

The role of a dairy development project in affecting the milk value chain in Merapi through promoting an inclusive business model

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Abstract. A dairy development project funded by private company in collaboration with government, university, NGO, cooperatives, and other stakeholders was carried out to revitalize the dairy sector in Merapi area. The project started in 2012 in order to help dairy farmers who were affected by big eruption of Mount Merapi in 2010. Some challenges occurred during the implementation of the project such as the low milk productivity, the low milk price, the animal health (Brucellosis), the low experience in dairy farming activity and the uncertainty of capital endowment (in particular cows) leading to a critical situation. Together with formal and informal farmers' leaders, the project management then changed the project activities by promoting, implementing and supporting an inclusive business model (in phase 2). The study aimed at understanding the role of the dairy development project phase 2 in 2016 to 2017 in affecting the milk value chain through an inclusive business model. The data were collected from the focus group discussion and the in-depth interview with 35 farmers, project management, NGO, private sector, community leaders, and other stakeholders. Qualitative and descriptive analysis were performed to understand the situation. The result showed that there was a change in milk value chain in the area. Initiated by beneficiary farmers, a new milk cooperative was established with more transparent and professional management. What is attracting farmers in joining this cooperative was the higher and the individual milk price given by this cooperative in order to have more profitability. Led by a vet and experienced farmers, cooperative members believed that this cooperative could bring more happiness not only for farmers but also for the cows. To conclude, the study underlines the importance of project activities in affecting milk value chain through promoting an inclusive business model.

1. Introduction

A dairy development project funded by private company in collaboration with government, university, NGO, cooperatives, and other stakeholders was carried out to revitalize the dairy sector in Merapi area. The project started in 2012 in order to help farmers who were affected by big eruption of Mount Merapi in 2010. Some challenges occurred during the implementation of the project such as low milk productivity, low milk price, animal health (Brucellosis), low experience in dairy farming activity and uncertainty of capital endowment (in particular cows) leading to a critical situation. Together with

formal and informal group farmers' leaders, the project management then changed the project activities to create solution.

Our study aimed at understanding the role of the dairy development project (phase 2 in 2016 to 2017) in changing the milk value chain through an inclusive business model. The study only focused on the project phase 2 because in this phase the project focused on promoting, implementing, and supporting an inclusive business model.

2. Material and methods

2.1. Study site

Our case study was located in Merapi area where the altitude is more than 500 m [1]. This area is potential to develop dairy farm due to the cool wet climate. The study site is a mount area that has long been a centre for dairy farming in northern area of Sleman District, DI Yogyakarta Province. However, in 2010 the dairy sector in Merapi area was seriously impacted by a big Mount Merapi eruption and started to be revitalized in 2011.

2.2. Research design and sampling

The study was conducted from April 2016 to September 2017 in Merapi area (Sleman District, DI Yogyakarta Province). Primary data were collected through the focus group discussion and the in-depth interviews. In-dept interviews were conducted to different stakeholders including the project manager, the private sector, the public authority, and the 35 farmers who received benefit from the project. To complete the information, secondary data were also collected from the milk cooperatives, the NGO in charge, and the public authorities.

2.3. Information taken into account and the data analysis

We collected information about the project activities, the value chain before and after the project intervention, and the milk prices (buying and selling price), payment method, and the main drivers of change. After the data collected, we then performed a value chain analysis and descriptive analysis.

3. Results and discussion

3.1. Project activities

The dairy development project started in 2012 until 2017. There were phase 1 (March 2012 to March 2014), transition phase (March 2014 to March 2016) and phase 2 (April 2016 to December 2017). In the phase 1, the dairy project focused on providing credit for 43 farmers and building a collective barn. In the transition phase, a brucellosis crisis affected the implementation of the project leading to the culling of around 50 cows. The crisis caused 39 farmers exited the collective barn. Due to a critical situation in the transition phase, the project team had to adjust the activities based on farmers' needs and situation. Formal and informal leaders suggested project team to involving other existing excellent farmers in the area to be "satellite farmers". Project activities in the phase 2 focused on providing more technical supports, trainings and contract farming (shared animals) to 35 existing dairy farmers. In this phase, project management promoted an inclusive business model.

3.2. Contract farming

The project management applied contract farming for "satellite farmers". They received a pregnant heifer with a "Pass on Gift/PoG" scheme. Farmers managed this heifer and every calves borned during that time would be shared between farmers and project management. Money comes from calf selling would be 60% for farmers and 40% for project management. Milk produced had to be sold to the project management. The contract would be until 2 years since farmers receive PoG cow.

The facilities provided by the project management were not only PoG cow but also access to concentrate feed, access to training, and replacement of PoG cow in some condition. Those satellite

farmers supported by the project management initiated to build a new transparent cooperative. The total members of the cooperative were 50 farmers (65 percent from satellite farms), led by a vet and experienced farmers. All members expected this new cooperative can bring more profit to secure their livelihoods. What is surprising is that not only satellite farmers who join this new cooperative but also other farms. Discussion with farmers pointed out this new cooperative could bring a new hope to increasing their livelihoods. This new cooperative is an inclusive business model (producer-driven model) which was characterized by collective action of smallholder dairy farmers for better participation in market [2].

3.3. The changes in the value chain

The main change driven by the project activities was the establishment of a new cooperative (producer-driven model). With this new cooperative, the value chain also transformed before and after project activities in 2016 to 2017 (Figure 1 and 2). The study supports evidence from previous study [3] that inclusive business affected structural change in agri-food chain.

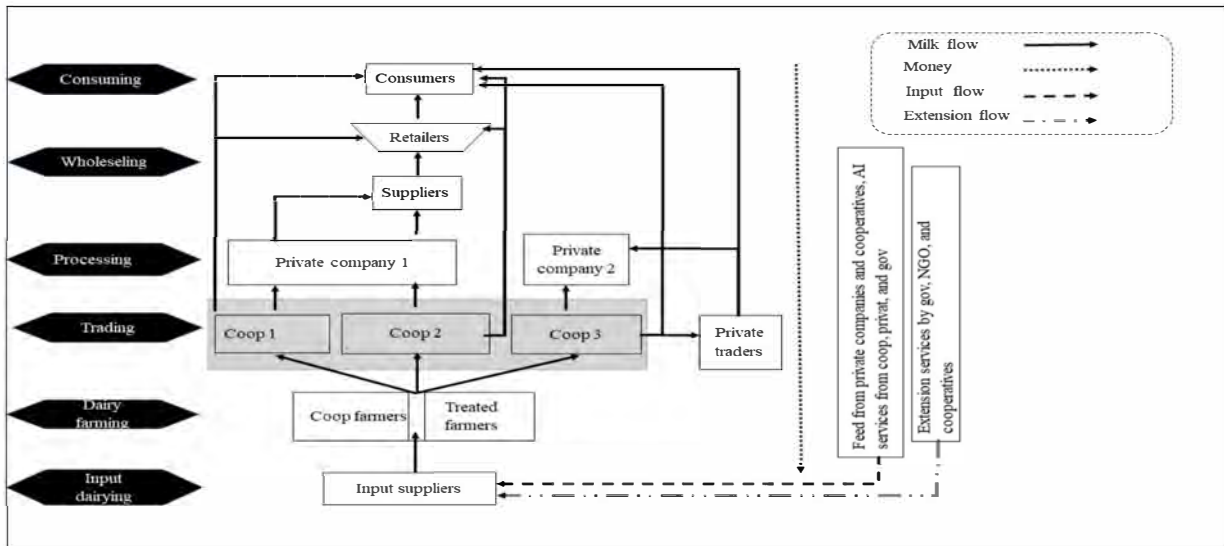


Figure 1. The milk value chain before intervened by a dairy development project

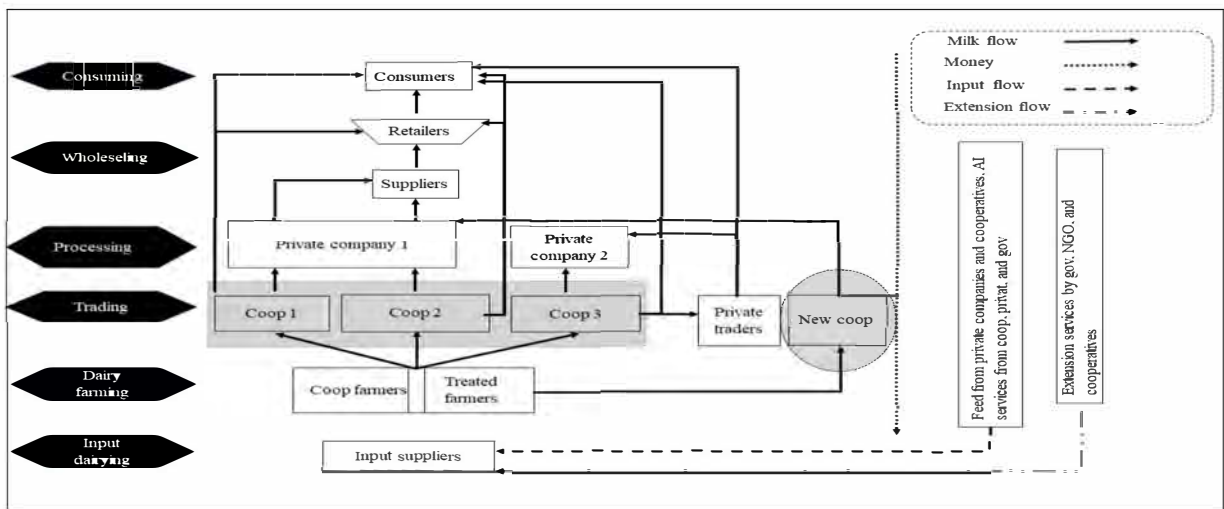


Figure 2. The milk value chain after intervened by a dairy development project

What is interesting is that the milk selling price was based on the milk quality and the individual price. Milk quality would be tested every ten days and the result could be showed to the farmers. Farmers received IDR 360 per 1 % TS (Total Solid). For example dairy farms at Boyong Hamlett, on average, milk contains 11% TS therefore farmers received more or less IDR 4200 – IDR 4500 per liter of milk (Table 1). Discussion with farmers revealed that the individual milk prices attracted farmers in joining this new cooperative.

Some farmers quit from the membership of existing cooperative and joined a new cooperative. however, the rest of them joined a new cooperative without leaving other coop. The main reason was related to the sustainability of this new cooperative. They were asking, “would this new cooperative remain exist even if they have no longer support from the project management?”.

In the milk value chain, farmers expected that in the future they will have more opportunity to sell the milk to other private company. Nowadays, this new cooperative could only sell the milk to the private company 1 because this remained a part of the project activities. But after the project finished, they will be able to find other profitable private company or direct consumers.

Table 1. Price of milk in April 2017

	New coop	Existing coop 1	Existing coop 2	Private traders
Buying price (= farmers' gate price)	Project management 4,450 Satellites 4,200	4,200	4,800	5,000
Milk payment system	Based on SNF	Fixed price	Based on SNF. Stand price of 12% SNF was IDR 4,800. Prices varied from 4500 to 5,500	Fixed price
Selling price	4,500 (coops) 4 925 (private processor) 5700 (retailers)	5,000 to 6,500		8,000
Price of feed	2,600 – 3,000		3,700 – 4,000	2,800 -3,700

Source: [4]

4. Conclusion

The study underlines the role of the project activities in particular technical support and contract farming (an inclusive business model) in changing milk value chain. The new cooperative is expected to help farmers in improving their livelihoods.

References

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