy cows, feed, artificial insemination, fertilizer processing, dairy processing, and animal health (>50%) but low scale of individual farmers. Then farmers who do not attend school in Yogyakarta as much as 16.67%, 17.78% in Central Java and East Java 10% (Table 2).

\mathbf{F} ORVIAL EDUCATION ATTAINED DT RESTONDENTS ($\mathbf{I} = 270$ RESTONDENTS)						
Education	Yogyakarta	Central Java	East Java			
No schooling	15 (16.67%)	16 (17.78%)	9 (10.00%)			
Elementery school	43 (47.78%)	43 (47.78%)	57 (63.33%)			
Junior high school	10 (11.11%)	13 (14.44%/	14 (15.56%)			
Senior high school	21 (23.33%)	16 (17.78%)	8 (8.89%)			
College/university	1 (1.11%)	2 (2.22%)	2 (2.22%)			
	90 (100.00%)	90 (100.00%)	90 (100.00%)			

 TABLE 2

 FORMAL EDUCATION ATTAINED BY RESPONDENTS (n=270 RESPONDENTS)

From Table 2 shows that majority respondents in the three provinces have not received basic education of 9 years, which is the province of Yogyakarta, Central Java and East Java each successive 64.45%, 65.56% and 73.33%, respectively. This condition is in accordance with the findings of Priyanti et al. (2009) reported that dairy farmers in the province, West Java, Central Java, Yogyakarta and East Java is relatively low education which is an average educated equivalent to elementery school.

3.3 Occupation

Work as dairy farmers are the mainstay for farmers to Yogyakarta and East Java, whereas in Central Java as their main occupation was farmer. While dairy cattle of the farmer in Central Java became a secondary occupation (Table 3).

	Yogyakarta		Cenral Java		East Java	
	Person	Percent	person	Percent	person	Percent
Main occupation						
Dairy farmer	72	80.00%	33	36.67%	81	90.00%
Rice farmer	14	15.56%	45	50.00%	5	5.56%
Retailer	1	1.11%	7	7.78%	0	0.00%
Cooperative staff	0	0.00%	0	0.00%	2	2.22%
Private company staff	2	2.22%	5	5.56%	1	1.11%
Gevernment officer	1	1.11%	1	1.11%	1	1.11%
	90	100.00%	90	100.00%	90	100.00%
Secondary occupation						
None	46	51.11%	21	23.33%	48	53.33%
Dairy farmer	18	20.00%	47	52.22%	9	10.00%
Rice farmer	11	12.22%	13	14.44%	18	20.00%
Retailer	5	5.56%	3	3.33%	13	14.44%
Cooperative staff	1	1.11%	3	3.33%	1	1.11%
Private company staff	8	8.89%	3	3.33%	1	1.11%
Gevernment officer	0	0.00%	0	0.00%	0	0.00%
	90	100.00%	90	100.00%	90	100.00%

TABLE 3 THE MAIN OCCUPATION AND SECONDARY OCCUPATION WHICH IS OWNED BY THE RESPONDENTS

3.4 Experience raising dairy cows, the number of workers, and the number of family members

An average of business experiences are 16.98 years of (Yogyakarta), 19.27 years (Central Java) and 19.55 years (East Java). The average experience shows that dairy cattle business is a business handed down in accordance with the sociological conditions that cattle farming are a source of investment so that agricultural farming cannot be separated from livestock (Table 4). The average number of family members between 3 to 4 people. For cattle raising activities not only dominated the head of the family but also determined by the role of wife.

TABLE 4 EXPERIENCE RAISING DAIRY COWS, THE NUMBER OF WORKERS, AND THE NUMBER OF FAMILY MEMBERS OF DECRONIDENTE

KESPONDEN 15						
Parameter	Yogyakarta	Central Java	East Java			
Experience raising dairy cows (year)	16.98 ± 9.66	19.27 ± 11.15	19.55 ± 11.30			
Number of family worker	1.69 ± 0.54	1.86 ± 0.61	1.80 ± 0.76			
Number of family member	3.56 ± 2.14	3.92 ± 1.24	3.98 ± 1.44			

3.5 **Farming purpose**

The purpose of the maintenance of dairy cattle by farmers (Table 5) prioritized on milk production (priority 1) and savings (priority two) for farmers in East Java and Yogyakarta. As for the farmers in Central Java reverse priority 1 is the savings, and the second priority is the production of milk. For purposes other than maintenance is for the cost of children education, use manure as fertilizer, as well as companion animals or for pleasure (hobby).

FARMING PURPOSE					
Priority in order	Yogyakarta	Central Java	East Java		
Priority 1	Milk production	Save	Milk production		
Priority 2	Save	Milk production	Save		
Priority 3	Children's edcation	Children education	Children education		
Priority 4	Fertlizer	Companion animal	Companion animal		
Priority 5	Companion animal	Fertilizer	Fertilizer		

TABLE 5
FARMING PURPOSE

3.6 Cattle ownership and milk production

Ownership of dairy cows varies greatly among the three provinces. Table 6 shows that the three provinces in average livestock ownership is still under economies of scale as suggested Ahmad and Hermiyetti (2008) that is 10 to 12 head/farmer. Only farmers in East Java approaching economies of scale, even exceeding the recommended, Setiani and Prasetyo (2008) reported that dairy farm household level can provide benefits if the amount is kept at least 6 heads. The composition of lactating dairy cows ownership still needs to be improved because it has not reached the requirement to provide a business advantage that is \geq 70% (Nurtini, 2006). Conditions of livestock ownership is low partly caused by lack of capital and difficulty finding forage due to limited land for fodder crops to supply the quantity and quality of feed is also limited. This situation led to dairy farming has not been efficient (Priyanti et al., 2009).

DATA OWNERSHIL OF CATTLE AND MILK I RODUCTION							
Parameter	Yogyakarta	Central Java	East Java				
Number of catle owned (AU)	3.56 ± 2.12	4.06 ± 2.72	8.85 ± 7.02				
Animal status (%)							
Lactation	53.60 ± 27.17	68.07 ± 24.29	64.95 ± 21.42				
Non lactation (dry)	8.88 ± 22.59	$4.17 \pm 14,75$	10.22 ± 16.18				
Heifer	22.66 ± 20.87	10.63 ± 19.33	10.84 ± 13.98				
Bull	0.00	2.79 ± 11.30	3.00 ± 8.21				
Male calf	5.87 ± 13.15	7.20 ± 8.63	2.91 ± 5.79				
Female calf	8.99 ± 11.34	7.14 ± 9.97	8.08 ± 9.10				
Average of milk production(liter/head/day)	10.00 ± 3.27	8.23 ± 3.34	10.95 ± 3.76				

 TABLE 6

 DATA OWNERSHIP OF CATTLE AND MILK PRODUCTION

Lacatation cow proportion is still low and yet achieved economical standard shows that the burden of the lacating cows is high enough to bear the cost of production for cows that do not produce. However, this proportion has increased over the study Priyanti et al. (2009) in the provinces of West Java, Central Java, Yogyakarta and East Java, which on average is only 51.6%. Ownership male calf is relatively small because in general the male calves are sold at the age of 6 to 12 months. For female calf maintained as they are used as a relatively small replacement. Daily milk production is still relatively low, still around 10 liters/day/head. The highest production achieved by farmers in East Java, followed by farmers in Yogyakarta, then Central Java.

3.7 Marketing and Institutional Farmers in Groups and Cooperatives

Marketing of fresh milk and other dairy products from farmers to consumers in the three provinces various plot. Most farmers market their milk to IPS via groups and cooperatives, as the chart in Figure 1.



FIGURE 1. MARKETING CHANNEL OF DAIRY INDUSTRY

In addition, the percentage of farmers against membership to cattle and cooperative groups can be seen in Table 7. The table shows that not all farmers of the three provinces belonging to the group of livestock and cooperatives for the sale of milk and farming activities. For Yogyakarta, 100% belonging to the group of dairy farming and cooperatives. In Central Java for 58.89% of farmers do not belong in the group, took 36.67% and 4.44% of livestock groups independently. Then 95.56% of farmers are members of cooperatives and 4.44% self-sufficient in milk sales and management of livestock. In East Java for

71.11% of farmers do not belong to the group and 28.89% participating herd. Then 100 % of the farmers are members of cooperatives in the sale of milk and livestock management.

 TABLE 7
 INSTITUTIONAL FARMERS IN GROUPS OR COOPERATIVES

	Yogyakarta		Cen	ital Java	East Java		
Institution	Total	Percent (%)	Total	Percent (%)	Total	Percent (%)	
	(person)		(person)		(person)		
Farmer group							
Not join	0	0,00	53	58,89	64	71,11	
Join	90	100,00	33	36,67	26	28,89	
Independent	0	0,00	4	4,44	0	0,00	
Cooperative							
Join	90	100,00	86	95,56	90	100,00	
Independent	0	0,00	4	4,44	0	0,00	
Committee	15	16,67	19	21,11	16	17,78	

3.8 Milk Cooperative and Milk Processing Industry

Results of a survey conducted in dairy cooperatives and milk processing industries in Yogyakarta, Central Java and East Java are listed in Table 8.

RESULTS FOR THE DAIRY COOPERATIVE AND MILK PROCESSING INDUSTRY						
Respondent	Milk revenue (liter/day)	Milk price (Rp)	Sell product/milk to			
	C	ooperative				
Warga Mulya	2,500	4,500	PT. Sari Husada			
UPP Kaliurang	4,500	4,500	PT. Sari Husada			
Sarono Makmur	4,800	5,500	PT. Nestle			
Cepogo	11,500	4,300	CV. Cita Nasional			
Mojosongo	40,000		PT. Friesian Flag			
Getasan	12,000	4,300	PT. Friesian Flag			
KSU-TSA	15,000	5,100	PT. Indolakto			
KPSP-SK	74,000	5,100	PT. Indolakto			
MBM	19,000	5,100	PT. Indolakto			
	Milk pro	ocessing industry				
CV. Sweet Sundae	70 - 150	5,000 - 7,000	Semarang, Ambarawa, Jakarta, Bogor,			
			Gombong, Banyumas, Malang, Bali,			
			Balikpapan			
CV. Cita Nasional	25,000 - 30,000	4,300	Jakarta, Bandung, Jogja, Sukabumi,			
			Semarang, Purwokerto, Surabaya,			
			Sidoarjo, Makasar			
PT. Indolakto	100,000	5,100	Processing product marketed to most areas			
			in Indonesia			

TABLE 8

3.9 **Conditions in Yogyakarta**

Three dairy cooperatives in the province, namely Warga Mulya, UPP Kaliurang and Sarono Makmur has been working with industries region of Yogyakarta namely PT. Sari Husada and East Java, PT. Nestle. Warga Mulya fresh milk every day sent to PT. Sari Husada 2,500 liters, being cooperative UPP Kaliurang send 4,500 liters of fresh milk/day to PT. Sari Husada. The origin of the milk cooperative has met the quality standards of milk. Sarono Makmur Cooperative sending fresh milk to the PT. Nestle and agents as much as 4,800 liters of milk/day. Milk from the cooperative farmer members of the cooperative comes from Sarono Makmur. Milk from these cooperatives also meets the standards of quality fresh milk.

Milk processing industry in Yogyakarta relatively new is Sweet Sundae, its main products are ice cream, and a small portion of milk pasteurization. Milk is used every day as much as 70 to 150 liter. Milk is purchased from farmers in surrounding areas. Prices of milk in the cooperative range from Rp 4,500 to Rp 5,500. Sweet Sundae got milk directly from farmers at prices ranging from Rp 5,000 to Rp 7,000.

3.10 Conditions in Central Java

Dairy cooperatives in Central Java, among others Cepogo, Mojosongo and Getasan cooperatives have cooperated premises PT. Nasonal Cita, PT. So Good Food and PT. Friesian Flag Indonesia. Cepogo Cooperative received 11,500 liters of milk/day were sent to the CV. National ideals and PT. So Good Food. The dairy cooperative has met the standards of quality milk. Mojosongo Cooperative received fresh milk from farmers to 40,000 liters/day are sent to PT. Frisian Flag Indonesia, the milk met the standards of milk quality and antibiotic test. Getasan Cooperative received milk from farmers 12,000 liters/day are sent to the PT. Frisian Flag Indonesia, the milk has met the standards of milk quality and antibiotic test.

Milk processing industries in Central Java, the receiving milk from the cooperative is CV. National ideals. Milk received as much as 15,000 to 16,000 liters/day. Price of milk purchased CV. National ideals of cooperative Rp 4,300/liter.

3.11 Conditions in East Java

Milk cooperatives in East Java include KSU-Livestock Cooperative Sejahtera Abadi (KSU-TSA), KPSP-Setia Kawan (KPSP-SK) and Bhakti Mitra Makmur (MBM), the third of the cooperative has been working with IPS PT. Indolakto. Milk from the three cooperatives have met the quality standards of milk required by KSU-Livestock IPS. Cooperative Sejahtera Abadi received 15,000 liters of milk/day, Cooperative KPSP-solidarity received 74,000 liters of milk/day, while Cooperative Bhakti Mitra Makmur 19,000 liters/day. Cooperatives sent milk to the PT. Indolakto. IPS in East Java is PT. Indolakto, process the milk received from the cooperative of 100,000 liters/day. The purchase price of milk from the cooperative Rp 5,100, - / liter.

3.12 Processing milk cooperative

The survey results indicate that dairy cooperative in the province do the processing of milk, the only cooperative UPP Kaliurang that do not process milk. This is probably due to the cooperative UPP Kaliurang under the guidance of PT. Sari Husada in Yogakarta, so that all the fresh milk delivered to that company. Products of dairy cooperative in the province are mostly pasteurized milk, while a small portion is yogurt. Cooperatives in Central Java and East Java from the survey results do not perform the processing of milk, it is probably because milk from the cooperatives all already absorbed by the processing industries, so that cooperatives are not interested in milk processing.

IV. DISCUSSION

Dairy farm folk although able to revive the economy of rural communities but based approach is economically less profitable or even unprofitable because of the ownership of cattle is low, so it is advisable to increase the scale of its business to be economic. Some studies said dairy farm household level that can provide benefits if the amount is kept at least 6 heads. To realize this suggestion a lot of things to consider are: 1) if the ownership increased, how the production inputs especially land availability forage and labor, because it is generally a dairy farmer using family labor, 2) how the marketing of milk, and 3) from which the capital to increase ownership of livestock? Farmers need incentives to develop dairy farm more efficient so that in turn will strengthen the domestic dairy industry.

An economist in the analysis, departing from an understanding of the market mechanism works. Economists at the same time also realize that the market does not always exist. If it exists, the market does not always work perfectly, because there must be a condition in which one perfect market assumptions are not met. Does the existence of externalities, public goods, economies of scale, imperfect information or asymmetric, the problem of coordination to the strategic behavior. The consequences of the market is not perfect of course no one party better off than the other, and vice versa. What economic incentives received by dairy farmers activity in the economy, is caused by the existence of individual economic actors in market and also existing policy. Economist actors related to the dairy industry, mainly manufacturers, who are mostly farmers and consumers folk mostly milk processing industries as well as a dairy cooperative mediator. Policy in the field of national dairy industry that now applies is 5% import tariff. Thus the total farmers have an incentive not even have to undergo a disincentive. It was concluded that the dairy farmers of the people in the business have not received incentives (Nurtini, 2006).

Domestic fresh milk marketed mostly as raw material by processing industry. However, can not meet the total demand for raw materials. Thus, it still has to bring in raw materials from abroad in an amount far greater than the domestic milk. So far the contribution of domestic milk to satisfy national demand has reached about 30%, and the rest is met from imports of milk from different countries milk producers. Indonesia in international dairy trade map in the position as a net consumer.

Although most of the milk production of dairy farmers folk marketed to processing industries, but only meet one third of needs. Until now, the industries is still very dependent on imports of raw milk.

In marketing, farmers joining the cooperative in order to sell the milk to IPS in group. By selling to the cooperative, farmer was guaranteed a stable market, as well as technical guidance received directly by the officers/extension worker of the cooperative. But not all farmers have to rely on cooperatives so that farmers can also sell directly to the public of milk production in the form of fresh milk and dairy products. Milk sold to industry processed into products sweetened condensed milk, milk pasteurization, evaporation milk, milk sterilization/UHT, fermented milk, yoghurt, ice cream, butter, cheese and milk powder. Dairy cooperatives in marketing fresh milk from members faced with the fresh milk market structure that is non-competitive. This condition causes the cooperative to be very dependent on processing industries, because most of the fresh milk sold to them, no other alternative markets. Even if there is only in very small quantities, which merchant to milk processing, end consumers and cultivated by the cooperative in the form of pasteurized milk. This condition causes the processing industry has bargaining position is very strong, and cooperatives have weak bargaining power. This condition causes the structure of the fresh milk market in the country becoming an oligopoly even tend monopsony.

Research in Cooperative and processing industries in East Java reported that the price of fresh milk is the contract price agreed upon by the cooperative and industries. The determination of the contract price is based on the quality of fresh milk sold. To get fresh milk quality industry parties regularly conduct audits implementation of Standart Operating Procedure (SOP) concerning the condition of the enclosure and milk-can belonging to members of the cooperative, the feasibility of the equipment cooling unit and tank transport fresh milk, and management members. In the current circumstances, that there is no policy governing the IPS must absorb domestic milk, raw milk is imported as a competitor to watch, given the quality of domestic milk that is far from the quality raw materials imported milk.

Is not really a problem if it is linked to the fulfillment of milk nationally, whether it will be filled from abroad or from domestic production, even in terms of quality of course been of better quality regardless of where it came from so the quality of the milk is consumed Indonesia guaranteed. However, given that the domestic dairy cattle farming still needs to be fostered, then the import policy of raw milk will certainly affect the growth and sustainability of the domestic fresh milk producers. In the practice of marketing fresh milk, processing industry is still considered the primary market should only be an alternative market of other market opportunities are linked more closely with the interests of farmers. Indonesian people who prefer milk powder and condensed milk than fresh milk or fresh milk is a challenge and an opportunity for fresh milk producers in the country. Breakthrough market opportunities should be best utilized.

V. CONCLUSION

Institutional conditions of dairy industry and of good governance of the Central Java, Yogyakarta and East Java handlers need more serious, it can be seen from the dependence of farmers on existing institutions including cooperatives, milk processing industry is still high, and results on the ground to get that profile of dairy farmers is very low seen from milk production, reproductive data from farmers and performance itself. The distribution and marketing of milk which is currently still depends on the institutional binding of farmer group/ cooperatives and dairy processing industry, there has been no increase farmers' participation in enhancing the value chain.

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REFERENCES

- [1] Adebabay, K. 2009. 'Characterization of milk production systems, marketing and on-farm evaluation of the effect of feed supplementation on milk yield and milk composition of cows at Bure district, Ethiopia.' MSc thesis, Bahir Dar University, Ethiopia.
- [2] Ahmad, I and Hermiyetti. 2008. Analisis produksi dan konsumsi susu di Indonesia. Prosiding Seminar Nasional Prospek Industri Sapi Perah Menuju Perdagangan Bebas 2020. Jakarta. 21 April 2008. Pusat Penelitian dan Pengembangan Peternakan, Bogor bekerjasama dengan Sekolah Tinggi Ilmu Ekonomi Keuangan dan Perbankan Indonesia.
- [3] Aviliani. 2008. Peran BRI dalam membangun ekonomi berbasis agribisnis yang tangguh dan kompetitif. Agrimedia Vol 13.
- [4] Duguma, B and G.P.J. Janssens. 2014, Smallholder Milk Processing and Marketing Characteristics at Urban Dairy Farms in Jimma Town of Oromia Regional State, Ethiopia. Gobal Veterinaria 13 (3): 285-292.

- [5] Hellin, J., M. Lundy, and M. Meijer. 2008. Farmer organization, collective action and market access in Meso-America. Food Policy. 34: 16-22.
- [6] ILCA. (International Livestock Center for Africa). 1980. ILCA Annual Report and Program Highlights. ILCA, Addis Ababa, Ethiopia.
- [7] International Fund for Agricultural Development (IFAD). 2010. Rural Poverty Report Rome: IFAD.
- [8] Kapungu, S.T. 2013. A study of rural women farmers' access to markets in Chirumanzu, Thesis submitted in fulfillment of the requirements for the degree Master of Philosophy inSustainable Development Planning and Management at Stellenbosch University, SouthAfrica.
- [9] Markelova, H., R. Meinzen-Dick, J. Hellin, and S. Dohrn. 2009. Collective action for smallholder market access. Food Policy, 34(1),1-7.
- [10] Nurtini, S. 2006. Insentif Ekonomi dan Daya Saing Usahatani Sapi Perah Penghasil Bahan Baku Industri Pengolahan Susu (IPS) Di Daerah Istimewa Yogyakarta. Disertasi. Tidak diterbitkan. Sekolah Pascasarjana Universitas Gadjah Mada. Yogyakarta.
- [11] Priyanti, A., S. Nurtini and A. Firman. 2009. Analisis Ekonomi dan Aspek Sosial Usaha Sapi Perah. Profil Usaha Peternakan di Indonesia. Pusat Penelitian Pengembangan Peternakan. Badan Penelitian dan Pengembangan Pertanian. LIPI Press. Jakarta.
- [12] Santosa, U. 2008. Mengelola Peternakan Sapi Secara Profesional. Jakarta: Penerbit Swadaya.
- [13] Setiani, C. and T. Prasetyo. 2008. Penguatan Kelembagaan Pemasaran Susu untuk Mendukung Pengembangan Industri Sapi Perah di Jawa Tengah. Prosiding Seminar Nasional Prospek Industri Sapi Perah Menuju Perdagangan Bebas 2020. Jakarta. 21 April 2008. Pusat Penelitian dan Pengembangan Peternakan bekerjasama dengan Sekolah Tinggi Ilmu Ekonomi Keuangan dan Perbankan Indonesia.
- [14] Tsehay, R. 2001. Small-scale milk marketing and processing in Ethiopia. In: Proceedings of the South. Workshop on smallholder milk production and marketing constraints and opportunities. March 12-16. Anand, India.