

Social Embeddedness on Fresh Milk Development Programs under Creating Shared Value concept

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Abstract. After 36 years, the complicated import policies in Indonesia are not yet helping government Indonesia to lower the import of milk products. Industries are still importing 80% of their annual dairy products requirement which will need solid and holistic dairy development programs. The complexity of dairy developments are involving layers of systematic problems. This article is focusing on the social embeddedness of dairy farmers who sit in the beginning of long business fresh milk supply lines whom voice may not yet recognized in the policy. Despite that the dairy supply development had been regulated since the leadership of President Soeharto, the change of government had created inconsistency of policies. The macro level inadequacy of consistent implementable regulations had created self-regulation of dairy farmers development programs initiated by industries which help them to survive in meso level. Creating Shared Value concept applied by a fresh milk manufacturing industry in East Java as part of rural development program which have increased the quantity and quality of fresh milk production from 25 liter per day in 1980s to 700 tons per day in 2021. However, the gap of fresh milk demand still must be covered with import. The social embeddedness process becomes essential for the implementation of dairy farmers development program to implement government policy and dairy farmers development on self-supply in Indonesia territory. The article explains the study of social embeddedness process in related to social link and trust of dairy farmers. The article wants to find the reason of dairy farmers in rural East Java area are not yet consistently applying or adopting the Good Farming Practice as set by Creating Shared Value business philosophy.

Keyword: Social Embeddedness, Rural Development, Dairy Farmers, Fresh Milk, Social Network

1 Introduction

The case study for this paper is the social embeddedness of dairy farmers on fresh milk development programs as key point of fresh milk development in East Java. It attempts to analyze the case from the micro level of dairy farmers as members of dairy cooperative that supply fresh milk to an Industry who applies fresh milk development program with Creating Shared Value concept.

1.1 Fresh Milk Development in Indonesia

In the mid of 1980s fresh milk mandatory absorption became national strategic policy to involve industries in receiving good quality of fresh milk supplied by local dairy farmers. At that time the complicity of fresh milk development was focusing on good breed cows and calf

imported from Australia under responsibility of Minister of Cooperative, supported by Minister of Trade and Industry, Minister of Agriculture and Investment Coordinating Board. However, the national facility to help dairy farmers with good cow/calf was not supported with good farming practice knowledge and technology. Milk Processing Industries in East Java, West Java and Central Java were working together to create systematic dairy absorption system to create fair pricing on fresh milk quality. It helps dairy farmers to understand what to produce, how to produce and why it is important to produce and to supply good quality fresh milk. It is important to understand the complexity of fresh milk development to have a helicopter view to find the pin point on fresh milk development by finding the main root cause in applying Good Dairy-Husbandry Practice [1].

During reformation era, Ministries offices have more independent policies which are not decentralized by President and therefore each of government agencies is setting their policies without holistic approach that should have created bridge in between policies that support the complexity of fresh milk developments. In macro level, the Ministry of Economy Coordination has tried to coordinate Ministry of Industry, Ministry of Trade, Ministry of Agriculture and Investment Coordinating Board, Dairy Industries, and Dairy Cooperatives to set national road map on fresh milk development program. Unfortunately, the road map is not focusing on dairy cow milk and therefore it is not touched the essential issues faced by dairy (cow) farmers.

1.2 Social Embeddedness in Small Network

Social network in small world network of dairy farmers consist of set dairy farmers which connected by personal, work or trust in economic motives [2]. Trusted informant is dependable to distribute information that transform dairy farmers. The reason to trust the informant is relatively cheap; is richer, more detailed, and known to be accurate; has a continuing relation and have an economic motivation to be trustworthy, so as not to discourage future transactions; and departing from pure economic motives, continuing economic relations often become overlaid with social content that carries strong expectations of trust and abstention from opportunism [3][4].

2 Method

The method for this article is qualitative approach by using Soft Systems Methodology to find the root cause and to set the basic approach on Fresh Milk Development in rural area. It is an inquiry to explore one case in East Java in bounded system to Creating Shared Value concept of Fresh Milk Development. The type of case study is empiric case study [5]. The data sources for this article are entirely from the secondary sources, in depth interview (+/- 2 – 2.5 hours) and Focus Group Discussion with Government Agencies, Industries and Dairy Cooperatives represented Dairy Farmers in which requires to define the rich picture and set the p, q, r actions [6][7][8].

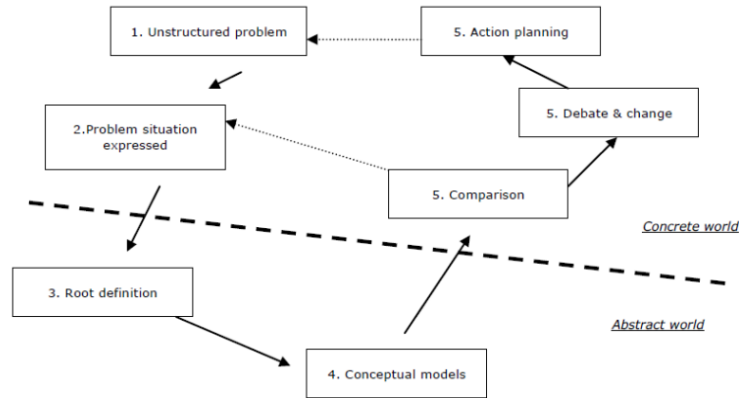


Fig. 1. Soft System Methodology Steps

3 Results and Discussion

3.1 Complexity of Fresh Milk Development in East Java

During the past 30 years, Fresh Milk Development is focusing on the technicality of producing fresh milk in this case is how to manage adult productive cow into pregnancy in healthy and good condition. The East Java province has the highest level of fresh milk quality with average TPC less than 1 million per liter fresh milk since 2010 from 42 dairy cooperatives, with more than 27,000 dairy farmers managing more than 70,000 dairy cows. In East Java there are 70% of low-income dairy farmers with 2 – 3 dairy cows per family head. There are more than 550 fresh milk collecting points, more than 300 fresh milk cooling unit center and supported by 450 units of cooling tank truck. Almost 90 – 100 truck of fresh milk will transport 700 tons per day to factory in Pasuruan region covering dairy farmers in 20 – 300 km distance from factory [5]. Dairy Farmers have explained that the technicality requirement set by Industry is very high due to specification of fresh milk to produce milk for children (growing up milk). The unnegotiable quality of milk is necessary to create the most efficient production process. The final result of fresh milk development is good quality fresh milk under efficient investment and implementation of good dairy husbandry practice. It will include the Creswell [9].



Fig. 2. Complexity of Fresh Milk Development in Rural Area of East Java – Indonesia

From fig. 2 we could see how fresh milk development in rural area of East Java requires multi systems of good dairy-husbandry practice; dairy farmer’s attention to cow’s wellness, good breeding process, access to clean water, regeneration of good cow genetic, land ownership system for grass, cattle feed supplements/concentrate, medicine, medics, and many more.

3.2 Fresh Milk Development under Creating Shared Value concept in East Java

Non-holistic approach has underlined fresh milk development in rural community when government released Government Regulation No. 47 of 2012 regulating Corporate Social Responsibility. The regulation has put social development responsibility on Industries/Companies as mandatory condition. It means that Industries/Companies/Investors are in charge to develop community in its surrounding or furthermore that are affected by its business. This regulation sits in opposite side with business philosophy of Creating Shared Value which put all stakeholders in charge in creating value/benefit including in charge on the development of community as part of business sustainability.

Creating Shared Value stands on the Company’s responsibilities to shareholder to maintain a sustained business which strategically put every stakeholder along its business line to work together in creating positive impacts/added value as one chain reaction. Creating Shared Value concept applied in dairy development program in East Java is focusing on three main principles, namely (a) water, (b) nutrition and (c) rural development. Each of parts are influencing each other and therefore become inseparable development system. East Java province has implemented fresh milk development under Creating Shared Value business concept for the past 10 years. Yet the fresh milk local supply only reaches 70% of its manufacturing capacity requirement [10].

3.3 Social Embeddedness of Dairy Farmers in Rural Area

The cost of managing good dairy-husbandry practice is not independently coming from dairy farmers because most of them are small farmers which have to take 2nd or 3rd job as food hawker, selling grass to other dairy farmers, cigarette retailer, or other jobs that can help them to buy grass for their cows, to purchase daily grocery, put their children to school or to manage mandatory social activities e.g. family’s wedding, commemoration of the nearby neighbors who passed away, *arisan* (monthly gathering with money collected from its group member), *khitanan*

(traditional circumcised ceremony of young boys to mark the end of their childhood period), and other traditional social events. Low-income dairy farmers will have to sell their productive cow or calf to manage their house renovation, pay school registration fee for their children, sending their teenagers to university/college, or to taking care their old and ill parents who stay with them.

Dairy farmers work together under the nearest dairy cooperative which will support the members of cooperative with distribution of feed cattle concentrate/supplements, sharing information on good dairy-husbandry practice, lending loan for dairy cow wellness or daily groceries, providing members with animal medicine and medics team, providing cooling unit, financial scheme for biogas, or working together with third party or with industry in social projects. Working projects under Creating Shared Value concept are covering water, nutrition and rural development. Through cooperation with non-government institution, industry will need dairy cooperative's support to approach their potential members who are willing to follow new fresh milk development programs. The programs try to include all necessary aspects of cow's wellness, which will depend on how dairy farmers believe and trust the program. There are only 12 Agronomist from the industry who are working to convince dairy cooperatives and approaching selected dairy farmers as pioneers. By focusing on selected farmers, Industry hope to be able to build trust of other dairy farmers who live near-by the projects.

The selection process is made based on dairy cooperative recommendation on the evaluation performance, working value, historical record of related dairy farmers, especially on the history of quality and quantity of fresh milk supplied to the dairy cooperative. Dairy cooperatives in the business lines becomes the supplier of fresh milk to industries that manage its member to supply the expected quota with required specification. Cooperative has additional function, namely, distributing the required specification, informing the composition of basic fresh milk selling prize, the basic good dairy-husbandry practice, and to monitor the dairy farmers evaluation by engaging the smaller group unit consist of 35 – 250 dairy farmers.

3.4 Analysis

At macro level, fresh milk requirements in Indonesia are 40 million liter while the domestic supplies are only 10 million liter per year. With 5% growth per year, Indonesia will depend on import [11]. Therefor the low production of fresh milk has opened new window of development. The condition requires national awareness to have holistic policies and concept of dairy development program. Since 1985, the President of Soeharto had instructed all his cabinets to work together in a holistic approach to be self-supply of all agro-products. The regulation was the Instruction of President No. 2 of 1985 which worked as guidelines for all his ministries to put aside institution-ego and to put their energy to approach high technology countries to transfer their technology of good farming practice and developed partnership with local dairy farmers as part of investment requirement in Indonesia. The regulation had been revoked. Under top-down policies, strong monitoring and controlling on the implementation of fresh milk mandatory absorption, the system worked for 10 years. Now Indonesia has new regulation only in Minister level (Minister of Agriculture Regulation No.16/Permentan/PK.450/7/2017 which is not strong enough to bound other government/ministries offices to work together.

The regulation of Investment Coordinating Board is regulating partnership as mandatory requirement for liquid milk foreign investment to build cooperation/partnership with local suppliers. The partnership means to put them equally and not only as suppliers. However, the partnership definition and partnership program/scheme should be regulated in higher level of regulation e.g. Law or Government Regulation or Instruction of President to create more pressure to cooperation in treating the dairy cooperatives as partners. Since 1985, the regulations

are not clearly regulating the scheme of fresh milk supply system and the fresh milk development. Every fresh milk development program within national scope is still in concept or roadmap. If there is such regulation, it is only in Ministerial level which are not powerful enough to make other government agencies focusing their sources on more holistic approach of fresh milk development in Indonesia. The interpretation of partnership will fall under investors/industries which at the end will compete against each other in the global competition.

At meso level, Creating Shared Value as business philosophy is not yet cascaded to and understood completely by +/- 27,000 dairy farmers who supply the fresh milk located in rural areas of East Java province. The dairy farmers are asking the management of cooperatives to be their spoke person to Industry. The Company or the owner of fresh milk development programs must depend on the social network in meso level, namely Dairy Cooperatives, which connect them to dairy farmers. Dairy Cooperative becomes the only efficient link to its members by structural, social culture, social belief and social economy. The management of dairy cooperatives are mostly high-income dairy farmers. Dairy Cooperative will become the only structural institution that connects Industry and dairy farmers and build the link of trust from both sides. Cooperative becomes the voice of Industry to dairy farmers and vice versa. Cooperative turns to be the middle of stretching point between Industry and Dairy Farmers. By philosophy, cooperatives are created by dairy farmers and regulated by government to become the voice of dairy farmers as an economy institution with bargaining power. For Industry, Cooperative is fresh milk supplier. The connection between Industry and Cooperative is Business-to-Business. Therefore the market competition faced by Industry are becoming the competition of Cooperative if the Company treats Dairy Cooperative as supplier/vendor only. Cooperation may push Dairy Cooperative to become more efficient managing its member, producing cost efficient fresh milk with good specification in good price/lower price. Cooperation may use the same policy for its vendors to compete them and find the best goods in the lowest price. Creating Shared Value concept are helping to balance the power of company to create benefit not just for the company, but also for its suppliers, at the end is benefit for the dairy farmers.

Global competition has influenced how corporate works, including to create competitive pricing of fresh milk purchase. The question of dairy farmers to cooperatives mostly are the reasoning on price milk composition. Each of dairy cooperatives has different financial scheme as part of partnership program. Industry will decide what kind of fresh milk that they need to provide, in what basic price and the facility/cost invested in the dairy farmers to help them implementing good dairy husbandry practice. There is investment of industry, dairy cooperatives commitment, transfer of knowledge from agronomist and the hard work of dairy farmers in every liter of good quality fresh milk. All the complexities of issues mentioned before are tackled by three major players in meso level (industries, investor, dairy cooperatives). Fresh milk with TPC less than 1 million per liter in East Java is the result of social network, trust built within stakeholders on the importance of producing good quality of fresh milk efficiently and the social embeddedness between the stakeholders to create good fresh milk. Due to limited budget to implement fresh milk development program, corporation has to work together with dairy cooperatives and non-government agency to implement social mapping, transfer of knowledge, capacity and motivation building, to build dairy farmers trust to keep making living as dairy farmers. Without regeneration and continuous improvement on the price scheme, benefit scheme and facility scheme, some of dairy farmers will lose their trust to dairy cooperative, to industry and to the fresh milk development program under Creating Shared Value concept. Therefore the concept itself should be applied in multilayers of programs, water, nutrition and rural development. Those aspects are simultaneously affecting the dairy farmers

live. Without clean water, dairy farmers will face high total plate count in fresh milk because they need clean water to clean up the barn, the cow, to wash their hand and to have healthy live. Without clean water, the member of family will get ill and the cost for medicine will be high with other snowballs affect that they cannot do their daily activities. They cannot put the money for good dairy husbandry practice e.g., buying good quality of grass, cattle feed concentrate, or put their children to school.

At micro level, dairy farmers are the key to the implementation of good dairy husbandry practice. In East Java the dots of social networks are exist in between dairy farmers. One rural area with 350 families is running the same occupation, dairy farmers. They believe that being dairy farmers will protect them from poverty. They become the master of their own. They believe that working hard to keep 2 – 3 cows in 3x5 meters square of land in their backyard are prestigious and it will be enough to make a living. Dairy farmers are aware on the fresh milk development programs and the expected target. However, the low-income dairy farmers are required more attention and faster transfer of knowledge including the value of Creating Shared Value. It means they could have more subtle understanding on why they do what they did and how to make it better. Some of the farmers mostly have three main issues: (1) how to get subsidized good grass, (2) low cost of cattle feed concentrate, and financial management/support to produce good fresh milk. They know what to do, but they do not have the source. Transfer of knowledge is mostly done based on recommendation of Dairy Cooperative who will be successful enough to implement it. For low-income dairy farmers, it will be difficult to consider the financial loan scheme with bank or with dairy cooperatives. They should provide loan guarantee e.g., cow, good fresh milk quality supply during loan period and the monthly cut to pay the loan. Documentation, complexity of loan requirement and commitment to be audited before and during the loan period have been the major consideration of the dairy farmers to join the program. Fresh milk development program under Creating Shared Value has targeted dairy farmers to apply waste management as fertilization or to use Biogas facility, wider barn allowing cow to walk and sit, fan for the cow, rubber floor which is quite expensive, solid container for food and water in the barn, giving the cows more drink (not just 2 times), clean stainless steel milk tank, cooling tank unit in the nearest fresh milk collection unit, clean hygiene in handling the milking process and to provide good and clean food and drinks for the cow.

The difficulties that have been found on the low-income dairy farmers with 2 – 3 cows living in less than 150m² home. The dairy farmers have to manage the cow from 3 a.m. until late in the evening. They are starting to clean the barn, clean the cow, feed them, give them drinks, milking process and send the fresh milk to the nearest cooling fresh milk collecting center. After dairy farmers arrived at home, they have to start to go to the market for daily grocery, buying ingredients and cooked before selling the food as street hawkers. With extra job, they will earn Rp. 40.000,- (USD 3) to buy green grass for 2-3 cows. With so many living cost they have to meet; especially during pandemic (mask, gloves, internet for their children to present virtually at school), higher cattle feed concentrate and during dry season, to find/buy good green grass for their cows, each dairy farmer will need an extra job to manage the cow's expenses. Sometimes they could not understand why the fresh milk supplied to the fresh milk has a lot of cuts. Sometimes they wish to understand why the fresh milk has different price. The questions are culturally based not yet asked in formal forum. Most of them are keeping them because they do not want to be judged as talkative or build distrust with other members. During queuing line in fresh milk collecting unit, the dairy farmers; even in the pandemic, are not talking to each other or to have discussion of pricing in fresh milk, fresh milk development programs or even to talk about the milk they produce. The talk about fresh milk is rarely appear in between informal forum e.g. evening Friday's praying (*pengajian*) group, *arisan* (monthly informal fund

collection), or other informal group talk. There are 350 dairy farmers in one group discussion with one head of group who shall be in charged maintaining the shipshape of fresh milk development.

Low-income dairy farmers by social level feel uncomfortable to talk with medium or high-income dairy farmers because they have experience to be ignored or to be mistreated with sarcasm. Some of the low-income dairy farmers want to have solution on grass loan supply from people who may have more grass in their subsidized land. Unfortunately, competition in between dairy farmers have caused competitive culture that make the dairy farmers have to buy the grass instead to borrow it. The value of cooperatives in Indonesia is actually *gotong-royong*, it is the traditional value that have similarities with Creating Shared Value. The difference is *gotong-royong* has more social moral consciousness to help other people who are in need. The traditional value of *gotong-royong* in traditional dairy cooperatives has slowly diminished. During dry season, village will collect rice, grass, manage water distribution for the whole village to help each other during difficulties. These days, those action are not strongly applied. The competitiveness is cascaded to the lower level, namely dairy farmers and make the low-income dairy farmers in more exclusive system because they do not have enough subsidized land for grass, no confidence to be registered in cow's regeneration program, and low economy-self-esteem to follow the programs, despite that they know it is good for their living.

Io Iacono [12] has explained that the key of inclusivity is to build one bridge of communication and help the exclusive small group to have the information, and enhance their lives with improvement and transfer of knowledge [12]. The key of social development, especially fresh milk development in rural area, is to enrich this group with trusted information from trusted informal community agent (religious group head/community group head) [13][14]. Some formal institution creates more significant functional authority to certain head of group that put the members of the group in different/lower level to voice their interest [15][16][17].

In level macro, meso and micro level, we can put one rich picture that describe the position, the link and the function of each stakeholders that strongly relates to fresh milk development in East Java.

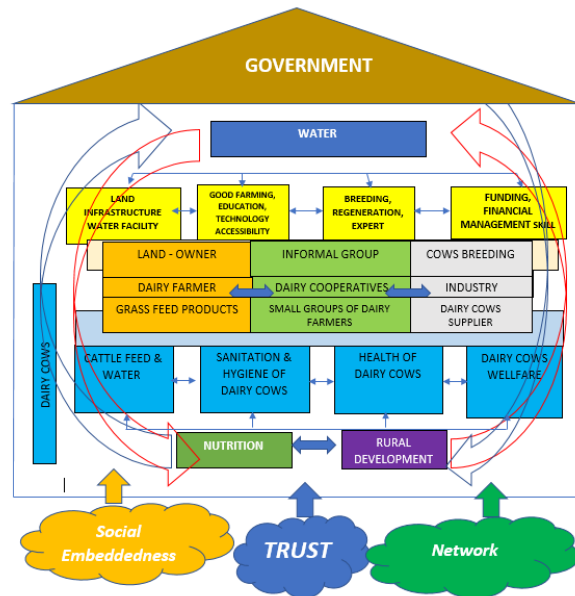


Fig. 3. Rich Picture Stakeholders in Fresh Milk Development in East Java

4 Conclusion

The business philosophy Creating Shared Value as the foundation of fresh milk development in East Java province becomes the basic soul for dairy farmers, dairy cooperatives, industry to do sustainable self-supply. Government as regulator and controller have stronger position to protect, to acknowledge and to endorse the concept to prevent other non-ethical players to destroy the programs. It is very important for Government Agencies to play their role back again and regulate the mandatory *gotong-royong* (cooperation) value in between stakeholders. In this matter, President supported by Legislation shall support the fresh milk development with applicable regulations, not to release more regulations that create complicity or create hole to destroy the fresh milk development system. Players who just want to buy good fresh milk without chipping-in or buying/interrupt the supply without willing to do significant holistic partnership program, should be regulated to participate in the scheme with coordination from government and current program owner. The process and the shape of social embeddedness in the fresh milk development program in East Java has shown trust in the programs, but the dairy farmers have financial difficulties to apply it. The funding needs to be shared among strong economy actors e.g. financial institution, non-government agency who has similar goal on rural development, water and nutrition in rural area, and government who has interest to lower import animal products.

Building and maximizing approach to informal group to convince and connect the low-income dairy farmers are important to create more inclusive condition. Information and access to information of financial support or transfer of technology become essential in fresh milk development for dairy farmers. Creating more 'custom-made' financial scheme are required for low-income dairy farmers.

Sociology structure of dairy farmers networks in social embeddedness of Io Iacono's [12] research may be useful to help small exclusive networks of dairy farmers to enjoy spillover effect of technology transformation in high density of dairy farmers group [12]. Higher density of social ties in dairy farmers will create more overlap networks reputation systems. Dairy farmers that grouped in dairy cooperatives with increased liability and stronger incentives to be reliable. It will create belief that trustworthiness of fresh milk development program will be more common. By believing that the fresh milk development program is working, there is stronger propensity to trust unknown actor; Industry the owner of programs, to introduce and intercept new advance information of good dairy-husbandry. The flow will help more sustainable circular economy to smaller group of dairy farmers. The spillover effect can be applied to motivate the dairy farmers, industries, dairy cooperative and government including the global market to help the rural development area. Poverty in one area will cause global environment effects. Smaller and/or informal group of dairy farmers could be useful to introduce and transform more strategic approach.

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