

APPENDICES

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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APPENDIX A

History of dairy cooperatives joined in focus group discussion

1. Chaiprakarn Dairy Cooperative Limited - established by a group of local farmers in Chaiprakarn District in Chiang Mai Province who grows economics plants such as linchee, longan, garlic, shallot and vegetable, etc. the registration has been made in the name of “Chaiprakarn Agricultural Cooperative Limited” in 1989 having 80 initial members. Later in 1992 – 1993 after drought fell upon Chiaprakarn District, it affected to less productivity, lowered price, and most of farmers used a chemical substance that is harmful to their health. Its committee at the time had discussed to find a solution to this matter by studying proper occupational information that is suitable for the weather and geographical conditions of Chianpakearn District. Dairy occupation becomes one suitable and profit making occupation to its members continuously and securely. The first set of dairy farming gained a satisfied result and other members started to pay attention to this occupation since 1995. As the cooperative has been continuously given cooperation from the government, more members turned to do dairy farming instead of growing economics plant like always. And the cooperative changed the name to “Chaiprakarn Dairy Cooperative” on July 4, 2003.

As a result of dedication, determination and intention in dairy farming consisted of guidance and problem solving from government sector and related organization, it contributes Chaiprakarn Dairy Cooperative Limited one of successful cooperative in upper northern Thailand. Now they have 180 members who can produce 35 tons of raw milk a day and another 391 persons in agricultural group elevating their living condition to a better standing.

2. Maeon Dairy Cooperative Limited – commenced by Thai – German Dairy Cattle Project, a cooperation project between Thailand and Republic of Germany located in Chiang Mai Province with objectives to study and promote dairy farming in northern region to be well-known and in accordance with right principle. Such project was completely established in 1974 and after the project has reached its goal and the entity

has dissolved, farmers who were promoted dairy farming set up 3 groups; one in the three group is Onluay group, at that time was in the responsible area of Sankamphaeng District where latterly was secluded to be Maeon District in the present day. Onluay group was considered as first and important dairy farming spot of Chiang Mai. In 1981, in presence of a project under the royal order, the cooperative was promoted in such area and dairy cattle was brought to 6 villages to help them make more money and aim to improve their the farmers' living condition.

For the past time, government organization has been consistently promoting dairy farming in such area and most of farmers in Maeon District encountered with the following problems such as low selling price per unit, lack of water source and a health problem of farmers who used chemical in farming, etc. All of these contribute a huge amount of farmers to turn their interest onto dairy farming separately around 6 sub-districts in Maeon District like Huaykaew, Sahakorn, Onnue, Onklang, Tahnué and Maeta. They assembled into a cooperative form and named it that "Maeon Dairy Cooperative Limited" on March 20, 1997. Now they have approximate 120 members who can produce 18 tons of raw milk a day.

3. Maejo Dairy Cooperative Limited – commenced by Nikom Sansai Cooperative Limited in which had promoted dairy farming to its members because farmers who grew plant usually faced problems of unsecure income and vulnerable to anti-pesticide chemical. During the time dairy farming was highly promoted by government in many districts in Chiang Mai, the cooperative's committees, having studied and observed dairy farming from Chiang Mai Dairy Cooperative Limited, thereto promote its members to do dairy farming and Maejo dairy group was than established. Later it found that problems frequently came across their regular operation especially, budget in operation, so it did not obtain success as firstly expected. Experts from government suggested them to register as a dairy cooperative. Dairy farmers from neighboring areas such as Sansai, Maerim, Maetang, Phrao and Doisaket were assembled to be Maejo Dairy Cooperative Limited on July 22, 1993 with its 88 initial members.

With confidence of members and operation in accordance with the cooperative's principle that is interdependency between members, it helps reduce

production costs and facilitate alternative marketing channel to its members. Now Maejo Dairy Cooperative Limited is one of its kind in upper northern Thailand that operate on success and development in every aspect. They have 102 members who can produce 16 tons of raw milk a day whose productive capacity tends to increase in the future.

4. Banta Dairy Cooperative Limited – established in 1981 when Chiang Rai Agricultural College was granted a budget in operating Banta Dairy Occupation Center in Khuntan Sub-district by receiving a loan from Denmark to conduct a complete dairy farming project. Within such project, there provided 30 dairy cattle with dairy equipments including a pasteurizing machine to produce milk. Afterward in 1984, the promotion to surrounding area was in action but with a problem of budget, they asked for support from the Provincial Member of Parliament who gave the development budget by setting up a dairy bank giving a dairy cattle loan to 10 members, 2 dairy cattle per each. And the farmers would return 2 heifers to the center at later time. In addition, there were other promotional projects; dairy farmers were increased to 40 members in 1987. Later in 1995, the government issued a policy of school milk entitled cooperatives in each area to buy milk from its members for processing and selling to elementary schools. As a result from this, more farmers in neighboring area paid intention to do dairy farming according to Production Adjustment Plan (KorPorRor.) throughout Chiang Rai provinces such as Thoeng, Khuntan, Phaya Memgrai, Phan and Maelao. So it made the management of Banta proceed with difficulty due to the committee has no relevant knowledge and understanding in management – Banta Dairy Cooperative could not open a cooperative account consisted of changing school milk scheme while giving authority to the school to purchase U.H.T from private companies. Banta Dairy Cooperative faced a marketing problem in distributing pasteurized milk especially, during the end of semester. From these reasons, members of Banta Dairy Cooperative in other areas decided to resign from its members and assembled the new dairy cooperative such as Chiang Rai Dairy Cooperative Limited and Maelao Dairy Cooperative Limited – a number of members of Banta Dairy Cooperative dramatically decreased and surely affect to financial standing of Banta Dairy Cooperative.

Now Banta Dairy Cooperative Limited has 50 members around Thoeng, Khuntan and Phaya Mengrai who can produce 6 tons of raw milk.

5. Maeta Dairy Cooperative Limited – Lampang Province initiated a dairy farming promotion in 1992 as when they saw that farmers in Maeta fails in their career and there were extensive areas of deforestation. They allocated a budget in procuring 40 members 5 dairy cattle per each with equipment and initial budget in building a farmstead under one condition that farmers must start paying back in the 4th year and the project was planned to be accomplished in 12 years but as a result that farmers lack of knowledge in dairy farming as much as it should and a problem of distributing raw milk in an early stage, many farmers stopped farming – there were only 24 farmers. Later in 1994, establishment of Maeta Dairy Cooperative Limited was donei with 32 initial members, among this number; there were only 24 members who actually did dairy farming. In 1996 the provincial department came up with a plan to promote Production Adjustment Plan (KorPorRor.) in Hangchat and some area of Kohka but due to dairy occupation was new at the time and there were still a problem of raw milk distribution, such project was not successful. There were only 15 farmers who decided to be members of Maeta Dairy Cooperative Limited to lend their hand in solving a problem of raw milk distribution.

Since Maeta Dairy Cooperative Limited is a small entity, they frequently face a problem of selling raw milk to a processing factory in which the price would be lowered and many times selling was denied. They also suffer from delay in payment of raw milk that a processing factory purchased from the cooperative. This serves as one important factor the farmer decided to quit farming especially, the farmers who has a small farm because they have little amount of circulating fund used in farm management and family. The numbers of members was also dramatically decreased.

Now Maeta Dairy Cooperative Limited has approximate 24 members divided into 3 dairy farmers in Maeta District's area and 21 dairy farmers in Hangchat District's area and is able to produce 3 tons of raw milk a day. From such situation, in 2009 the committee decided to move its operating office from Maeta to Hangchat instead and changed its name to “Nakorn Lampang Dairy Cooperative”.

6. Phrae Dairy Cooperative Limited – firstly established in 1995 as a result of setting up milk processing factories in Meungmor Sub-district, Muang District, Phrae Province and the provincial department took part in promoting Production Adjustment Plan (KorPorRor.) by selecting farmers who joined in dairy farming project in Song District and in some other area in Phrae Province such as Meungmor, Padang and Tunghong for 30 persons to ask for financial support 250,000 Baht per each person to procure dairy cattle, equipments and building a farmstead. It turned out that there were some farmers who received support as they selected 20 person in Muang Phrae District because of their location in which was located near purchasing source. The farmers who were selected started dairy farming since then. Later there was an assembly in a form of cooperative named “Phrae Dairy Cooperative Limited” on May 17, 1995. Since this occupation was new and the farmers has no relevant knowledge, the amount of raw milk produced a day was low - this was a major cause that the milk processing factory was forced to wind up their business. Many farmers quitted farming and transferred their dairy cattle to other farmers especially, farmers in Tunghong’s area.

Operation of Phrae Dairy Cooperative Limited in the early stage must face raw milk quality preservation problem because they had no milk storage tank to keep the temperature lower than 4 Celsius Degree. Numbers of farmers stopped farming. The committees sought the way out of this by asking for help and suggestion from Thailand Dairy Cooperative in which Phrae Dairy Cooperative is a member. They provided a tank to Phrae Dairy Cooperative Limited. Moreover Phrae Dairy Cooperative still has to deal with the following problems such as raw milk quality, farm management and raw milk distribution, etc. With helps from one another in the cooperative, they can get through the facing problem and obstacles and is still on operation until present. Now the cooperative has 23 members; in this number there are 9 people who do dairy farming and are able to produce 0.7 tons of raw milk a day.

APPENDIX B

Research Questionnaire

Subject

Dairy Cooperative's Management Process Contributing to Occupation Development
of Dairy Farmers in Upper Northern Thailand

By Phanuphan Prapatigul

Department of Agricultural Extension and Rural Development

Faculty of Agriculture Chiang Mai University

Questionnaire No.

[][][]	Farmer who earn a living by dairy farming
[][][]	Farmer who quit dairy farming

Date of interview.....

Name.....

Address.....

Telephone.....

Member of Dairy Cooperative.....

Explanation Please give actually information at present and consistent with your opinion, this information will be apply to study research and be course in development of dairy farming promotion further

This questionnaire separated in 3 episode as follows:

Part 1 concerning personal basic factors, economic factors, social factors and dairy farming operating factors

Part 2 concerning satisfaction of dairy farmers on various factors consist of operating of dairy cooperative, operating of government agency and occupation on dairy farming now

Part 3 concerning problems obstacle and requirement of dairy farmer

Part 1: Information about personal basic factor, economical factor, social factor and dairy farm operating factor

Explanation Please label \sqrt in () in front of the most actual statement and fill statement in assigned blank

1. Personal basic factor

- 1.1. Gender () 1. Male () 2. Female [] 1
- 1.2. Age..... years (over 6 months estimate to 1 year) [] 2
- 1.3. Level of education [] 3
 - () 1. Uneducated
 - () 2. Elementary school grade 4
 - () 3. Primary education
 - () 4. Secondary school grade 3
 - () 5. Secondary school grade 6 or vocational certificate
 - () 6. High vocational certificate or diploma
 - () 7. Bachelor degree
 - () 8. Above bachelor degree (please identify).....
- 1.4. Experience in dairy farming..... years [] 4
- 1.5. Period on membership of Dairy Cooperative years [] 5
- 1.6. When the farmers decided give up in dairy farming C.E..... [] 6
(particularly farmer who give up in dairy farming)
- 1.7. Knowledge and practice in dairy farming
 - 1.7.1. Knowledge in dairy farming

Question	correct (1)	incorrect (0)
Housing		
1. Dairy housing have to build in north-south line in order to well ventilation		[] 7
2. Housing have to separate from feces at least 10 meters		[] 8
3. Dairy farming could co-raising with other livestock in the same area		[] 9

Question (continue)	correct (1)	incorrect (0)	
Dairy breed Selection			
4. Popular dairy breed are hybrid of Holstein – Friesian with a level of breed more than 75%			[] 10
5. Shape of a good trait of dairy from head to bottom are square even though view from the top or side			[] 11
6. A good udder shouldn't too large till flabby, width, depth and attach to the body resemble to dish-shaped udder			[] 12
Dairy breeding			
7. First mating of heifer start at 14-18 months in average			[] 13
8. Optimal period of artificial insemination are 12-18 hours after estrus			[] 14
9. Next artificial insemination of parturition are the first estrus			[] 15
Dairy's Feed management (concentrate)			
10. Dairy's feed divided into 2 types i.e concentrate and roughage			[] 16
11. Concentrate feeding based on dairy give a raw milk 2 kg / feed 1 kg.			[] 17
12. Solution for less appetite in summer season by alternate feed formula through reduce energy and protein (reduce concentrate)			[] 18
Dairy's Feed management (roughage)			
13. Parturition weight 400 kg. should give fresh grass 22.4 kg per day			[] 19
14. Area of pasture for dairy farming should be 1 rai / 2 dairy			[] 20
15. Ratio of urea-treated rice straw are 100 : 100 : 10 (straw : water : urea) by weight			[] 21
Calf raising Management			
16. Colostrum feeding immediately within 2 hrs after deliver (2 kg)			[] 22

Question (continue)	correct (1)	incorrect (0)	
17. Optimal calf weight for weaning not less than 50 kg			[] 23
18. Should pause milking about 30 days before deliver			[] 24
Disease protection and milking			
19. Vaccination for mouth and feet disease twice a year			[] 25
20. Retention new dairy at least 3 days before let them in group			[] 26
21. Milk that just milking couldn't keep exceed than 3 hours.			[] 27
22. Milking the mastitis dairy before healthy dairy in order to prevent disease spread			[] 28
23. CMT can't check mastitis with dairy which postpartum for 15 day			[] 29
24. Teat will close after finished milking about 15 minute			[] 30

1.7.2. Practice in Dairy farming

Practice	Frequency			
	Every time (2)	Sometime (1)	Never (0)	
Dairy breeding				
1. Artificial Insemination (AI) recording				[] 31
2. Monitoring conception after AI 50 days				[] 32
3. Check up dairy's health before AI				[] 33
Dairy herd Management				
4. Accounting for farm management and reduce cost				[] 34
5. Clearly classification of dairy such as calf, growing cattle, heifer etc.				[] 35
6. Annually sort out from herd				[] 36
Dairy feed management				
7. Checking concentrate feed before feeding				[] 37

Practice (continue)	Frequency			
	Every time (2)	Sometime (1)	Never (0)	
8. Make silage, hay, etc for dry season				[] 38
9. Discard leftover feed every morning				[] 39
Dairy disease prevention				
10. Always read antibiotic's direction				[] 40
11. Separate sick dairy from healthy immediately				[] 41
12. Inform officer or take advise when dairy has abnormal symptom				[] 42
Milking				
13. Always checking mastitis by CMT before milking				[] 43
14. Use 2 cloths per 1 dairy to clean the udder				[] 44
15. Checking milking equipment before use				[] 45
16. Wash hand every time before milking the next dairy				[] 46
Milk quality Preservation				
17. Send sample of a raw milk to examination for antibiotic residues				[] 47
18. Request the result of milk quality from Dairy Cooperative or government officer concerning				[] 48
19. Annually Send sample of soil and water for checking quality				[] 49
20. Milking and delivering a raw milk to Milk Collecting Center not exceed than 3 hours				[] 50

2. Economic factor

2.1. Number of family members (include farmer) Total person [] 51

2.2. Number of labours for dairy farming Total Person [] 52

2.3. Feature of dairy farming in the past (Particularly farmers who quit dairy farming) [] 53

() 1. Primary Occupation

() 2. Secondary Occupation

2.4. Total outstanding debts (approximately) baht [] 54

3. Social factor

3.1. Which are your present occupy in Dairy Cooperative? [] 55

() 1. President of Dairy farming Cooperative

() 2. Vice President of Dairy farming Cooperative

() 3. Secretary of Dairy farming Cooperative

() 4. Treasurer of Dairy Cooperative

() 5. Dairy Cooperative Committee

() 6. Other (specify).....

() 7. Do not have Dairy Cooperative position

3.2. Do you have occupy in social position? (could answer more than 1 item)

[] [] [] 56 - 58

() 1. Sub - district headman or assistant

() 2. Village headman or assistant

() 3. Chamber committee of municipal government

() 4. Volunteer (specify).....

() 5. Etc. (specify).....

() 6. Not have any occupy

3.3. Participation level in various activities of Dairy Cooperative

Activities	Level of participation			
	Every time (2)	Sometime (1)	Never (0)	
1. Group Meeting attendance				[] 59
2. Annual general meeting attendance				[] 60
3. Meeting and training about principle of Dairy Cooperative operation attendance				[] 61
4. Meeting and training about dairy farming				[] 62
5. Purchase additional shares				[] 63
6. You have been recommended other member to purchase additional shares				[] 64
7. You have been proposed opinion, problem's solution in the meeting				[] 65
8. You always pay attention in quality milk production such as correct and clean milking				[] 66
9. You have been joined in social activity of cooperative such as cooperative anniversary, Children day				[] 67
10. You used to be representative of cooperative in government activity such as training				[] 68

3.4. Acquire information about dairy farming from various medias

(specify the number of time per month)

3.4.1. Brochure and Document

() 1. receipt total time/month [] 69 [] 70

() 2. never

3.4.2. Newspaper

() 1. receipt total time/month [] 71 [] 72

() 2. never

3.4.3. Livestock magazine

- () 1. receipt total time/month [] 73 [] 74
 () 2. never

3.4.4. Radio

- () 1. receipt total time/month [] 75 [] 76
 () 2. never

3.4.5. Television

- () 1. receipt total time/month [] 77 [] 78
 () 2. never

3.4.6. Farmer's friend

- () 1. receipt total time/month [] 79 [] 80
 () 2. never

3.4.7. Communication Board of Dairy Cooperative

- () 1. receipt total time/month [] 81 [] 82
 () 2. never

3.4.8. Internet

- () 1. receipt total time/month [] 83 [] 84
 () 2. never

3.5. Communication with officer concerning dairy farming
(specify number of time/month)

3.5.1. District Livestock Officer

- () 1. yes total time/months [] 85 [] 86
 () 2. never

3.5.2. District Artificial Insemination Officer

- () 1. yes total time/months [] 87 [] 88
 () 2. never

3.5.3. Artificial Insemination Volunteer

- () 1. yes total time/months [] 89 [] 90
 () 2. never

3.5.4. Lecturer of academy

- () 1. yes total time/months [] 91 [] 92
 () 2. never

3.5.5. Dairy Cooperative officer

- () 1. yes total time/months [] 93 [] 94
 () 2. never

3.5.6. Representative from company

- () 1. yes total time/months [] 95 [] 96
 () 2. never

3.5.7. Other government officer

- () 1. yes total time/months [] 97 [] 98
 () 2. never

4. Dairy farming operation factor

4.1. Size of Dairy Cooperative [] 99

- () 1. Small Dairy Cooperative
 () 2. Medium Dairy Cooperative
 () 3. Large Dairy Cooperative

4.2. Style of dairy farming [] 100

- () 1. Tying
 () 2. Leasing in cote or courtyard
 () 3. Leasing in pasture

4.3. Dairy farming standard recognized from Livestock Department [] 101

(Particularly farmer who continue doing dairy farming occupation)

- () 1. Recognized already
 () 2. Not recognize

4.4. Number of dairy replacement (calf, growing cattle, heifer)

total dairies [] 102

4.5. Number of dairy (milking dairy and dry dairy) total dairies [] 103

4.6. Capability on milk production of dairy (average)kg./dairy/day [] 104

4.7. Purchase price of raw milk (approximately) baht/kg [] 105

4.8. Farm land owning for dairy farming rai [] 106

4.9. Size of area for pasture rai [] 107

4.10. Cognizance in operating of Dairy Cooperative

Question	correct (1)	incorrect (0)	
1. Objective of cooperative are transaction as much as possible			[] 108
2. Dairy Cooperative pay attention in member accretion than capital increment			[] 109
3. Member of cooperative have right to participate in operation planning of cooperative			[] 110
4. Management of cooperative originate from decision of executive, committee and cooperative officer only			[] 111
5. Dairy Cooperative share profit to member up to their share quantity only example high share receive high dividend			[] 112
6. Members must have a sense of ownership in dairy cooperative therefore contribute to a successful cooperative			[] 113
7. Achievement of cooperative depend on capital of cooperative			[] 114
8. Price of share are variable and depend economical condition			[] 115
9. Member have to trust in cooperative management of the committee therefore operate of cooperative will smooth			[] 116
10. Cooperative would support member to help each other			[] 117

Part 2: concerning satisfaction of the dairy farmer to various aspect, consist of cooperative operation, government operation and dairy farming on present day

Explanation: Please label \surd in () front of true sentence and fill statement in assigned space

5.1 Your satisfaction to Dairy Cooperative operation

Dairy Cooperative operation	Level of satisfaction				
	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	
1. Policy and work plan in cooperative management					[] 118
2. Participation in cooperative management planning					[] 119
3. Dairy cooperative management structure					[] 120
4. Decentralize in duty and responsibility of each division					[] 121
5. Administration of the executive/committee					[] 122
6. Working of cooperative officer					[] 123
7. Rule and regulation of cooperative					[] 124
8. Standard in raw milk purchase from member					[] 125
9. Coordination between cooperative, milk factories, academy and government agency in dairy farming					[] 126
10. Unity in member group					[] 127
11. Reporting of overall operation to member					[] 128
12. Transparency management of Executive, Committees and Officers					[] 129
13. Finance controlling and inspecting system					[] 130
14. Offer an opportunity to member to participate in every administration procedure					[] 131
15. Your satisfaction in administration of Dairy Cooperative					[] 132

5.2 Your satisfaction in operation of government agency concerning dairy farming

Government operation	Level of satisfaction				
	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	
1. Artificial Insemination service					[] 133
2. Animal treatment service					[] 134
3. Vaccination service					[] 135
4. Annually Blood sampling					[] 136
5. Counseling service					[] 137
6. deliver service in hard case					[] 138
7. Autopsy service					[] 139
8. Suitability of service charge					[] 140
9. Suitability of communication opportunity					[] 141
10. Suitability of officer number with animal number					[] 142
11. Suitability of equipment					[] 143
12. Knowledge Transmission of officer					[] 144
13. Responsibility to duty and on time					[] 145
14. Human relation					[] 146

5.3 Your satisfaction in earn a living by dairy farming

Contents	Level of satisfaction				
	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	
1. Dairy breed deploy in present					[] 147
2. Milk production cost in present					[] 148
3. Return from raw milk selling					[] 149
4. Security in dairy farming occupation					[] 150
5. Time to spend with family					[] 151
6. Dignity and respect from community					[] 152
7. Government policy to support dairy farmer					[] 153
8. Milk consumption rate in country (11.5 L/person/year)					[] 154
9. Opening the Free Trade Area (FTA)					[] 155
10. You are happy in dairy farming occupation					[] 156

5.4. An opinion of the dairy farmer in career succession of their child [] 157

() 1. take succession

() 2. not take

Part 3: concerning problems, obstacles and requirement of dairy farmer in their occupation

Explanation: Please label \sqrt in () front of true sentence and fill statement in assigned space

6.1. Level of problems and obstacle in your occupation (physical aspect)

Problems and obstacle	level of problems and obstacle						
	Highest (5)	High (4)	medium (3)	Low (2)	Lowest (1)	Non (0)	
1. Topography not suitable to dairy farming such as tidal flat ,bank etc.							[] 158
2. Unsuitable climate							[] 159
3. Insufficient area for dairy farming							[] 160
4. Insufficient water source							[] 161
5. Bad public utility							[] 162
6. Inconvenient transportation							[] 163
7. Far from milk collecting center of cooperative							[] 164
8. Etc.(specify).....							[] 165

6.4 Level of problem and obstacle in your occupation (farm operating aspect)

Problems and obstacle	level of problems and obstacle						
	Highest (5)	High (4)	medium (3)	Low (2)	Lowest (1)	Non (0)	
1. Lack of pasture							[] 180
2. Low milk production							[] 181
3. Animal got chronic disease							[] 182
4. Animal had low fertilization rate							[] 183
5. Price of a raw milk were low							[] 184
6. Expensive concentrate feed							[] 185
7. Expensive fuel							[] 186
8. Lack of modern equipment							[] 187
9. Less experience in dairy farming							[] 188
10. Etc. (specify).....							[] 189

6.5 What are the main obstacles to operation of your dairy cooperative?

.....

.....

6.6 What is your suggestion to improve dairy cooperative's operation in the future?

.....

.....

6.7 What is your decision about this occupation in the next 1-10 years? [] 190

- () 1. Continue doing dairy farming occupation
- () 2. Give up in dairy farming occupation

6.8 Do you need any assistance? (could answer more than 1 item)

[] [] [] [] [] [] [] [] [] [] [] 191 -200

- () 1. Dairy breed which give highly yield
- () 2. Increase raw milk price
- () 3. Area for pasture
- () 4. Fine and Cheap concentrate feed
- () 5. Clean water source
- () 6. Capital supporting from government
- () 7. Dairy medicine supporting
- () 8. Acquire latest information in dairy farming
- () 9. Increase number of government officer
- () 10. Etc.(specify)

6.9 Do you need any training from agency concerning dairy farming and which subject? (could answer more than 1 item)

[] [] [] [] [] [] [] [] [] [] [] 201 - 210

- () 1. Artificial insemination
- () 2. Dairy farming standard
- () 3. Effective dairy farming management
- () 4. Preparation of pasture and forage
- () 5. Milking machine maintenance
- () 6. Elementary Prevent and treatment disease
- () 7. Farm accounting
- () 8. Elementary checking in raw milk quality
- () 9. Elementary processed milk product such as yogurt, ice cream and sour milk
- () 10. Etc.(specify).....

***** Appreciate for your cooperation *****

APPENDIX C

Guideline of questions for focus group discussion

“Dairy Cooperative’s Management Process Contributing to Occupation Development of Dairy Farmers in Upper Northern Thailand”

1. Beginning of focus group discussion

- 1.1 Explaining origin of this research/ explaining objectives
- 1.2 Introducing a researcher and researching team
- 1.3 Asking permission to make a tape record while conducting focus group discussion
- 1.4 Thanking participant for their precious time
- 1.5 Introducing each participant in the following details: name – family name, age, education level, dairy experience and what cooperative they are members of

2. Decision to choose dairy farming

- 2.1 Motivation in choosing dairy farming
 - What is the occupation they do prior to doing dairy farming? / What are the problems? / How serious is the problem?
 - Why do they choose to do dairy farming?

Remark: trying to compare with other occupation along with dairy farming

- 2.2 Decision to become a member of a dairy cooperative

- Why do they decide to become a member of the dairy cooperative?

- (In a case of moving from other dairy cooperatives or companies) which dairy cooperative or company do they move from? / When do they move? / Upon what reason?

Remark: trying to compare being a member between a dairy cooperative and a private company

3. Dairy farming of farmers

3.1 Now do you think you have enough manpower in farming? How?

- In a case that you hire a foreign labor, what are the problems? How?

3.2 Do you think you have enough circulating fund in farming? How?

- If you are short of fund, from what source will you make a loan?

What is the loan procedure?

3.3 Some says that “dairy farming is relativeless”, what is your opinions towards this statement? Why? And in regard with most of farmers who deny taking a position in the dairy cooperative and other social position, what do you think about this? How?

3.4 Have you ever participated in activity arranged by the dairy cooperative or been trained somewhere? And what is attribution you are trained?

3.5 From which source do you receive the most dairy information? Is it useful? How?

- Do you understand the result of raw milk quality test from the northern center (Upper Northern Veterinary Development and Research Center)? How?

3.6 How is the work of dairy-related officers such as the district artificial insemination official, artificial insemination volunteer and veterinarian?

3.7 In what aspects do you think the dairy cooperative you are a member should be developed? How?

3.8 Is it possible to enlarge the farm? Why? How?

3.9 Do you think “making a qualified dairy farm standard” is necessary? How?

3.10 What are the methods you use in increasing the raw milk quantity?

3.11 Now are you satisfied with a purchase price of raw milk from the dairy cooperative? Why?

3.12 Do you think the production cost of raw milk is suitable? How?

3.13 What are aspects you think contribute to the success of the dairy cooperative? How?

3.14 Do you have a better living condition when doing dairy farm? How?

3.15 What are the reasons you think you will quit farming? How?

3.16 Now what aspect is the government authority lending their hand onto? How much?

3.17 What is FTA? Will it affect you? How? If affected, do you have a plan to deal with possible impact? How?

3.18 Do you think your children will succeed your career? Why?

3.19 What helps do you need? From whom?

3.20 in 2006, there are many persons who quitted farming, what do you think is the reason of such situation?

- Do this affect you? How?

- For the person who moves to become members of other cooperatives, what are the reasons?

3.12 Do you think you will continue doing dairy farm? Why?

APPENDIX D

Application for Operative training

**Analysis of status of dairy cooperative and milk factory in upper northern
Thailand by SWOT analysis**

May 16, 2008

At Rattanakosin Hotel, Rattanakosin Rd., Muang District, Chiang Mai Province

Participant who is a representative from a dairy cooperative.....

Entrepreneur of a milk processing factory.....

1). Name - last name.....

Position..... Experience..... year (s)

2). Name - last name.....

Position..... Experience..... year (s)

In this training, there applied a SWOT analysis technique to enhance knowledge and potential of participants to have ability to analyze with their own organization as the researcher has scoped the analysis as follows:

External factor

Analysis of OPPORTUNITY and THREAT by considering a government policy, directions of private business, economic and social situations as well as FTA opening

Internal factor

Analysis of STRENGTH and WEAKNESS by considering Managerial Resources in 4 aspects or so called “4M” consisted of Man, Material, Money and Management

Definition and analysis table by SWOT

SWOT analysis means a technique used in analyzing status of an organization to apply for a strategic planning which consists of:

1. Strength is an advantage point strengthens the organization or positive capability and situation in the organization which can be applied in operation to achieve the goal that is planned.

2. Weakness is a disadvantage point weakens the organization or negative capability and situation in the organization which is unable to be applied in operation to achieve the goal that is planned.

3. Opportunity is an opportunity to receive consistent development or factor or external situation that facilitate to operation of the organization to achieve the goal that is planned or external environment that is beneficial to the operation of the organization.

4. Threat is limitation, pressure or danger that deteriorates progress of the organization or external factor or situation that threatens operation of the organization hindering it from achievement of the goal that is planned.

Internal factors mean any factor that effect to the organization which is controllable or manageable. In this training, there applied managerial resources or 4M to be a concept of analysis of the organization' status which is consisted of:

1) **Man** means manpower that is on operation in every level of the organization including skills, abilities in performing duty of personnel in every level such as levels, boards, committees, officials and members, etc.

STRENGTH

1.
2.
3.
4.
5.

WEAKNESS

1.
2.
3.
4.
5.

2) **Material** means tools, equipments, machines used in production process, office utilities such as CIP technology, information technology, reserve electricity generator, cooling generator, milk processing manufacturing system as well as relevant tools used in checking raw milk quality and maintain raw milk quality, etc.

STRENGTH

- 1.
- 2.
- 3.
- 4.
- 5.

WEAKNESS

- 1.
- 2.
- 3.
- 4.
- 5.

3) **Money** means expenses used in normal affairs of the organization to achieve the goal such as circulating fund, source of supporting fund, fund allocation, fund audition and control, etc.

STRENGTH

- 1.
- 2.
- 3.
- 4.
- 5.

WEAKNESS

1.
2.
3.
4.
5.

4) **Management** means knowledge in management process of the organization, information used in operation, information technology such as management structure, managing, directing and controlling as well as service provided to its members, etc.

STRENGTH

1.
2.
3.
4.
5.

WEAKNESS

1.
2.
3.
4.
5.

External factors mean any factor that effects to the organization hindering it from potential management, nevertheless the organization seek out a benefit from it.

Opportunity means the opportunity or good trend to the organization which mostly is derived from external factors, for example, the consumer turns to drink more milk, the government gives support by loaning out the dairy farmers with a low interest rate and the government announces to raise the purchase price of raw milk, etc.

1.
2.
3.
4.
5.

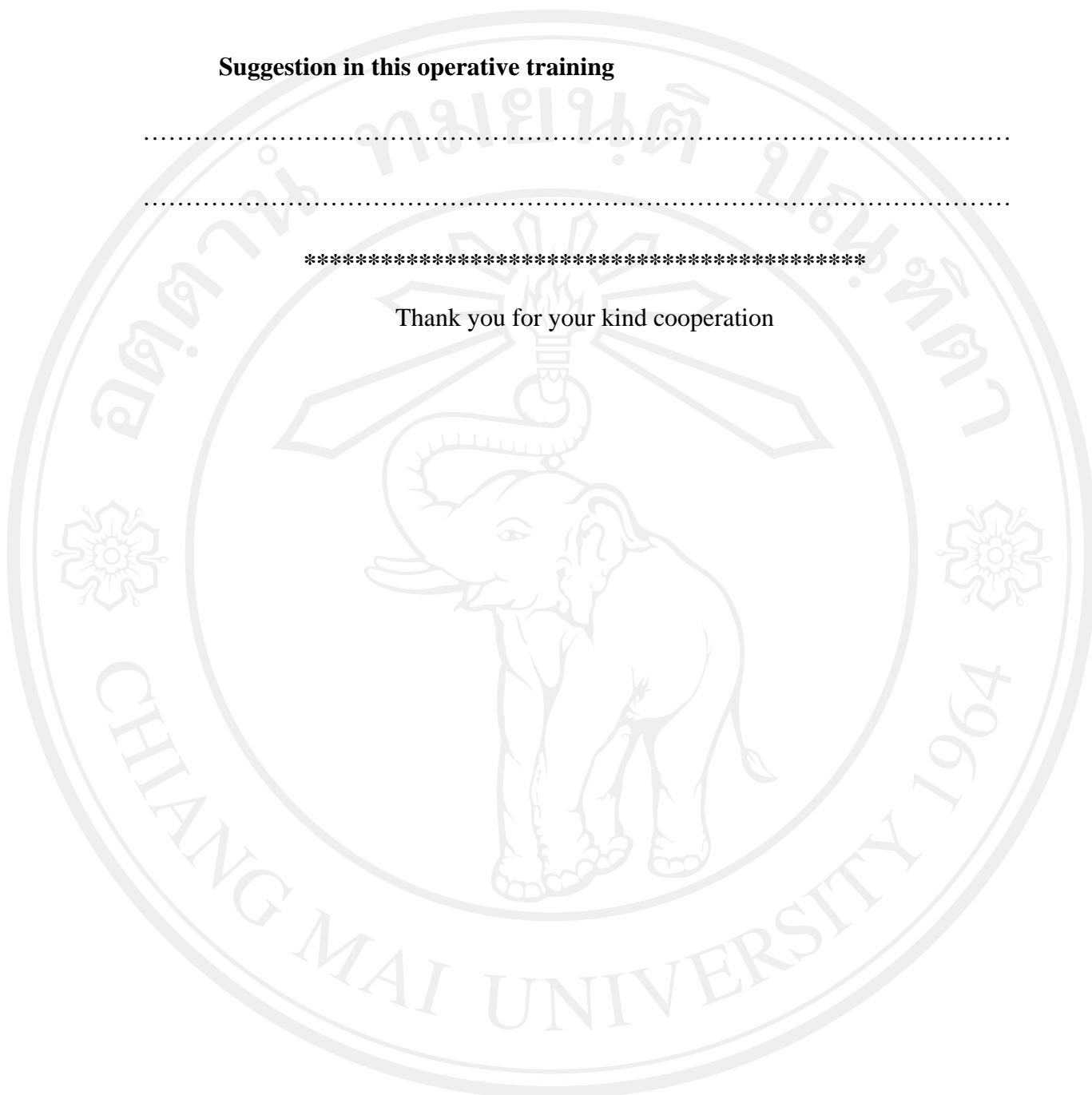
Threat means limitation, obstacles deprived from external factors and usually lay on the opposite side of opportunity such as higher price of oil, higher price of production costs, Thai economic depression, community expansion affecting to less faming area, their children do not succeed the parents' career, ect.

1.
2.
3.
4.
5.

Suggestion in this operative training

.....
.....

Thank you for your kind cooperation



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APPENDIX E

The in-depth interview of the dairy concerned party in upper northern Thailand reflects viewpoint towards management process of the dairy cooperative consisted of:

Group 1: any person who is entitled to designate the plan and policy regarding the management process of the dairy cooperative such as a president or committee of the dairy cooperative in upper northern Thailand for 18 places:

Phrase 1: History and present situation of dairy cooperative

- 1.1 Reason of establishment dairy cooperatives
- 1.2 Management process of the dairy cooperative in the past
- 1.3 Problems encountered in the past
 - 1.3.1 Cause of problem
 - 1.3.2 Solution of problem
- 1.4 Present situation of dairy cooperative
- 1.5 Business of the dairy cooperative
- 1.6 Encountering problems in the present of the dairy cooperative (in the viewpoint of interviewees)

Phrase 2: Management process of dairy cooperative

- 2.1 Planning of the dairy cooperative
 - 2.1.1 Process of planning of the dairy cooperative
 - 2.1.2 Pattern of planning of the dairy cooperative
 - 2.1.3 Problem and obstacle in planning of the dairy cooperative
- 2.2 Internal organizing of the dairy cooperative
 - 2.2.1 Management structure of the dairy cooperative

2.2.2 Duty and responsibility division

2.2.2.1 Manpower

2.2.2.2 Recruitment

2.2.2.3 Development of personnel

2.2.3 Problem and obstacle in organizing of the dairy cooperative (in the viewpoint of interviewee)

2.3 Directing: support, help, consultation, directing in order to achieve the goal of the organization

2.3.1 Power and authority in making decision

2.3.2 Pattern of making decision

2.3.3 Following-up, supervising and giving consultation

2.3.4 Problem and obstacle in making decision and directing the dairy cooperative (in the viewpoint of interviewee)

2.4 Controlling: controlling each tasks to be in accordance with the plan

2.4.1 Pattern of controlling the dairy cooperative

2.4.2 Process of controlling the dairy cooperative

2.4.3 Problem and obstacle in controlling the dairy cooperative (in the viewpoint of interviewee)

Phrase 3: Guideline in developing dairy career of farmer and management process of dairy cooperatives (in the viewpoint of interviewees)

Group 2: any person who has a duty and responsibility in promoting dairy career in upper northern Thailand such as Chiang Mai livestock official and experts in promoting livestock affairs from Livestock Department

Phrase 1: History and present situation of dairy cooperative

1.1 Reason of establishment dairy cooperatives in upper northern region

1.2 Present situation of dairy farming promotion/ extension

Phrase 2: Problems and obstacles of dairy farming of farmers in upper northern Thailand (in the viewpoint of interviewees)

2.1 Problem and obstacle in doing dairy farming of farmers

2.2 Roles and duties of Livestock Department in promoting dairy farming in present

2.3 Problem and obstacle in operating dairy promotion of Livestock Department

Phrase 3: Guideline in developing dairy career of farmer and management process of dairy cooperatives (in the viewpoint of interviewees)

Group 3: any person who is entitled to designate the plan and policy of ready-to-drink milk of milk processing factories in upper northern region such as representatives from Chiang Mai Freshmill Co., Ltd., representatives from Goldmill Co., Ltd. and representatives from U.M. Pokkaphan Co., Ltd.

Phrase 1: History and present situation of dairy cooperative

1.1 Business operation of milk processing factory's entrepreneurs in the present circumstance

1.2 Problem and obstacles in operating business of milk processing factory's entrepreneurs in the present circumstance (in the viewpoint of interviewees)

1.3 Future business plan of milk processing factory's entrepreneurs

Phrase 2: Factors affecting management process of dairy cooperatives in upper northern region (in the viewpoint of interviewees)

2.1 Factor arisen out of dairy cooperative's members

2.2 Factor arisen out of dairy cooperative's management process

Phrase 3: Guideline in developing dairy farming occupation of farmer and management process of dairy cooperatives (in the viewpoint of interviewees)

Phrase 4: Expectation of dairy industry in upper northern Thailand (in the viewpoint of interviewees)



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