

Analysis of Champion of Milk Cluster Industry in the Province of Central Java-Indonesia

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ABSTRACT: Development of milk cluster industry could promote regional economic development, by optimizing “diamonds” factors, which one of them are firm strategy, structure and rivalry leading to high competitiveness (championship). This study was to analyze 18 small milk industries distributed through main regions of milk production in the province of Central Java-Indonesia. The capacity of districts to supply raw materials, implementation of GMP of each factory as well as championship factors were detected by a survey using multistage and multiphase sampling methods. The results indicated that 8 of them have rolled off and on industry, due to uncertainly supply of raw milk materials at the affordable price as well as lack of market place. From 10 enterprises, only 6 have presented the score of GMP implementation > 2.5/4. Among them have the score of championship values which are based on: added value, portion of local material supply, absorption of manpower and marketing system as well as four determinants of competitive advantage as followed: 1). Milk Cooperative Inderakila at Boyolali (cheese producer) 79/100, followed by Farmer group Tani Mukti-Wonosobo (pasteurized ice milk producer) 59/100 and Ent. Hongkong-Kudus (Ice cream maker) 57/100. It has concluded that among small milk industries could be promoted as a locomotive for regional economic development, while at once to improve their capacities.

Keywords: Milk Cluster Industry, Small Processors, GMP, Champion

INTRODUCTION

Livestock provides rural farmers with a way to increase assets. It is therefore, a method to diversify, and income proven pathway out of poverty and nutrition. Families familiar with cows and value cow ownership and productivity. Even, in the most conservative of societies, cows and milk often managed by women and income from milk is managed by women. Milk is a familiar food. The market for milk (and meat) already exists. Milk makes positive contributions to the diet of children, pregnant and nursing mothers, the elderly and persons with health challenges.

Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g., universities, standards agencies, trade associations) in a particular field that compete but also cooperate. (Porter,1998). The cluster industry could contribute to the regional economic development and social welfare, especially by improving productivity of industry, innovation and jobs opportunity. There are at least four factors or known as “diamond factors” that contribute to industrial productivity which link to business environment i.e: factor (inputs) condition, demand condition, related supporting industries and firm strategy and rivalry.

The purpose of this paper is to highlight key performances in the dairy value chain with a particular focus on the small dairy processors sector which could generate the competitiveness for regional economic development in the province of Central Java, Indonesia.

MATERIALS AND METHODS

The main objective of the study was to undertake an in-depth assessment of the value chain of milk and products marketing through identifying actors (operators and facilitators), factors and relationships. Moreover to identify the challenges, possible opportunities and threats of the subsector, and to analyze the underlying causes for the dwindling of the supply of milk in the study area. What is the current potential of milk production in the study area and what are the different factors and actors that affect milk value chain in small holder dairy farmers in the study area. The materials used in this research were 18 small and medium milk enterprises in the province of Central Java- Indonesia.

In order to find the objectives, information and data from desk review was triangulated with interviews and discussions with key stakeholders and then scored it in 5 scales of score on 3 steps and then analyzed them:

- The spreading of small and medium dairy enterprises and support area as well as its competitiveness to seek of raw milk and materials
- Analysis of the implementation of Good Manufacturing Practices, GMP based on 13 criteria implementation (Quality management systems, Personal, Building, Hygiene and sanitation, Production system, Control of quality, Documentation, Internal audit, Storage system, Contract of production or analysis, Treatment of consumers complaint and Evaluation) explaining provision and compliance to trade and regulatory standards in the food processing sector
- The championship values which are based on: added values and technology utilization, portion of local material supply, absorption of manpower and marketing system as well as 4 determinant of competitive advantages model of Porter as in (Fesser, 2001), i.e: firm strategy (innovation, marketing, added value, skill, IT, R & D, Financial access, planning), Demand condition (diversity, acceptability, special purpose, responsiveness, packaging, trouvability), Factor condition (price, numbers in market, sensorial) as well as supporting condition (school milk program, awards, contract) completed with some information on added value choice of products and marketing distance as well as machine utility.

RESULTS AND DISCUSSION

Value chain analysis is essential to an understanding of markets, their relationships, the participation of different actors, and the critical constraints that limit the growth of livestock production and consequently the competitiveness of smallholder farmers. Value chain analysis does not require highly detailed insight into the problems in order to develop an intervention strategy for value chain improvement. The main issues of concern are easily discovered in actors and stakeholders meetings and most urgent interventions can be designed already in general terms after a very brief analysis of the situation

There were 18 small and medium dairy enterprises, included milk cooperatives (Coop), farmer unity, FU (KTT), or private enterprise (Ent.), distributed over 9 districts in the province of Central Java-Indonesia i.e: Banyumas, Boyolali, Klaten, Kudus, Semarang, Magelang, Salatiga, Purworejo and Wonosobo. The enterprises received raw milks materials either from internal district or external, lead to for some uncertain supply of raw milk and other materials with affordable prices.

Table 1. Small and medium dairy enterprises in Central Java Province, 2013

No	Enterprises	Type of milk Products	Source of raw milk
1	Milk Cooperatives Pesat-Banyumas	Pasteurized milk	Internal district
2	Milk “Eden” Banyumas	UHT milk	Internal districts
3	Putra Jaya, Secang-Magelang	Yoghurt	External district
4	KTT tani Mukti- Wonosobo	Pasteurized ice milk	Internal and external
5	KTT Gatak-Jatinom, Klaten	Pasteurized, yoghurt, soap	Internal
6.	Milkkuma, Muntilan-Magelang	goat powdered milk	Internal and external
7	KTT Borobudur-Magelang	goat pasteurized milk	Internal
8	Barokah-Boyolali	Yoghurt and milk soap	Internal
9	Fix- Semarang	Yoghurt	External
10	Sumber Rezeki-Kudus	Ice cream	External
11	Rini Yoghurt	Yoghurt	External
12	Budi Mix farming-Purwodadi	Pasteurized	Internal and external
13	Baros- Salatiga	Cheese	External
14	CIMORY-Bergas, Semarang	Pasteurized milk	External
15	Cita Nasional, Getasan-Semarang	Pasteurized milk and yoghurt	External
16	Talita, Getasan-Semarang	Milk soap	
17	KTT Anjani-kaligesing-Purworejo	“powdered goat milk”	Internal
18	Milk cooperatives Indrakila-boyolali	Cheese	Internal

There were only 10 enterprises of them produced regularly and in the proper term of milk products, while the others were lacked on raw milk materials and real process technology. These enterprises were objects of analysis of GMP implementation using 13 criteria on 5 scale of score, as well as Production capacity and Local manpower absorption and level of worker knowledge (Table 2).

Table. 2. Score of GMP implementation and worker condition

No	Enterprises	Capacity/d, lt	Score of GMP (/65)	Man power	Knowledge of worker
1	Milk Cooperatives Pesat-Banyumas	300 lt/d	42	7	Low-medium
2	KTT tani Mukti-Wonosobo	800 lt/d	42	40	Medium
3	Sumber Rezeki-Kudus	800 lt/d	38	100	Medium-High
4	Rini Yoghurt	100 lt/d	16	2	medium
5	Budi Mix farming-Purwodadi	100 lt/d	21	3	Low

6	Barokah-Boyolali	100 lt/d	15	2	Low
7	Milkuma- Muntilan-Magelang	500 lt/d	33	20	Low
8	Cita Nasional, Getasan-Semarang	10.000 lt/d	41	60	Medium-high
9	Talita, Getasan-Semarang	100 lt/d	20	7	medium
10	Milk cooperatives Indrakila-Boyolali	1.200 lt/d	47	7	Medium-high

For these reason, 6 of them which have product capacity > 100 lt/day, GMP score more than 50%, absorption of local worker >5 which have medium knowledge have been considered to be a locomotive for regional economic development. They were: Milk Cooperatives Pesat in Banyumas, KTT Tani Mukti in Wonosobo, Sumber Rezeki Ent.(Hongkong) in Kudus, Milkuma Ent. in Muntilan, Cita Nasional Ent. In Getasan-Semarang and Milk Cooperatives Inderakila in Boyolali.

Competitive advantage (championship):

The real indication of championship to empowering regional economic development are the utility of machine utility, usage of local raw milk materials, choice of added value of products, marketing management(Table 3).

Table 3. Machine utility, added value of product and market distance

No	Enterprises	Machine utility, %	% local source of raw milk material	Added value of products,%	Market distanced
1	Milk cooperatives Pesat	12.5	100	75	Short
2	Ent. Milkuma	100	100	75	Medium
3	KTT Tani Mukti	200	100	150	Medium
4	Milk Coop Inderakila	200	100	1000	Long
5	Ice cream Hongkong	75	100	800	Medium
6	Ent. Cita Nasional	60	40	300-500	long

It should be included four determinant of competitive advantage which support the competitiveness of firm (firm strategy, structure and rivalry, sophisticated of demand condition of local customers, factor condition in quantity, quality and cost of products as well as related and supporting industries in cluster milk industries and of factor determinant of competitive advantage (Table 4).

Table. 4. Scores of factors which major determinants of competitive advantage

No	Enterprises	Firm strategy and rivalry	Demand condition	Factor condition	Related and supporting industries	Total Score
1	Milk cooperatives Pesat	19	17	10	6	52
2	Ent. Milkuma	23	14	6	3	46
3	KTT Tani Mukti	25	19	10	4	59
4	Milk Coop Inderakila	35	23	10	11	79
5	Ice cream Hongkong	25	15	10	4	57
6	Ent. Cita Nasional	24	17	7	3	52

CONCLUSIONS

It was concluded that 3 of 18 small and medium enterprises (Coop. Inderakila, FU Tani Mukti and Ent. Hongkong) could be used as a locomotive for regional economic development in the province of Java Central after regarding what the current potential of milk production in the study area is and what the different factors and actors are, that affect not only milk value chain in small holder dairy farmers in the study area but also their competitiveness as an agent to strengthen or empowering regional economics.

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