

## **CHAPTER 2**

### **LITERATURE REVIEW**

Studying on “Dairy Cooperative’s Management Process Contributing to Occupation Development of Dairy Farmers in Upper Northern Thailand” the researcher had collected concerned concept and theory to be research model which had separated into various issues as following

- 2.1. History and Background of dairy farming in Thailand and upper northern, Thailand
- 2.2. Situation of raw milk production in Thailand and upper northern, Thailand
- 2.3. Limitation and obstacle of occupation development of dairy farmer in Thailand
- 2.4. Concept and Theory about cooperative system
- 2.5. Concept and Theory of management
- 2.6. Concept and Theory of motivation
- 2.7. Concept and Theory concerning decision making process
- 2.8. Concept and Theory concerning occupation revolution and adaptation
- 2.9. Concept of development
- 2.10. Concept of participation
- 2.11. Associate research

#### **2.1. History and Background of dairy farming in Thailand and upper northern, Thailand.**

##### **Initiate era of dairy farming**

Dairy farming in Thailand had begun about 1907 by Indian that immigrated in Thailand who had milk consuming culture. They brought Bengal dairy (Native Cattle) into the kingdom, their description could presume as Ongole or Nellore cattle of India which had low capability in milk production about 2-3 liter and lactation period 8 months. Raising location was around Bangkok. At that time milk

consuming of Thai were particular in educated group only. Then during World War II in 1944. There were deficient crisis of milk for infant so the government had established Milk Organization which had duty to collect raw milk which produced in Bangkok in order to produced infant feed and condensed milk. And begun to import dairy breed from Europe which had capability in milk production higher than Indian dairy cattle (Choosaksakunwiboon, C., 1998)

### **Awaking era of dairy farming**

In 1952, Kasetsart University has established dairy farm with objective to be the quality production and distribution milk center for people in Bangkok. After World War II, milk consuming of Thai had increased respectively that caused to import creep up milk and milk product every year. Consequently in order to decrease volume of milk importation and create career for Thai farmer, the government had assigned the establishment of Livestock Breeding station and Artificial insemination station to Department of Livestock for the purpose of develop dairy hybrid breeding and further propagated for farmer and including dairy raising development accord with principle. Meanwhile output of country development cause Thai people turn to consume milk more and more.

In 1960, King Bhumiphol Adulyadej and the Queen had visited to Denmark and interested in dairy business very much, so that Denmark government had dedicated dairy farming promotion project and send the expert to explore, create project and build Thai–Danish Dairy Farm at Muak Lek Forage station where located at Muak Lek District, Saraburi Province in 1961 that had transformed to Dairy Farming Promotion Organization of Thailand or known as DPO which are main agency that do duty on promote dairy farming to farmer who interest in those time.

Development in dairy farming in the beginning was slowly and milk consuming of Thai people still in limitation, until in 1977-1986. The government had specified dairy farming as focal strategic in country development through specified in The National Economic and Social Development Plan issue 4 and 5 which were strategic for income increment to the farmer and strategic to improve health sanitation reinforcement of citizen (Choteamporn, S., 2006) The government had issued milk consuming campaign including supported research and development in dairy farming

in various aspect continually in the later issue of The National Economic and Social Development Plan.

### **Era of Dairy Farming Promotion and Development**

Since 6<sup>th</sup> The National Economic and Social Development Plan (1987-1991) the government had extremely pressed on dairy farming promotion compromised with raw milk volume which produced in country weren't insufficient to requirement, there produced motivation for farmer and private sector to turn to dairy farming career more and more due to have opportunity to acquire career and income all over year. From major policy and project for dairy farming development in 6<sup>th</sup> The National Economic and Social Development Plan such as precipitation on production of dairy breed project, well-bred semen development and production project, Embryo Transfer Technology project and the focal project were dairy farming promotion project. The government had created dairy farming promotion project to substitute crop farming that faced a problem of product and price such as cassava and paddy rice through tried to decrease cultivated area of some plant that were in line with agricultural product restructure plan. In order that the government have been shown that they had conscientiously promoted dairy farming to the farmer all the time preceding, particularly in promotion distribution in term of dairy farming promotion project to all region of the country till dairy farming occupation in Thailand were expand and dairy farmers were multiple respectively. Because of the government expected that would increased a raw milk volume suffice with consuming requirement in the country and improved dairy farming of the country more and more.

Dairy farming occupation have both benefit and advantage than other agricultural occupation several points, therefore that became motivation to farmer to do this career more such as raw milk price guarantee by government caused farmer had certainly income and acquire daily whereas farmer do not concern about product price decline as other agricultural products. And the farmer also acquired income from by product of dairy farming such as feces, dairy, dry dairy, heifer and male calf distributing. In addition to farmer could integrated with other main agricultural careers for example dairy farming concurrent with orchard, dry crop or household handicraft. Moreover the farmer could brought material waste from local agricultural and industrial in local to use in dairy farming such as stem and corn cortex, soy and

peanut stem, cane apex, hay and leftovers of potato and tomato from industrial plant. From those reasons caused dairy farming occupation have been always in attention of Thai farmer.

Dairy farming in upper northern of Thailand were began in 1947 which Ministry of Agriculture and Cooperatives had given land at Doi Suthep foothills for established to be Chiang Mai Livestock Breeding station and created dairy farming in the station in order to be demonstration dairy farm for the farmer who interesting would got chance to observe dairy farming. (Intaratun, T. and others, 1987) The first Artificial insemination station of Chiang Mai was established in 1947 in order to promote dairy farming to the farming in Chiang Mai and afterwards seriously dairy farming promote were emerged when Thai-German Dairy Project was established at Chiang Mai with the objective of research and widespread dairy farming promotion which were correct in principal. (Kanchanasinith, P. 1999) After terminated project in 1974, farmer in Chiang Mai who obtained encouragement in dairy farming had organized 3 dairy farming groups i.e. Ampur Muang Chiang Mai group, Sankampang group and Orn-Louy group, afterwards they were assembled together and became to be Chiang Mai Dairy Cooperative in 1974. (Ekasingh, B. and others, 1997) Consequently farmer in nearby ampur and province increasingly begun to interest in dairy farming for example Ampur Tueng and Ampur Khun-Tan Chiang Rai where begun to raised dairy in 1984. With supporting of Chiang Rai Agricultural College (Now became Chiang Rai college of Agriculture and Technology). Dairy farming promotion were increased in several Ampur such as Ampur Pan, Mae-Lao, Phya-Mengrai, Maesai and Sub-district Wieng-Chiangrung. They obtained encouragement from Chiang Rai Livestock office, Chiang Rai Cooperative office and Bank for Agriculture and Agricultural Cooperative in each Ampur. (Sankhankeaw, C., 2002) Farmer of Ampur Chaiprakarn became to do dairy farming substituted cultivation due to they faced a problem of agricultural product were damaged from natural disaster so that they decided to begin dairy farming since 1993. (Tunmool, S., 2002)

All along 60 years of dairy farming promotion in upper northern had obtained both support and assistance from concerning various agencies both public and private sector as well as the farmer were further perceived in importance and

benefit from dairy farming. Moreover it make a job and stable income to local farmer, especially it also improved livelihood and life quality better than in the past.

Although in the present, dairy farming occupation were promoted to farmer in several provinces of upper northern for example Chiang Mai, Chiang Rai, Lamphun, Lampang and Phrae which those promotion could cash up to dairy farmers in some extent but raw milk volume were equal to requirement of consumer in upper northern Thailand.

## 2.2. Situation Raw milk production in Thailand and upper northern, Thailand

The Department of Livestock had survey on dairy cattle number since 2008 and found that all dairy of Thailand were 469,937 animals decrease from at the beginning of 2007 (4.01%). At 2008, there was dairy farmer 19,124 households decrease from the beginning from 2007 (9.50%). Distribution of dairy in various region of Thailand were most in Central region (320,457 animals, 68.19%), the second were Northern Eastern (104,091 animals, 22.15%), the third were Northern region (41,650 animals, 8.86%) and the last were Southern region (3,739 animals, 0.80%)

At 2008 all dairy cattle of the country were decreased 1.86% when compare to 2005 and dairy farmer number were decreased 17.80% when compare to 2005.

Table 2.1 Number of dairy cattle and farmer of Thailand since 2005 - 2008.

C.E.	No. of dairy (animal)	Changing ( % )	No. of farmer (household)	Changing ( % )
2005	478,836	17.26	23,374	14.88
2006	410,986	-14.17	20,907	-10.55
2007	489,539	19.13	21,230	1.54
2008	469,937	-4.01	19,214	-9.50

Department of Livestock, 2008

Total raw milk quantity which produced in 2008 were about 775,863.619 tons decreased from 2005 (0.37%) with milk producing efficacy of dairy were 11.28 kg/day, average cost 13.40 baht/kg which increased from 9.16 baht/kg of 2005. And returns from raw milk selling were 1.16 baht/kg., decreased from 2005. (1.16 baht/kg)

In raw milk's price were adjusted from 12.50 baht/kg to 14.50 baht/kg and to 18.00 baht/kg in 2007. and 2008 , respectively (Department of Livestock, 2008)

Table 2.2 Rate of milk production, production cost, purchase price and reward from raw

milk selling since 2001-2008.

C.E.	Milk production (kg/dairy/day)	Raw milk production cost (baht/kg)	Purchase price (baht/kg)	Reward (baht/kg)
2001	10.13	8.00	12.50	3.33
2002	10.30	8.15	12.50	3.19
2003	10.50	8.20	12.50	3.15
2004	11.38	8.51	12.50	2.87
2005	11.50	9.16	12.50	2.32
2006	10.65	10.60	12.50	0.90
2007	10.05	12.31	14.50	0.60
2008	11.28	13.40	18.00	1.16

Office of Agriculture Economics (cited in Department of Livestock, 2009)

Importation of milk and milk product: In 2008, were imbalanced in this product as in 2007. Value of milk product importation were 17,210 million baht, particularly in nonfat dry milk volume were 60,666 tons (7,597 million baht). Free Trade Area in aspect of milk product between Thai- Australia and between Thai- New Zealand it appeared that there were importation of cheese exceeded than regulation under Special Safeguard Measure

Milk Exportation: Thailand exported only milk and cream product with volume and value in 35,338.06 tons and 1,919 million baht, respectively. Example of export product i.e. infant dried milk, pellet dried milk, skimmed milk, sour milk and yoghurt, respectively (Department of Livestock, 2008) which exported to nearby country such as Philippine, Cambodia, Myanmar, Malaysia, Indonesia, Singapore, Laos, Hong Kong and Vietnam.

Now nearly raw milk of Thailand were produced to a ready to drink milk for consuming in country .In 2008, 33% of raw milk that produced in Thailand were

produced to a ready to drink milk for school milk supplement project, leftover were produced to commercial milk product i.e. U.H.T milk(26%), pasteurized milk (7%) and another ready to drink milk products (34%). From those statistical found that tendency of raw milk requirement of milk processed industry still increased continuously

Table 2.3 Raw milk demand, raw milk production and ready to drink milk consuming rate since 2001 – 2009

C.E.	Raw milk demand (ton)	Raw milk to Milk Factory (ton)	The lack of raw milk (ton)	Ready to drink milk product (ton)	Ready to drink milk (ton)	Ready to drink milk consuming rate (kg/head/year)
2001	627,769	564,200	63,569	610,000	602,070	9.57
2002	679,740	633,885	45,855	660,500	651,910	10.19
2003	703,510	702,646	864	683,600	674,700	10.46
2004	796,120	808,905	-12,785	773,582	763,526	12.03
2005	833,350	852,690	-19,340	809,760	799,078	12.63
2006	892,870	771,120	121,750	867,420	856,150	13.36
2007	956,500	699,933	256,567	929,432	917,360	14.00
2008 <sup>1/</sup>	860,889	732,900	127,989	836,522	825,624	12.47
2009 <sup>2/</sup>	690,498	753,930	-63,432	670,973	662,232	9.93

Office of Agriculture Economics (cited in Department of Livestock, 2009)

Note: <sup>1/</sup> means to estimates, <sup>2/</sup> means to forecast

Pattern of dairy farming operation in Thailand; the farmer send their raw milk to dairy cooperative or public milk collection center where they were member. In 2008, all over the country had milk collection centers of dairy cooperative and public totally 96 and 62 centers. Most of them dispersed in dairy farming promotion area. The center purchased and collected raw milk from member and keep raw milk in not exceed 4 C degree

Manufacturing of powered milk, skimmed milk, butter and cheese and including another milk product in Thailand were less due to high cost of

manufacturing, irrespective of manufacturing technology, expert personnel and product acceptance of the consumer in the country. Especially costs in raw milk production that tend to increase whole time causes of the farmer remain depend on production factors from outside particularly concentrate feed for dairy. And accompany with low production efficacy that cause small couldn't break-even. Those reason affect to cost production higher than abroad especially Australia and New Zealand.

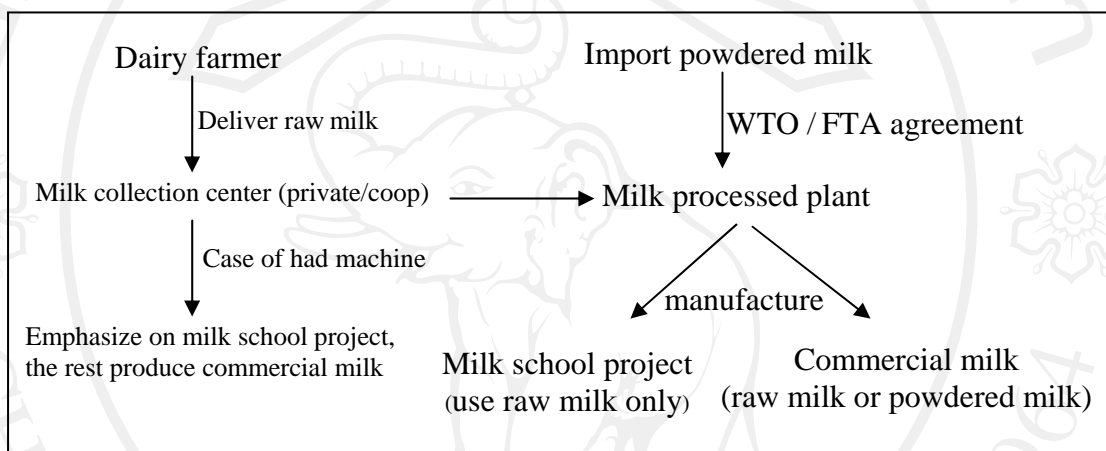
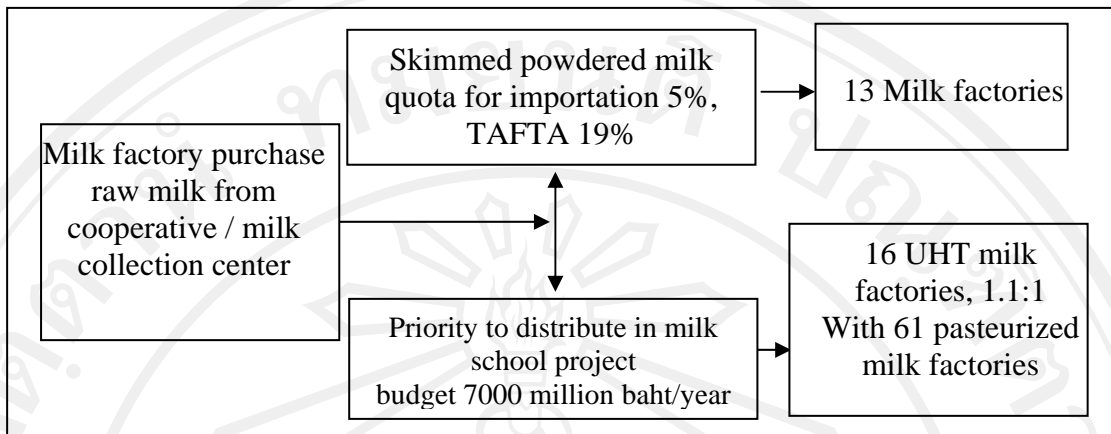


Figure 2.1 Present dairy industry structure of Thailand

Ministry of Agriculture and Cooperatives were core agency on milk management that concerning since raw milk production, raw milk collecting, raw milk marketing, milk processed plant and including of commercial market and school milk project. With structural system of raw milk market would concern to condition of privilege acquirement of plant who purchase raw milk about privilege to distribute in school milk project and right to acquire quota and privilege on tax rate of imported powdered milk that use to manufacture various milk products. The varieties of committees were appointed in order to manage raw milk, powdered milk importation and distribution of school milk.





Source: Chaipan, J., 2006.

Figure 2.2 Pattern of present dairy industry management

On aspect of problem about rise cost in raw milk production, the government solve by change raw milk from 12.50 baht/kg to 13.75 baht/kg that enforced on 1 April 2007. and adjusted to 14.50 baht/kg on 16 September 2007. Afterwards they again adjusted price to 18.00 baht/kg in July 2008. In April 2009, raw milk price were lean to 16.50 baht/kg in order to consistent with increasingly raw milk cost. As Office of Agricultural Economics had proposed average cost of raw milk production in every farm size 12.85 baht/kg (small farm 13.43 baht/kg, medium farm 12.33 baht/kg and large farm 10.99 baht/kg). Those solution of the government had eased up problem in quit in dairy farming to some extent, accompanied with Thailand had reduced importation of skimmed powdered milk from Australia and New Zealand due to both countries faced a problem of drought, fluctuation of US dollar rate and requirement of milk product increased substantially particularly in Pacific Rim country. That influenced to price of skimmed powdered milk increased to 5,000 US dollars or 115%. Consequently expected that the increased price were circle and consuming requirement would reduced due to increasing milk product price and would influenced to reduce price later (livestock economics research, 2007)

Development in raw milk production of Thailand since previous time to the present day could summarize to various aspects as following

### **1. Situation of raw milk production since previous time until 2006.**

Rate of Thailand raw milk production higher than consuming rate in country cause of dairy farming promotion from concerning agency in the past through emphasized at multiplication of dairy farmer, dairy cattle and dairy farming area and disperse to all region of the country that affected to raw milk volume which produced in whole country exceeded than requirement due to in the past milk was not staple of Thai people so that milk consuming were limited in middle class up and most of them lived in urban only which regarded as minor population when compared to whole country.

Those engulfed milk problem were because of (1) when raw milk production in the country higher than consuming rate, of course that cause engulfed milk problem although the government had solved problem through school milk project with condition as processed milk plant who joined project must take only raw milk from the farmer to produce ready to drink milk. But engulfed milk problem were emerged in end of semester of every year due to school milk project covered only in semester, that's only 230 days.

Powdered milk importation in accordance with Trade Agreement, due to Thailand had participated in WTO and agreed FTA with Australia and New Zealand who were global leading in dairy farming industry that caused Thailand have to open quota of milk and milk product importation from membership country and have to reduce production supporting although milk and milk product were product which have to obtain safe harbor by offer acclimation period to dairy farmer before open-door and apply highly rate of tariff wall when import out of quota. But government tax charging with both within and out of quota were only 5%, importation of skimmed powdered milk still persuaded operator of processed milk to use skimmed powdered milk replace raw milk from the farmer. Because of skimmed powdered milk could transformed to recombined milk that could reduced cost in manufacturing of ready to drink milk.

The government assigned price of raw milk at 12.50 baht/kg since 1998 but due to continuously advanced in gasoline that influenced to increase cost of

raw milk production and affected to return from raw milk selling got lower then that's insufficient to pay their debt.

○ Aspect of emphasized on milk quality; all the time the government were considered to raw milk quality which use to produce ready to drink milk through assigned concerning agency Ministry of Public Health, Ministry of Agriculture and Cooperatives, National Bureau of Agricultural Commodity and Foods Standards (ACFS) and Food and Drug (FDA) issued standardization in raw milk which purchase from the farmer that could created certitude to the consumer both in our country and abroad in order to obtain maximal benefit from milk consuming.

## **2. Situation of raw milk production since 2007 until the present day**

Volume of raw milk in the country were reducing cause of termination in dairy farming due to the farmer couldn't lade with cost of raw milk production that increasingly continuous. Major cause were increasing of global fuel price which this problem emerged before raw milk price adjustment of the government from 12.50 baht/kg to 14.50 baht/kg thus now.

Raw milk production rate in Thailand were decreased but consuming rate tend to increase that were consequence from termination of dairy farming occupation in the country which affect to volume of raw milk in country downward too. But in the other hand consuming rate in country tend to increase due to country economy begin better, people gain more income which contributed to purchasing power in ready to drink milk increase in the same way.

Price of skimmed powdered milk got higher from big name of skimmed powdered milk exporter; particularly in Australia and New Zealand, faced a problem of drought cause quantity of raw milk which used to manufacture skimmed powdered milk decrease extremely.

Price of skimmed powdered milk increased extremely that contributed to ready to drink milk cost of processed milk operator higher than take raw milk from the farmer in the country. So that the operator turn to use raw milk replace skimmed powdered milk imported.

Raw milk price adjustment from 12.50 baht/kg to 14.50 baht/kg, 18.00 baht/kg and reduced to 16.50 baht/kg in April 2009. Raw milk price adjustment to

according with actual raw milk production cost had both advantage and disadvantage to which it may concerns with dairy farming occupation as follows

Advantage: dairy farmer and farmer organization obtain advantage from raw milk price adjustment through gain more return from raw milk selling or that could extend career's life of the farmer and farmer organization extremely.

Disadvantage: the consumer in the country affect disadvantage whose have to pay more for ready to drink milk that affected circulation of ready to drink milk in the country decrease and of course that would impact to the milk process operator who might to face more a problem in marketing and might be lead to problem of engulf milk in the future.

Adjustment of raw milk might be the best resolution at present, but that's not sustainable resolution, therefore dairy farming have to adapt themselves to fit with global revolution such as development on information technology, planning for raw milk production both short term and long term and pick the suitable research to apply in their farm.

### **Situation of dairy farming and raw milk production in upper northern, Thailand**

Report of dairy cattle population in upper northern of Regional Bureau of Animal Health and Sanitary 5 Department of Livestock in September 2009 revealed that there were dairy farmer in upper northern whose were member of dairy cooperatives and dairy farming groups total 1,005 persons which 41.70% reduced from 2005 (1,724 persons) (The Dairy Co-operatives Federation of Thailand Limited, 2006) with dairy cattle 13,500 animals which dispersed in area of dairy farming promotion i.e. Chiang Mai, Chiang Rai, Lampang and Phrae. They could produced raw milk average 160 ton a day, their product were delivered to processed milk factory both inside and outside local. Most of raw milk were used to manufacture to school milk up to 95%, the rest were manufactured to commercial products as milk and milk products like ice cream, sour milk and yoghurt.

The raw milk marketing in upper northern were conform to (Ekasingh, B. and others, 1997) who mentioned on raw milk marketing system of the farmer in the Northern which selling channel of raw milk were following

1. Sell to dairy cooperative / agricultural cooperative in their local to processing by cooperative or distribute to private milk factory in the central, northern region and DPO
2. Sell to private milk factory in the upper northern region for processing further
3. In several area found that farmers who own large size had processed their own milk and distributed by themselves such as dairy farmer in Maesai District, Chiang Rai Province who processed milk for distribution in local, in other area such as Phrae Dairy Cooperative; some farmer who had a few raw milk were processed their milk or sale to local minor trader who processed milk with simple method such as boiling or steaming etc.

Aggregation feature of dairy farmers, almost were dairy cooperative, dairy farming group and membership of milk factory. Most of dairy farming system were tying: dairy animal were assigned in barn all the time with each specific pen for stand, eat water and feed and excrete, where easily for the farmer to take care and manage. The other reason was the farmer had a problem of dairy farming area that consistent with Tunmool, S.(2002) who said that farmer who were member of Chaiprakarn Dairy Cooperative Chiang Mai had a problem in lack of area for dairy farming like Joemplang, P.(1999) who declared that problem and obstacle of dairy farmers in Chiang Rai were lack of feeding area and forage area for dairy, with those reason were lead to tying.

Now there are 18 dairy cooperatives and 5 milk factory in upper northern, 2 were plants of cooperatives: Chiang Mai Dairy Cooperative and Chiang Rai Dairy Cooperative where could produced only pasteurized milk remainder are processed milk plant of DPO and 3 larges private milk factory where could produced both pasteurized and UHT milk.

In the middle of 2005 - 2008, some dairy farmers in upper northern had to quit in their career legion, especially in 2006. From a reason of the farmer couldn't handled with raw milk production cost which increased continuously that arise from

increasing of global fuel price which had affected to production factor of raw milk especially in concentrate feed while raw milk price guarantee of the government still at 12.50 baht/kg since 1997 although in 2008-2009, price were raised to 16.50 baht/kg. But in fact the farmer could sale their milk in the lower price due to some processed plant had applied raw milk quality for specify price. This problem were strongly affected to small sized farmer and farmer who had debt from the beginning due to high investment of dairy farming at earliest stage especially in dairy breed, building, house and milking equipment so that almost farmer had to ask for loan nearly 100%. (Ekasingh, B. and others, 1997) Even though some farmer did farming for several years but their debt still high, this point might be from the farmer lack of concisely repay, neglect to repay, use money for other objectives and neglect to dun of finance agency. This problem was a major reason that leads the farmer in upper northern lack motivation to do dairy farming in the future.

Termination of dairy farming in upper northern had impact to dairy cooperative and dairy farming group due to raw milk volume which collected from member were decreased that mean to income from raw milk selling were decreased too. Especially medium and small dairy cooperatives which effect to operation in the future. Problem which would contributed from termination of dairy farming in upper northern are debt commitment that happen to dairy cooperative and dairy farming group particularly in the committee who signed loan contract with financing agency in order to spend in dairy cooperative establishment such buildings, chilling apparatus, transportation truck and cooling truck that all were debt commitment in long term therefore if member terminated their career that of course effect to stability of dairy cooperative or dairy farming group too.

That problem were added up in since early of 2007 due to transfer of member to milk collection centers of private sector particularly in Chiang Mai and Lamphun where close to the large milk factory that cause raw milk volume of cooperative got lower (lower income). The cooperative solved this problem by enroll member additional that could remedied to some extent only when compromised with shortage of raw milk for use in milk processed plant at early of 2008 due to import price of skimmed powdered milk adjusted highly. Operator turn to use raw milk from farmer inside the country more, operator in Upper Northern did as well so they created their

farmer group which almost were new face of dairy farmer and the farmer who used to be member of cooperative or dairy farming group that could economized time in raising and dairy ready to milking. The farmer turn to private milk collection center due to several reason such as oppose to cooperative or dairy farming group, the farmer were persuaded from higher purchase price of raw milk without strictly checking on quality of raw milk as dairy cooperative and the farmer had securely income. But purchase without quality checking was contributed to an anxiety of the researcher that cause the bad quality in ready to drink milk for the consumer particularly in school milk project.

Even though dairy farming occupation in Thailand were seriously developed and supported from the concerning agency for 60 years, the key were public sector policy on dairy farming supporting and promotion and manufacturing of ready to drink milk that lead dairy farming industry of Thailand had accepted and developed to the leader in Indochina region whole intellectual development, farm management experience, dairy breeding, feed management and prevention and control disease under limitation of tropical region and feeding feature of small and medium sized farm (Aiumlamai, S. and others, 2006) In fact dairy farming in Thailand till to face a problem which are obstacle all the time that cause insecure feeling to Thai farmer until sometime the farmer have to quit these occupation especially lineage of the farmer more than 50% were ignored to do this career (Ruengpiboon, S., 2007) and turn to be a labour in industrial sector, that were major problem of every developing country.

### **2.3. Limitation and obstacle in occupation development of Thai dairy farming in Thailand**

Dairy farming in Thailand had some limitation which are obstacle to occupation development of dairy farming in Thailand as Varavarn, C., (1977) had concluded limitation of dairy farming in Thailand as following

#### **1. Commercial dairy farming were incapable to do in all everywhere in Thailand**

Due to Thai people were not consumed milk as general staple, milk consuming still limited in group of medium income over whose lived in urban almost.

So raw milk production source need to locate in distribution area and raw milk transportation from milk collection site have to moderately convenient. In case of distribution area are small community and dairy farming are superfluous it also cause problem of engulf milk. Dairy cattle are animal which eat grass as staple and must have grass completely all year or have to provide grass in low cost all year, moreover dairy cattle need water for drink and cleaning house so farm must located in complete water source. Therefore suitable location for dairy farming is rarely in Thailand.

**2. Dairy farming consume high investment** such house construction, dairy breed, feed, equipment etc. Initiate dairy farming with 7-8 dairies must have capital at least 50,000 baht and have separately circulating fund that's hardly for the farmer who used to do other farming would turn to dairy farming because it consume quite high cost.

**3. Dairy farming need higher skill and capability labour than other farming**, workers have to work regularly and appropriate with temporary labour. Beside that their wage are in specialist level which those labour are rarely.

**4. Dairy farming system in Thailand are not stable**, because it couldn't decided that which system would gave the best result so that dairy farming have to decide by experimental method.

Moreover Komkrit, T., (1979) had concluded problem and obstacle on Thailand dairy farming as following

#### **1. Dairy breed**

Many people were often overlook this problem but if decide to speed up a raw milk production the first obstacle are take dairy from where. Many people expect that there were millions cows in Thailand even though those cows were not dairy cow but only single breeding could obtained hybrid which could milking. And number of requirement cow just not much percent of total cow in the country. But actually hybrid breeding were very slowly and a few. Pure bred dairy of Thailand might be in limited and could feeding in some area.

#### **2. Capital for investment**

Dairy farming consume quite high investment, general farmer have not enough capital have to borrow from lender who often request collateral. Therefore the



poor farmer don't have chance to do dairy farming. So to speak those fund are moderately available but the problem is how to make the borrower meet the lender at midpoint, that is lender must accept loan in project format: borrower are in project with closely supervisory and are confident to success in dairy farming and could return loan. Those projects could prepare by aggregation and supervise by agency such as Dairy Cooperative and dairy farming group whereas lender is Department of Cooperative Promotion etc. Another capitalization format is dairy capital: give dairy animal to selected farmer and deduct from milk price. These format have to do concurrent with insure dairy animal because consider that dairy animal are loan assurance whenever the dairy are available the farmer are able to return loan.

### **3. High raw milk production cost**

While hybrid dairy give low production and don't have dairy breed selection due to every hybrid dairy are keep for milking so that cost in raw milk production are higher than the country where do dairy farming as industrial, when various expense are higher day by day the farmer try to increase raw milk price. If situation are like that raw milk in country would not compare to cost of abroad milk.

### **4. Problem of milk marketing**

From high cost of raw milk production at this time which lead to skimmed powdered milk importation that cause cost of ready to drink milk decrease, If situation are like that recombined milk could dominate the market easily. That consistent with Sankhankeaw, C., (2002) who had concluded 5 problems on dairy farming as following

1. Problem concerning policy and regulation of the government on dairy farming promotion and dairy enterprise supporting
2. Problem concerning the farmer, particularly in investment, training, fundamental knowledge, role of women, labour and etc. add up to call as social and economical factor"
3. Problem concerning dairy farming, dairy breed, feed and feeding, farm management, worm and disease prevention and milking including milk quality preservation

4. Problem concerning marketing and distribution, cost reduction and milk price, milk process and milk product, promotion and campaign for milk consuming and packaging, transportation to the consumer and storage etc.

5. Factor from abroad i.e. agreement of WTO and agreement of FTA with Australia and New Zealand that might effect directly to dairy farmer in the country further.

From an order memorandum of Princess Maha Chakri Sirindhorn which conferred to Thai dairy farmer and secretary of government officer who concerning with Thailand dairy farming when went to opening ceremony “National dairy cow fair” of 2007 at DPO Muak lek District, Saraburi Province were concluded as following

**1. Farmer:** must provide knowledge to the farmer whole animal husbandry, veterinary science and management

**2. Management:** whole dairy breed, area and feed which breed aspect had developed and improved in order to become familiar with climate. Area must have sufficient water and must manage pasture sufficiently. If water or feed are not enough dairy would gave milk. Improve feeding for survival o f the farmer with knowledge and willpower

**3. Product:** In case of low product, farmer loss might to provide assistance but if the farmer don't have potentiality then support to other career. On processed milk, the farmer maybe no skillfully and have no time, might do in format of Contract Farming or give share or etc. On label of product, have to understanding with FDA for clearness in label for general public. Beside that should offer education supporting to their child in order to assist on management

At Dairy Conference 2006. Which consist of representative from government officer, farmer organization and university lecturer who took part in dairy farming development in Thailand, they had concluded major obstacle of Thai dairy industry in 2006 as following

1. Cost of raw milk production rise up from higher fuel price and production efficiency of small farm which couldn't broke even, confused and discouraged due to Thai government were signed FTA agreement with Australia and New Zealand that contributed to termination of dairy farming and dairy animal were

sort out more and more, some of dairy cattle were breed from beef cattle that contributed to lowering of raw milk production

2. Insufficient production efficiency and management of center or cooperative and lack of fit personnel such as extension, veterinarian, artificial insemination staff, milk QC staff. The government unable to exam every dairy cows and centers, Mouth and Feet vaccination incomplete that contributed to uncertainty of milk quality, safety of the animal and emerged periodic of Mouth and Feet spreading which lead to loss dairy production very much without compensation

3. Dairy database management's Department of Livestock should be in the same agency along with accurate update and cover data in order to set policy, plot development and protect dairy farming industry such as data of dairy population, farmer, cooperative, milk collection center, raw milk yield, milk quality and component each farm and animal, fertility, breeding value of breeder, cost of raw milk production and farm cost, disease certificated result, Mouth and Feet vaccination and disease epidermis. The agriculture organization, extension and academic should recognized those data in order to apply for increase production efficiency and develop dairy farming industry

4. Milk market were not expanded and raw milk which produced in country were not used completely

5. Lack of both existent and research intellectual management therefore have to pass on research result and intellectual in dairy farming industry to user and apply properly more than present. Agriculture organization must have personnel who could connect with the researcher and academic

6. Agriculture organization and private sector require confidence on dairy farming industry supporting and concrete system which could protect occupation dairy farming industry from the government

Dairy farmer in upper northern Thailand still faced a problem and obstacles which effected to heir development of dairy farming that could divided into 3 points i.e.

#### **1. Dairy farming i.e.**

There were several aspects on dairy farming problems such feed which found that the farmer lack of pasture area (Joemplang, P. (1999); Wittayagone, P.

(1999); Tunmool, S. (2002)). In drought season had to buy some roughage from another area caused the farmer had to use mainly concentrate accompanied with price of concentrate increased continuously then caused cost of raw milk production increased in the same way (Chaipin, R. ,2002). Trouble of artificial insemination in some area where had low conception rate (Joemplang, P. ,1999; Sankhankeaw, C. ,2002; Jitmanus, P.,2003).Part of milk quality and milk production of dairy which still be a problem that were cause of milk factory to lower the price and reject then farmer were in trouble and lead to termination of dairy farming in some area (Ekasingh, B. and others, 1997). Part on farmer's debt still high and lack of capital for use in farm operation (Joemplang, P. (1999); Wittayagone, P. (1999); Inta, J. (2001); Sankhankeaw, C. (2002); Tunmool, S. (2002); Jitmanus, P. (2003)) Part on disease and worm prevention; due to Thailand located on Tropical zone that animal easily to get ill and often emerged epidemic of Mouth and Feet, Hemorrhagic septicemia every year and the primary were Mastitis which caused extremely waste to the farmer. Most of those problem were problems that the farmer eyed on only their experience but not eyed on the big picture which still be another concerning factor as well and were the importance of their dairy farming development. Some of farmer had poor knowledge on dairy farming such as some of them used milking equipment improper caused milk quality lower than specified standard that agree with Subrod, S. (1992) who said that application of milking machine with effective and safety depend on proper method then could to fully milking and the obtained raw milk would clean than manual milking. Beside that milk quality preservation also depend on handling, transportation distance to milk collection center as well. Although the government officer who concerning had provided training as acquired budget each year which some year those budget were not available that caused discontinuity of training this conform to Wittayagone, P. (1999) who claimed that should always send officer to provide knowledge about livestock or dairy farming. And Sankhankeaw, C. (2002) also said that dairy farming in Chiang Rai have to obtain training on dairy farming every year and concerning agency should arrange observe activities in area where succeed in dairy farming

## **2. Dairy breed production i.e.**

Lack of a highbred dairy which had ability to give high raw milk and long term milking. Although the highbred dairy were imported in the past but that were not enough to the requirement Promma, S. and others (2007) claimed that now dairy farmer need to consider to level of dairy strain by select breeding which match to their farm size with principle as follows small farm with lowly farm management should pick 75% blood level, medium farm with moderately farm management should pick 82-92% blood level, large farm with good farm management should pick 90-93% blood level and sizable farm with excellent management should pick 93-100% blood level

Farm management: dairy farmer in upper northern still faced a problem on farm planning and management for example trouble on planning of heifer replacement, dairy selection and raw milk production. Due to the farmer neglect farm data recording that consistent with Kanchanasinith, P. (1999) minority of farmer who recorded farm account and Wittayagone, P. (1999) also said that almost dairy farmer in Sankampang Chiang Mai did not record farm account and explain that their free time for record farm account were less. And Tunmool, S. (2002) said that farm who member of Chaiprakarn Dairy Cooperative, Chiang Mai were not understood in data record system and farm management

## **3. Policy and standard on raw milk purchasing**

The government policy and regulation on dairy farming promotion which caused trouble to dairy farmer and agricultural organization, In 1999. the government had launched policy to conduct standard of dairy farming and raw milk production that affect to the farmer need to improve their farm for approaching farm standard but almost farmer in upper northern were small farm (own mere 20 dairy animals) so that their capital were insufficient to improve farm, so some of them were neglect importance of approaching farm standard due to assume that farm standard would add debt to themselves. And some dairy cooperatives did not pay attention in these issues and did not increase milk price form farm which had recognized standard. Beside that in 2004, there were evaluated standard of milk collection center follow GMP principle that caused dairy cooperative and dairy farming group need to improve their center, improvement and development were occurred in the center

which had enough money but in some medium and small cooperative had to ask for big loan that lead to debt adding for member. Some cooperative neglect to improve due to reward from recognized center had no motivation to cooperative and no finances from the government

Distribution of public service due to expansion of dairy farming were raised up then the government could not provided readiness on various service to meet with requirement because of limited budget which affect to another problem of dairy farming and else

Insufficient of dairy farming and dairy cooperative's strength due to member did not pay attention and understand in co-working, lack of cooperation, trust between each other accompanied with most of cooperative lack of vigorous leader and had ability on management. Some dairy cooperatives often changed the leader and personnel then caused discontinuous operation and impact on operation and expand a business further

Uncertainty of public policy regarding to school milk project, actually these project should probable the policy that support expansion of locally milk business. From late operation had altered purchasing procedure caused some Dairy Cooperative which without their milk factory and private milk processed plant had not power to negotiate and compete with large operator even faced a problem of processed milk distribution in their local and impact extremely to raw milk selling of the farmer inevitable

Standard of raw milk purchasing: In case of raw milk which cooperative purchased from the farmer and brought to distribute to private milk factory in their local or DPO. Sometime raw milk which delivered to plant were not passed quality inspection and sometime raw milk were reject particularly in end of semester that caused loss of cooperative in each year. Even though the dairy cooperative tried to specified their milk quality by sent to laboratory of both public and educational institution, sometime lab result were distinct. Those result caused distrusted to dairy farmer who often faced that problem which laboratory would gave the best result.

#### **4. Marketing and Distribution**

Promotion and campaign on milk consuming: lack of serious promotion and campaign on milk consuming, by concerning agency such as public agency, private agency, agricultural organization and farmer, to people in local especially in youth to acknowledge in benefit which obtain from milk consuming in order to increase rate of milk consuming in upper northern Thailand.

Milk processing and milk product: lack of research and develop on milk processing and milk product for create motivation, moreover problem of product distribution that were limited clump in urban community then milk and milk product could not meet throughout the consumer

Manufacture technology application: due to technology on UHT milk manufacturing were own in private plant only caused opportunity to expand the business of cooperative were less due to they could manufactured only pasteurized milk which had shortly shelf-life then the cooperative took market share less than private sector

#### **5. The other problem**

Operation of concerning officer: cause of each year the public officer were followed to policy and framework which assigned by their original affiliation, sometime those policy and framework didn't response to requirement of dairy farmer in locally that impacted to some project had not succeed. Furthermore, there were overlap operation such as standard specification of milk collection center follow to GMP principle of Department of Livestock, ACFS and Thai FDA which those standard of each organization had discrepancy so that made confusion to officer and dairy cooperative

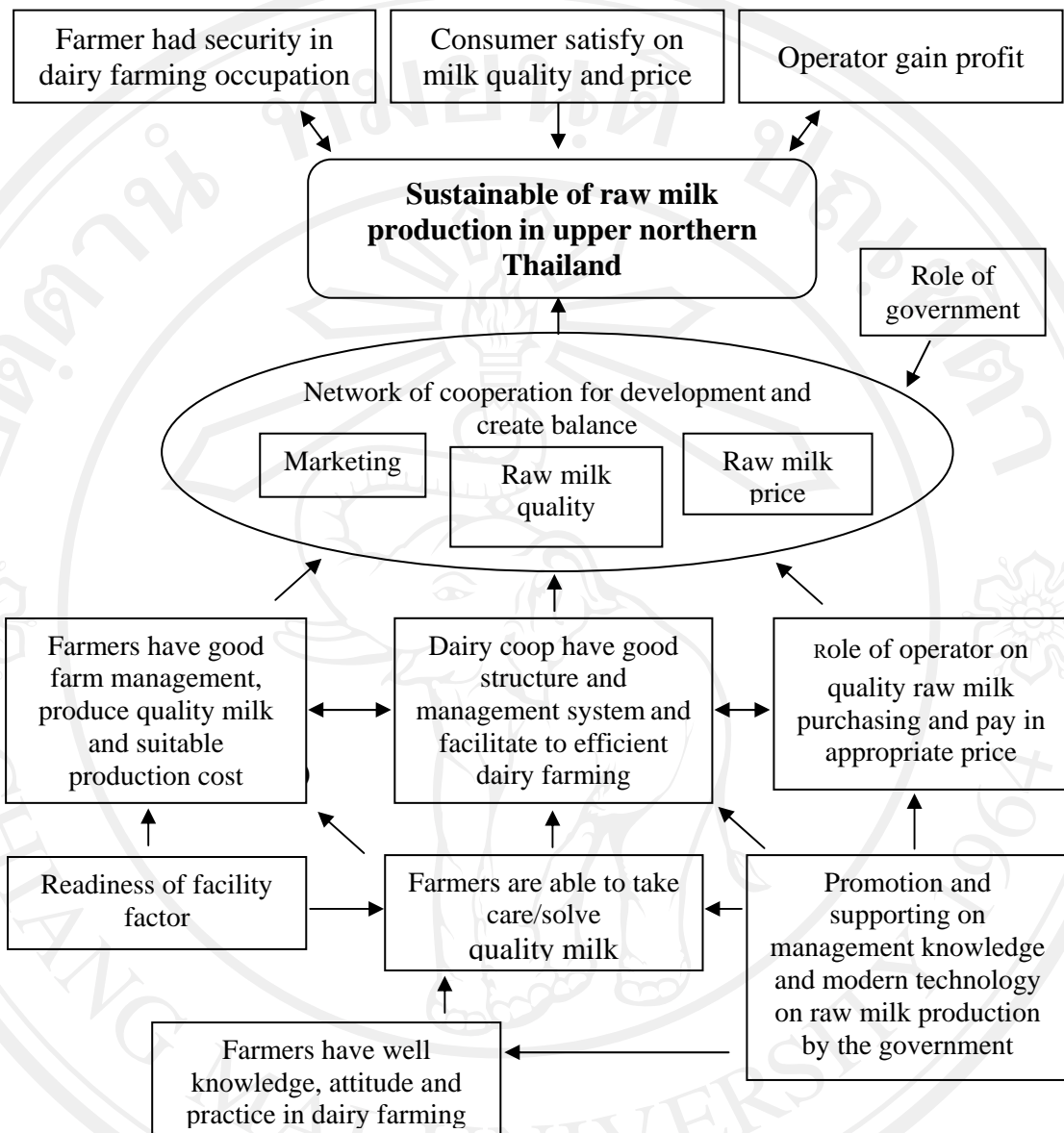
Payment of raw milk expense to Dairy Cooperative were delay: this problem emerged from several reason for example DAO who received budget for milk purchasing and distribute to school, paid expense of school milk project slowly. Sometime disbursing on school milk project to private plant was slowly and that were impact to payment of raw milk expense to cooperative slowly in the same way. Those lateness caused unbalance between income and expense in every level since milk factory, dairy cooperative till dairy farmer and also cause conflict between private milk processed plant and dairy cooperative. In the past period found that each year

there were alteration of MOU on raw milk purchasing between dairy cooperative and private plant, some cooperative chose to contract with private plant which had not problem of raw milk expense payment and standard of raw milk then sometime they had to sell to outside local plant that caused cost higher especially raw milk transportation.

All problems and obstacles which were mentioned above entirely caused instability in occupation of the farmer particularly in the farmer who expect highly from this occupation would had highly tendency to quit when faced a problem (Ekasingh, B. and others, 1997)

Operation to resolve problem of farm management efficiency and raw milk production in upper northern Thailand must employ cooperation from several parties who concerning dairy farming industry in upper northern Thailand; such as dairy farmer, locally milk factory operator, state agency including dairy cooperative or dairy farming group, shall develop and create balance in raw milk production





Source: Rojanasathain, S., 2008

Figure 2.3 Conceptual of proceeding to solve efficient farm management and raw milk production in upper northern Thailand.

From figure 2.3 found that dairy cooperative were compared as middleman who connect to dairy farming and milk factory, therefore cooperative must have the well structure and management system then able to support development of raw milk production efficiency better. Including raw milk quality have recognized and acceptance from locally milk factory then the farmer will sense in security in their

occupation more and more and of course affect to security on food and health and sanitation of whole country

Consequently the research then interested in factor which affect to decision to terminate dairy farming occupation of dairy farmer in the upper northern in order to be information in seeking for management process of dairy cooperative which contributing to occupation development of dairy farmer in upper northern with effectively and sustainable further

## **2.4. Concept and Theory about cooperative system**

### **Denotation of cooperative**

Cooperative Promotion Department (1980) had interpretive of “cooperative” as business of group which register according to Cooperative law, establish for resolve problems in earn a living which like or resemble to each other and be problem which each member could not solve alone by themselves

Hanns Gebhard (cited in Honark, A., 1981) explained that the cooperative where place that assemble people, establish in according to equality, non limit member number and with objective to operate follow to economic principle in order to promote financial status and occupation of member through helping oneself or with government supporting and condition of profit from concurring must proportionately allocation up to their working not their capital

The Royal Institute (2007) defined “cooperative” as (revised) cooperative are economic and social organization which member are associate with establishment through participation in take shares, production management, product or service distribution up to the same requirement or benefit of all member, each member have right to vote in cooperative management and not depend on their holding shares like Savings Cooperatives, Agriculture Cooperatives, Dairy Cooperatives, (rule) group of person whose participate in business operation for the purpose of benefit on economic and social through help oneself and help each other and are register follow cooperatives law

Chianggool, W. (2007) gave interpretive of “cooperatives” as business established group which member are co-owner for co-benefit and democratically

manage that probably use another name such as irrigation ditch group, union credit, savings group, rice bank, cremation association etc

Then, meaning of “cooperative” could concluded as “unification of people group whose has the same objective and aim to resolve various problem which could not solve by oneself alone and need to improve their living, most of all must apply principle of democracy on management and these unification must register follow cooperative law

### **Principle of Cooperative**

Those principle of Cooperative were regard as trail for various cooperatives on taking worth of cooperative to practical, produce supreme benefit for all member till contribute to help oneself and each other

Cooperatives Promotion Department (2009) provided 7 principles of cooperative in order to be trail of the cooperative holding for concrete cooperative worth are as follows

#### **The first principal: belonging to be member must voluntarily and open**

Should realize that belonging to and quit from membership have up to voluntariness of person (“person” means to natural person and corporate) inducement, cogency, seduction, enforcement and threat from others are forbidden.

However qualification designation of member in diverse cooperatives in order to obtain person to be member and able to co-operation in cooperative and would not make a problem and trouble to cooperative and other member those are not regard as against to this principle.

Associated member should include particularly in case of some sort cooperatives which own special kind and necessity only, should not include in general cooperative or every cooperatives because normally associated member originate from person who lack of qualification to be normal member if any cooperative subscribe a great number of associated member might affect to benefit promotion of normal member, although the law are forbid associated member to possess some rights.

#### **The second principal: Supervision by member as democratically**

Should realize that every member have duty to be united in action, spirit and intelligence for operation and supervise in cooperatives operation that

follow to democracy way in order to reach objective with efficiency and effectiveness through varied channel or organization such as steering committee, examiner and general meeting and so on.

**The third principal: Participation in economical of member**

Aim at all member should realize that essential role of them are they are both the owners and the customers in the same time so they have to be join donator, supervisor and patron or customer not be member in order to expect for advantage from cooperative only.

On net profit allocation to member with fairness, separate a portion to be reserve fund which could not allocate but keep for cooperative development that regard as social cost, the remainder might allocate for dividend in limited rate and average fund returned depend on shares of business.

**The fourth principal: the cooperative must be autonomous and liberated**

The member, committee and officer of cooperative including cooperative promoting agency must always realize and conscious that cooperative are self-help organization and autonomous so that the cooperative have to be liberated in any decision or contract to outsider or the government along condition which the cooperative could accept.

Assistance or supporting acceptance from the government or the outsider are not against to principle of liberation, if assistant are intend for self-help of cooperative and supervise along democracy principal including maintain their selfness

**The fifth principal: must provide education, training and news information to member**

This principle are weakness of Thai cooperatives in every level both primary and advance cooperative, because of model scheme on development of cooperative educational which to be actual role and responsibility of cooperative process. The public agency which have duty on cooperative promoting remain conducting in acknowledgement and training that overlap with cooperative process therefore should emphasize on officer training to officiate with effective and effectiveness.

Education are emphasize on member and general person who regard as they will be member further to has cognizance about cooperative including recognition and consciousness in their right and duty or spirit of cooperative

Training emphasize on committee, manager and officer of the cooperative has knowledge, capacity and skill including responsibility on their duty

#### **The sixth principal: collaboration between cooperatives**

The major objective of collaboration between cooperatives are in order to possess higher bargaining power and lead to service member with efficient more. So each locally cooperative and advanced cooperative have to be vigorously sustainable and colorful cooperative and collaborate in type of “combine system” or unity.

#### **The seventh principal: Respect to community**

The cooperative are economic and social organization and belong to the community where cooperative were located hence cooperative operation must proceed for sustainable development of those community that mean to be development which not destroy natural resource, environment and ecology or be development which response to requirement and ambition of this generation whereas not destroy opportunity, capacity and future of new generation. And due to member of cooperative also are member of those communities so that cooperative should take part in community ministration with sustainable.

#### **Development on Cooperative System**

Junwong, B. (2000) considered to concept in cooperative development as follows

##### **1. The cooperative must be organization which have duty in creation of business bargaining power**

Basic concept of cooperative establishment are representative organization of member on run all business, benefit group ,create business bargaining power which in the past the cooperative do those duty less although in theoretically cooperative are organization which valuable to economic development in locally or group which have bargaining power less. Consequently the cooperative must be representative of member group in order to bargain product price, be marketing for

increase income to member, meanwhile cooperative must assist member on equipment providing

## **2. Cooperative development must emphasize on quality of cooperative**

Trouble and weakness of cooperative are previously act only as another finances for member. Transaction were no quality then have to speed up on quality development in order to cooperative would able to self-help at most particularly in agricultural field through way of operation as follows

1. Promote cooperative to possess sufficiently their own capital through supporting in more saving member

2. Promote on unification of cooperative which will do business together such as trading of product between cooperatives, collaborate in product selling and in product processing

3. Promote learning process between each cooperative through observe activities supporting in succeed cooperative which there would be information exchange between cooperative and publicize about succeed cooperative to network and public

4. Create system of information exchange between cooperatives in order to each cooperative are able to exchange their information and last operation each cooperative often operate by themselves without exchange of information and experience in cooperative management in order to provide supporting each other

5. Promote on personnel development i.e. committee to create vision on business management, furthermore there will be officer which emphasize on accuracy and omniscience, especially the member which emphasize on paying intention, follow up including absolute comprehension in objective of their cooperative

## **3. Promote marketing development of cooperative**

Another major problem are product of cooperative are under standard, unable to compete in the market so that have to promote cooperative till they could compete in the market, standardize quality of product through way of operation as follows

1. Specify standard of cooperative product in order to improve standard

2. Acknowledge about product quality to member
3. The cooperative must have up-to date news information in product marketing whole price and volume of product both in the country and abroad
4. Promote product processing in order to add value and long preserve

#### **4. Develop news information system**

The cooperative must have moderately effective news information system in order to broadly acknowledge all information and up to date cause of in the future cooperative have to enter more competition in business then have to possess sufficient information for decision such as product data whole their member, country and global, product price data in Thai market and abroad. Those information would help cooperative to could made properly decision in cooperative management. The cooperative have to rely on themselves and public sector would be advocator

#### **5. The cooperative have to pay attention on natural resource and environment conservation**

Natural resource and environment conservation are go together with cooperative operation because if cooperative and their member not pay attention in natural resource that would affect to cooperative operation in the future, especially in agricultural cooperative.

#### **6. Promote saving of member in their cooperative**

The cooperative must promote on more saving in order to take money to be the part of capital in cooperative operation whereas cooperative no need to borrow from other finances, when cooperative gain profit then member also obtain benefit and cooperative are able to rely on themselves. Saving promoting also be construction of discipline, virtue and truth to member and create relationship between member and cooperative including promoting on participation in cooperative operation of member too.

#### **7. Adjust role of public sector to be supporter and promoter to cooperative**

Adjust role to be supporting instead of take participation in operation because principle of cooperative stress on operating by member in order to help each other, public sector should recommend, promote and support in cooperative operating

as much as cooperative request only then should not interfere in decision and let cooperative management process are free follow potential of cooperative.

### **History and Background of cooperative in Thailand**

Authority of Thailand cooperative arose when Thailand began to trade with abroad more, economic system in rural were change from self-sufficient pattern to commercial pattern then capital requirement for expand production and living were elevated, the farmer who did not had their own capital had to borrow from informal accompanied with were taken advantage from middleman then the farmer become to disadvantage side all the time. Furthermore, Thai farmer remain employed climate mainly if some year product were damaged, their debt would accumulated more and more. Some case had to hand over ownership to creditor and become to hirer instead or had no land to earn a living in finally. Those problem are remain a major problem until nowadays

From those problems caused the government thought of way to aid the farmer through loan providing with low interest, those ideas initiated in late period of King Rama V (Cooperative Promotion Department, 2008). Thailand started to study in cooperative means in 1914 by His Highness Prince Rajani Chamaharas, Prince Bidyalongkorn who established cooperative society until government office of cooperative were established in 1915 and chose Raiffisen Credit cooperative type of Germany: small cooperative for the purpose of borrow money, member have co-responsibility which are convenient to supervise; he chose to establish the first cooperative at Pisanulok province and designated as “Non Limited Liability Wat Jan Cooperative” which had registred on 26 February 1916 that was the completely initiative of cooperative in Thailand. From the success of Wat Jan Cooperative had caused the government tried to expand business of cooperative to another province and had established a new types of cooperative subsequent

The foremost revolution were combining of cooperative funding altogether through given a chance to small cooperative funding which run the same business able combined together to be a large cooperative and expand to be multi-purpose transaction that offered more benefit to the member. Therefore, cooperative funding become to agriculture cooperative as yet



Now Thailand had specified 6 types of cooperative namely Agricultural Cooperative, Landsettlement Cooperative, Fishery Cooperative, Saving Cooperative, Consumer Cooperative and Service Cooperative so Authority of Thailand Cooperative then had significance to Thailand economy especially to poor citizen the cooperative were economic and social institute which aid to resolve problem of occupation and improve living of citizen. (Cooperatives Promotion Department, 2009)

### **History of Dairy Cooperative**

Around 1968, dairy farmers in Rajburi Province faced a problem of source of raw milk purchasing caused loose in dairy farming, the leader asked for Rajburi Member of The House Representative to contact with raw milk purchaser and got Kasetsart University to be purchaser through assigned the farmer to establish Nongpho Milk Collection Center and obtained budget from the government and spend capital of farmer group to construct Milk Collection Building

In 1970, operation of dairy farmer group were succeed but not enough to deal with situation of higher raw milk production then they acted to establish the dairy farmer cooperative at Nongpho Podharam Rajburi Province that were regarded as the first Dairy Cooperative of Thailand and had expand concept of aggregation of dairy farmer group in pattern of dairy cooperative to another regions

### **The Objective of Dairy Cooperative Promoting**

1. To promote dairy farming occupation to be main or supplement occupation of the farmer in order to increase income then improve living status of the farmer
2. To reduce crop cultivated area which had problem of product and price through change to cultivate pasture and feed dairy instead
3. In order to member employ land, labour, capital and free time to produce highest reward, reduce social problem and build discipline
4. To reduce unemployment problem and distribute income to rural including problem of workplace translocation from rural to city then reduce social problem
5. To increase raw milk product to sufficient with in country requirement and decrease importation of milk product

6. To promote production of milk product and increase meat volume for consuming in country

7. To promote health status of population in the country through promote to consume milk which are nutritious food

### **Structural management system of Dairy Cooperative**

Cooperative operations are base on “Universal Principle of Cooperative” under extent follow Cooperative Act of 1999, regulation and rule of cooperative which had recognized from Cooperative Promotion Department comprise of 2 parties i.e.

#### **1. Management Party**

1.1. Cooperative member: all dairy farming members must belong to either group which establish through collecting member who are neighborhood with member number view as proper. Each group has chairman and secretary as the leader, status of member are as the owner of cooperative, have right and duty follow regulation and rule of cooperative. Member has participation in cooperative management through propose their opinion to general meeting and vote.

1.2. Steering committee: at least 7 persons and at most not over 15 persons, has status as cooperative representative whose were elected on general meeting of cooperative. They has right and duty follow regulation of cooperative, do duty on assignment of operation policy for supervise on running on business of cooperative.

#### **2. Management Party**

The cooperative have manager as cooperative officer who are employ by steering committee. The manager have duty on manage cooperative to be line with assigned policy, which are routine business, and control working of cooperative officers in each sector to follow assigned regulation of cooperative, directly up to the manager and might divide into 4 sectors

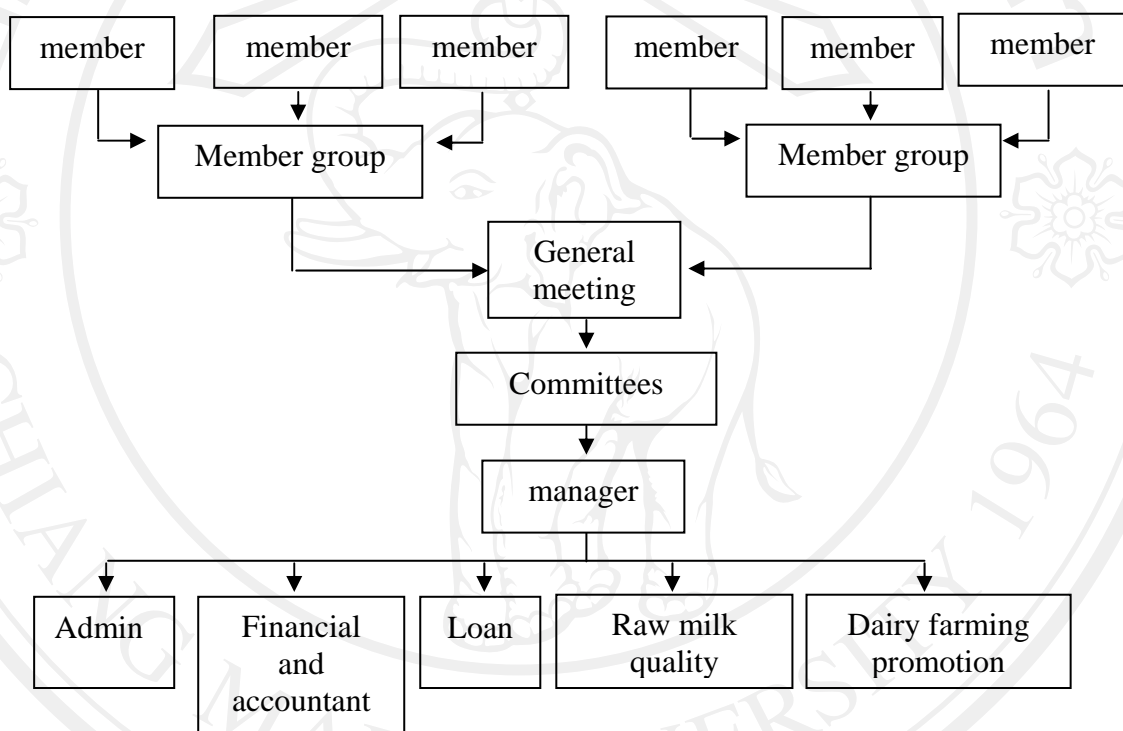
2.1. Administration sector: have duty on work of secretary, document, meeting, public relations, report, statistic and vehicle

2.2. Account and Finance sector : have duty on work of budget, capital providing, expense and income, account, keep and control varied account concerning

property and debt of cooperative, balance sheet, profit and loss account, financial statistic report and annual achievement report

2.3. Milk product sector: have duty on control milk product plant, manufacturing process, raw milk receiving including milk quality inspection

2.4. Extension sector: have duty on extension, dairy farming follow framework of member, fertilizer application, promotion on grassland planting, artificial insemination and dairy treatment



Source: Ban Patung Huay Mor Dairy Cooperative Limited, 2009

Figure 2.4 Sample of Dairy Cooperative management structure

However almost cooperative operation process of Thailand remain faced a problem in several aspects which were obstacle to cooperative development especially agriculture cooperative for example unsystematic management process, did not have clear-cut pattern, member committee and officer did not understand in their role power duty and responsibility which might be due to lack of cognizance in cooperative system. And including rule and regulation of the cooperative not had clearness as expected. Beside that participation in management of each sector were less caused operation proceeded slowly and efficiency were less.

### **Factors which were obstacle to cooperative development in Thailand**

Chianggool, W. (2007) concluded 4 factors which were obstacle to cooperative system development as follows

#### **1. The government had extremely role on cooperative supervision and insufficient ministering**

Those problem had 2 side i.e. 1) Supervision: causes cooperative people did not learn by themselves and could not develop cooperative to be organization of member in order to actually help each other or could not extend their role because the government or legal were limited 2) Ministering: such as provided subsidy, several loosen privilege caused cooperative did not learn to increase their efficiency in order to compete in actual business battle, when the government changed their policy to reduce assistance then the cooperative which accustomed with assistance from public sector could not made it

#### **2. Lacking of capital and strong member**

Particularly in small cooperative due to most of farmer were poor, had long term debt, less saving, rarely understood in cooperative, to be member cause of hope for loan than saving or activities of cooperative when turn to look to finance from public sector or other institute seem hardly because the government which hold policy of Capitalism or Neo liberalism often not gave assistance or gave less while commercial bank were dismissed as the farmer because it too risky or thought that the cooperative were competitor

As to development on cognizance and conscious for public were big deal cause of almost cooperative began from small cooperative with a few capital but if the cooperative have energetic diligent member then they would able to saving and slowly expand capital and develop their cooperative finally

#### **3. Attitude of the government officer, executive director and manager on management to member, still be bureaucracy in top-down form**

The cooperative could developed from attitude of cooperative people ensemble which looked at other member with democratically and tried to acknowledgment to understand in cooperative and conscious issues in order to be a good staff of cooperative. But the problem is some of executive or members were affected by Capitalism which emphasized on competition for benefit of oneself and

partisan and that caused them did a task for self more than public. Even when defalcation occurred whereas member of cooperative unlikely had knowledge, did not pay attention in inspection executive director of and manager or did not pay attention in member ensemble to use money correspond to the objective and have orderly in debt payment in order to vigorous growing of cooperative

#### **4. Public sector allowed or supported private business which aimed at high profit to have advantage and influence in economy**

Some country private business were influence political to the government that caused cooperative were hardly beat with trader and capitalist. The cooperative must have executive who have ideology and capacity in management including member who really vigorous then they would overcome difficulties. Some country cooperative have to cooperate with labour union, agricultural society and various category of people organization including advanced political party then could increased strength to cooperative process.

Those factors took part in almost dairy cooperative in Upper Northern Thailand could not developed their cooperative system effective. The member felt in insecurity on cooperative management further that might contribute to disharmony of member then yield to farmer change to be member of private plant instead or decision to quit dairy farming eventually. Those effects of course affect to cooperative management too.

The research had collected concept and theory concerning decision about dairy farming occupation to explain with reasonable each other and to understand in decision system of dairy farmer.

#### **2.5. Concept and Theory of management**

Various denotation of management is following

Sathon, P. (1973) gave meaning of “administration as variety activities which person at least 2 people confederate in operation in order to reach either objective or varied objectives together”

Koontz (1986) gave meaning of “administration as operating to reach assigned objective through employ various factor i.e. man, money, material, matter and equipment in those operating”

Suthasupa, P. (1998) gave meaning of “administration as system which comprise of process in administration resource whole materials and man in order to reach assigned objective with efficiently and effectiveness”

Naveekarn, S. (1995) gave meaning of “administration as process of Planning, Organizing, Directing and Controlling, attempt of the organization member and employ resource else for achievement in assigned goal of organization”

Hiranratsamee, P. (2001) gave meaning of “administration as process which group of person whose accompany with planning and operate in order to reach assigned objective

Then might claim that administration mean operating by 2 person over which those operating must perform in process and employ administration resource as basic element in order to reach assigned objective

Luther Gulick (1936) (cited in Hiranratsamee, P. 2001) mentioned to administration process which knew as POSDCORB that could explain as follows

1. Planning (P) mean inclusively planning or laying a plan that are whatever task which have to do respectively, there are allocate practice way together with objective and goal of those project or activity

2. Organizing (O) mean project or organization formation or outline of administration through allocate authority and function of suborder institute or might be clarify authority and function of various position in each institute together with assign type and procedure on communication that considering to power rank in descending order

3. Staffing (S) mean administration whereas concerning person or officer arrangement including personnel in all sorts. Those personnel administration proceed from seek for person to work, appointment, training, personnel development, consoling, promoting, demoting, retirement, fire and dismiss in order to well working environment and have efficiency

4. Directing (D) mean diagnosis and command after analyzed prudently project including how to prepare personnel, work format and follow up

5. Coordinating (Co) mean coordination or communication within institute, are coordination in line in order to cause effective function, not overlap and

confliction. Those administration in order to unite coordination and for major objective of the institute

6. Reporting (R) mean proposing of all working reports and communicate mastery report to thoroughly administration line in order to commander realize work progress in every phase that are convenient to coordination within the same institute and other institute which cause cautious working, have evidence, building understanding between each other and console personnel too

7. Budgeting (B) mean financial budget arrangement, budget expenditure planning, accounting and prudently supervision on budget expenditure

Naveekarn, S. (1995) had concluded that management fundamental comprised of administration process as following

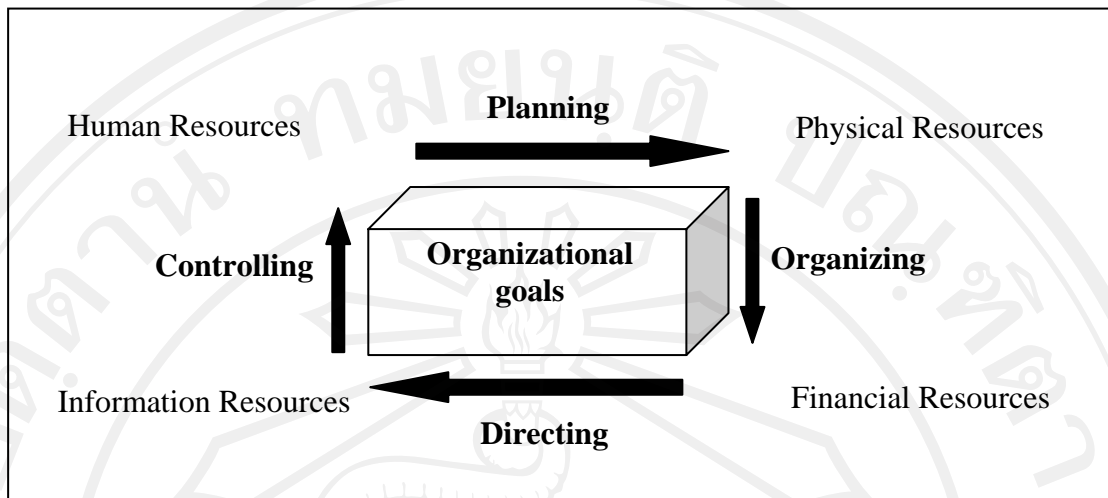
1. Planning were framework allocation which include aim of organization and the best practice regulation for achievement. Framework were collectively created by executive, framework had period of time as 5 or 10 years, in the large organization these framework would related to financial commitment

2. Organizing related to personnel administration or recruitment and appoint person who suitable to variety working of organization

3. Directing were activity about leading and motivation controlee, leading were performed via communication and almost leading occurred within environment of interpersonal relation based on face to face. The effective communication are significant to leading

4. Controlling and execution in organization would lead organization to assigned aim, controlling organization related to 3 compositions i.e. standard allocation of performance, performance evaluation and comparing to assigned standard and amending

That were consistent to Saree, S. and others (1996) who gave meaning of "Management Process" as process for reach aim of organization which these management process could accordingly indicated successive connection " those management process comprised of fundamental activities 4 items or might divided into step i.e. Planning, Organizing, Directing and Controlling (figure 5)



Source: Saree, S. and others, 1996

Figure 2.5 Management Process comprise of 4 related duties

Figure 2.5 illustrated management process also directly related to managerial resources in 4 field or 4M i.e. Man, Material, Money and Management, after codification could concluded that managerial resources were comprised of resource 4 fields i.e.

1. Human Resource mean to man power who work in every division, every level of organization including capacity on performance of personnel in organization
2. Physical Resource mean tool, equipment in manufacturing process including utensil and building which use in working of organization
3. Financial Resource mean to all expenses in all operating to reach aim
4. Information Resource mean to knowledge on management, information for organization operating and information technology which apply in organization

From all fields of managerial resources, human resource were regard as the most importance resource because human were seeker and user other resources to sufficient and suitable



### **Cooperative Management Process**

Cooperative Promotion Department (1997) mentioned to process of cooperative management as follows

**1. Planning** means to designation of all activities ahead though employ academic knowledge and judgement diagnosis incident in the future then designate an appropriate practical method in order to designate what to do?, by who? and how to do?, consequently planning means to designate the objective and practical method ahead in order to success as aspiring. Then planning were Thinking, Judging and Deciding whereas considered from standpoint of succeed transaction and the cooperative require to reach in which point within assigned period. Planning may be short-term, moderate –term, long term so that planning were related to

- 1) Considering in present situation of cooperative
- 2) Designation objective of short-term, moderate –term and long term
- 3) Setting a policy, rule and regulation of cooperative
- 4) Developing strategies and practical plan of cooperative

Planning must be certainly systemic conducting, had analyzed data, designed personnel to perform including specified budget, period and detail in practical as well as institute and undertaker

Cooperative administration in every division have to prepare practical plan ahead such as purchase division also planning about what to purchase for distribution?, volume?, when?, how much budget? Which the cooperative have to plan since early in the year. Then planning were essential to cooperative operation

**2. Organizing** were association construction between power authority, personnel affair and other managerial resources in order to operate and reach the objective

Organizing in Cooperative means to designate requirement activities in order to reach the objective of cooperative and practical plan proceeding, arrangement relating activities group, assignation activities group to division and officer. Assign authority and function to do activities and arrange to coordination between activities both vertical and horizontal. All manager have to decide to do which activities? which division? in order to finish follow the assigned objective, when need to divide or group activities then the manager would assign activities group to the second

officer and also assign authority and function to those officer so he could coordinate between himself and other officer

**3. Directing** for this duty, several academicians had employed distinguished word such as Commanding, Leading, Supervising, but their meaning were in the same way as stimulate or persuade personnel in organization to have desire and intend to reach aim

Directing were duty on complicated management or administration, mostly mentioned to activities which effectively simulate and promote colleague or controlled to reach the objective or aim of organization, to successful in short-term and long-term. On behalf of cooperative, deem that duty on directing were duty of commander or executive in various level since steering committee, manager and chief division which all do duty directing differentiate up to level of mastership

**4. Controlling** means to process or method for assigned work could reach success as set direction through inspection, follow up, evaluate performance and seek for corrective in order to variety step of operation could reach aim as planning which designate for yield acceptable result, that were effective, economical and on time. Ambition of controlling were function or performance of organization proceed as assigned planning or aim

Therefore it could concluded that cooperative management process have to employ managerial factor i.e. man, material and money to allocate or combine with management process i.e. planning, organizing, directing and controlling through employ principle and method of cooperative in order to arrange activity or business of cooperative i.e. funding, grant credit, marketing, purchasing, processing, service and other activity in order to reach success the objective both economic and cooperative

## **2.6. Concept and Theory of Motivation**

Dairy farmer decided to quit in their occupation due to motivation which occurred from inside and outside stimulus of the farmer that affected to adaptation through change to other occupation which make them feel satisfy, secure and safe. Therefore the researcher had collected concept and theory concerning occupation alteration of dairy farmer i.e.

ERG theory of Alderfer (cited in Chiramanee, S. 1991) said that “motivation in working do by action which response to 3 needs of person i.e.

E (Existence) Existence needs

R (Related) Relatedness needs

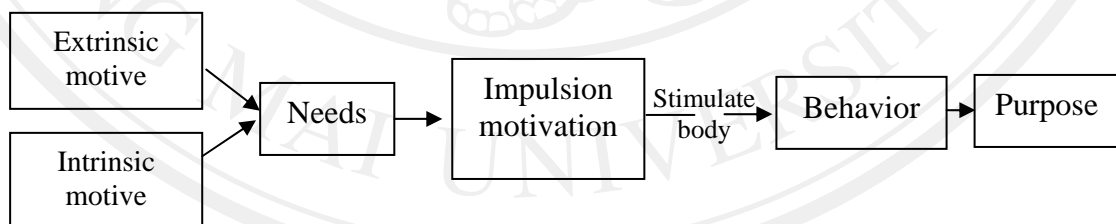
G (Growth) Growth needs

Beside that those theory also mentioned to concept of Frederic W. Taylor who said that “motivation derive from wages needs (money)”

Herzberg (cited in Trirattanapirom, S. and others,1996) said that “motivation derive from 2 factors i. e. Satisfiers factor and Dissatisfies factor on working which had exemplified that when feel pungent with low wages work, way to reduce dissatisfaction are alter to higher wages work”

Katavanit, T. (2003) said that motivation means to process of employment of various factor to make person has need in order to create motive and motivation to stimulate the body to show behavior follow assigned aim whereas those factor might be intrinsic and extrinsic motive or both of them

Consequently motivation have meaning as taking of various surrounding factor to be impulsion of person to perform behavior purposely through reach the purpose as need in order to free from situation of dissatisfaction.



Source: Katavanit, T., 2003

Figure 2.6 Motivation Process

Figure 2.6 illustrated extrinsic or intrinsic motives would affect to person to happen need and those need would create impulsion and motivation in order to stimulate the body to perform behavior which advance towards to purpose, whereas motive means to everything which are influence to behavior's person and these motive are the beginning of persuade process. Motive could divided into 2 type as follows

**1. Extrinsic Motive** i.e. everything which surrounding such as picture, taste, scent, sound, light, color including various situation, when bring to illustrate in the sense of dairy farmer could explain that extrinsic motive which stimulate decision to terminate dairy farming occupation were situation on raw milk production in Upper Northern ago particularly in higher cost of raw milk production until the farmer could not handled with higher cost especially small farm sized which worthless to invest then they determined to quit dairy farming occupation eventually.

**2. Intrinsic Motive** i.e. function condition of various system in the body such as digestive system, excretory system when bring to illustrate in the sense of dairy farmer who quit dairy farming; intrinsic motive are where the farmer felt tired, weary and dispirit with dairy farming occupation that consistent with Aiumlamai, S. and others (1990) who said that forbidding condition from outside were entering FTA agreement of the government which cause spirit of the producer felt to uncertainty of dairy farming occupation and dairy farming industry more and more until affect to partial farmer determined to quit eventually and accompanied with succession of farmer descendant were tend to diminish that consistent with Ekasingh, B. and others (1997) who said that dairy farmer in Northern believed that if their children have highly level of education or have the better chance they would not let their children carry on their dairy farming business.

Both motives would affect to person yield need due to every person try to reach their assigned purpose whereas need of person could illustrate by Need Theory of Maslow.

Boonyatarpa, M. (1993) said that “need are intention, greed, wish or lack of balance to stimulate each person to seek for and carry out to obtain it if not response appropriately would yield frustration, could not adjust or might be could not exist so that need are thing which person need for exist”

Khamglomjai, W. (2002) said that “human need means to deficiency in the body or in person and including several impairment, these need might happen unconsciously or might means to need which derive from process of physical or tissue and not such as food need (need on physical and tissue) or fame need (need which not derive from tissue or physical process)

Abraham H. Maslow (cited in Katavanit, T. 2003) explained about motivation process that motivation derive from human need which must be in line with respectively that are 5 steps as follows

**1. Physical Needs:** are fundamental needs of human such as hungriness, thirst, lust, air requirement, rest requirement etc. these need step yield response through eat, drink, breath, sleep including response to lust etc. in conclusion these are need level on basic factor of human i.e. four requisites i.e. food ,cloth, medicine and residence

**2. Safety Needs:** means to need to seek for guarantee and feel relieved for themselves due to person feel to uncertainty, insecure and dangerous which might happen to them, property, family, status, occupation, position. With those reasons person who owned these need level then perform behavior through concentrate at working, saving money, purchase insurance and try to seek for occupation which mostly secure for them etc.

These need level are reason that cause dairy farmer felt insecure and uncertainty in their occupation which might affect to them and their family particularly property then they decided to quit in dairy farming and seek for other occupation which could build mostly security to them

**3. Belongingness and Love Needs or Social needs:** means to need to precious of another person including need to social in various level such as family, academic institute, friend, working institute etc. which they belong to accept their status to be a part of those social too

**4. Self-esteem Needs:** are need to sense about pride that pay respect obtaining from other members in social who own educative, capacity, benefit, significant and are supporter of general person. The person who have this need level would try to seek for position, rank, honor, fame, financial status and power to themselves because understand that those thing could response their need

**5. Self-actualization Needs:** regard as ultimate need which everyone desire and need to approach, are ideal level which everyone dream of but less person whose could develop themselves to those ultimate level due to those person have to understand and realize about themselves that how about their capacity. Beside that

they must have determination to retrieve their exist capacity for contribute benefit to others and the social



Source: Weiten, 1989 (cited in Katavanit, T., 2003)

Figure 2.7 Hierarchy Needs of Motivation theory of Maslow

5 motivation needs as mentioned above must happen respectively always not skip, in other words all human will happen need level 1 firstly which are physical needs and when could response sufficiently to physical needs, the second need level will happen which are safety need and when obtain response again, need in level 3, 4 and 5 will happen respectively. Believe that if either level remain not obtain response, the higher need level will not happen strictly

Waraegsiri, B., (1986) said that “actual need of the farmer means to necessity which have to own, use for benefit in welfare’s farmer promoting or farm development, the officer should not guess their need but should consult and suggest them about ultimate necessity at that time”

Sanders (1966) (cited in Ambuprapha, N., 1993) had divided requirement of the farmer into 3 items i.e.

1. Social requirement which indicate to kind of popularity, attitude, level of education, economic and social status and trust of the farmer
2. Economic requirement indicate to the problem that directly arose in locally, could analyzed all problems of the farmer beside that it be also benefit to locally, country and worldwide. Economic data are able to consider to source of income, land, land usability and natural resource

3. Technology requirement also indicate to problem of the farmer especially issue of agricultural occupation

From above concept and theory could applied to explain this research that when Dairy Cooperative had inefficient management and often faced a problem on operation of course that made member of the cooperative felt to insecure on their dairy farming anymore. Due to those problem and obstacle on dairy farming which arose plentifully in the pass became stimulus on decision of the farmer to quit this occupation and adjust themselves to another occupation instead whereas those new occupation which they chose had them felt to security particularly in security of income for living of their own and family further

## **2.7. Concept and Theory concerning Decision Making Process**

Harold and others (1968) said that decision making means to process which person have to choose from several choices like this are comparison between variety choices and evaluate advantage of each choice

Easton (1976) said that decision making had 2 means i.e. in widthwise, decision making were complicated process that started at recognition in necessity to revolution and end at acceptance and brought those decision to practice. In narrow, decision making means to selection which are a step in decision making process and are the step which happened after evaluation of variety choices and chose one choice for practical

Jumnong, W., (1980) said that decision making were inevitable management and those management, decision making were regard as basis of performance in every cases in order to conduct to the objective, might be tool to help in consideration and there were personal reason, emotion and affection that concerning to decision making

Beach and Reinhartz (1989) said that decision making means to process which happen after exploration on problem or necessity then collect information, evaluate choices in order to solve problem through weigh each choice and select choice from variety choice for practical

Suwannun, V., (1991) claimed to decision making of human that almost were fail formerly then they brought those experience to find correction method where each person might employ long time on pursuit to seek for decision making way in order to

prevent vicious decision making then have to study on step, principle and technique of decision making that could assist in decision making in the right way

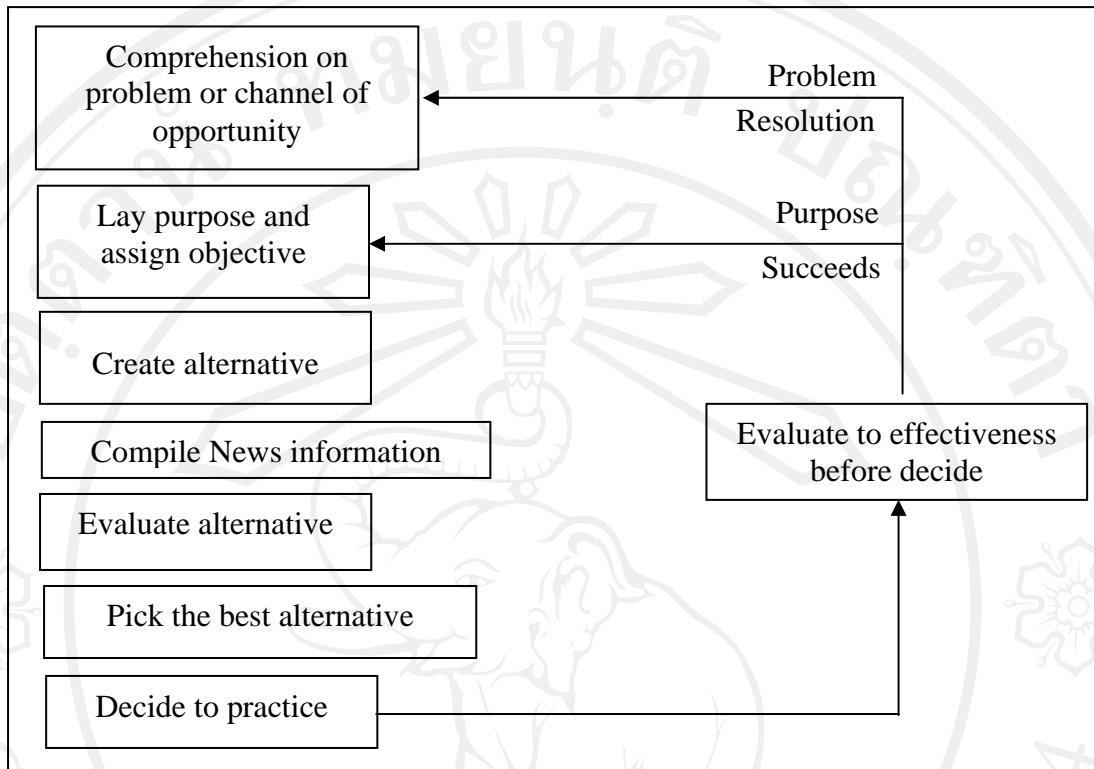
Tosuwajinda, W., (1992) said that decision making means to selection which are exist variety choices through employ the only best choice which could response purpose or requirement of elector

Therefore, decision making means to process which has procedure on selection either choice from a variety of choices in order to response to requirement of elector and capable to really execute through elector would employ personal reason, emotion, affection to relate with those decision, for decision making process in problem solving were able to divide into several step

Prayyamkae, J., (1989) proposed step of decision making process as follows

1. Cumulate the most of appropriate information which concerning to those issue or incident in every aspect
2. Evaluate, analysis and compare those information in order to separate truth from opinion until able to clearly see actual reason of those issue
3. Determine choice and solution for those situations for several means
4. Determine principled criterion to use for choose the best way or choice
5. Determine objective and purpose concerning prospective achievement
6. Plan carefully operation follow possible way
7. Decide to operate until reach the aspiring result





Source: Hugh J. Arnold and Daniel C. Feldman (cited in Wittayaudom, V. 2004)

Figure 2.8 Pattern of Decision Making Process

Reasonable decision making of person who decide to choose way which capable cause maximum aspiring achievement through employ composition in the most reasonable decision i.e.

1. Elector must capable to rearrange priority of various purpose which require to reach; which purpose are luminously significant
2. Elector must clearly understand every alternative strategies that how each strategy affect to achievement
3. Elector must own knowledge and capacity in psychology for choose the most and the best efficient way in order to obtain maximum aspiring achievement

Practically decision did not completely reasonable conduct due to

1. Elector lack of complete knowledge such as is unknown that decision on each way will cause result anyhow
2. Human could not anticipate that each occasion of decision will cause how much satisfaction in the future
3. Elector could not enlighten in every course

As decision about termination of dairy farming of the farmer in Upper Northern that the farmer could not decided with the most reasonable due to lack of complete knowledge for decision, sometime decided for somewhat satisfaction only because that were the best decision as one at that time Thongpan, S. (1993) said that the farmer who produced agriculture goods for sell have to make decision on 3 major issues i.e.

1. Decision concerning what to produce; now there were plentifully agriculture goods irrespective of think in aspect of the whole country or of each farmer, mainstream which the farmer decided to do what activity and how much if think from perspective then have to considering on income or profit. That is with limited resource: whole land, labor and capital; what activity will give maximum profit

2. Decision concerning employment of production factor; considering on goods manufacturing should pick which production factor and how much in order to obtain maximum profit

3. Decision concerning selection of each production factor; when the farmer decide to produce what goods and know that should employ various production factor in how much level, normally considering about selection of production factor are major problem which should much or less

On decision making process of the farmer, the farmer have to face problem or difficulty concerning decision, Factor which influence to their decision i.e. purpose, attitude on production, popularity and motivation which always change, when the farmer decided to adjust they had adjustment means as follows

1. Create diversity in agriculture product which they would change from Monocrop or Monofarm to greater various farming or cropping that provided agriculture product catch up with period which the farmer could made maximum profit

2. Alteration on kind of crop or animal in order to consistent with land condition, market condition and technology development in order to the farmer could produced quality product to decrease cost and time on production

3. Reduce market risk through study on market demand to agriculture product, emphasize on product quality than quantity which affect to price of agriculture product get higher than the same product.

4. Change period in agriculture activity such as tillage alternation to conserve moisture and fertility of soil instead etc.

5. Investment from liberty financing to employ in development of water source for agriculture, cultivated area improvement.

6. Develop fresh seed and breed which had greater diversity, product and could grow well in physical area which were altering and product were aspiring.

7. Reduce heighten production cost which occurred from wages, the farmer adjusted by employ mechanical machine replace labour.

8. Reduce step in production in order to reduce labour employment such as the farmer alter from rice transplanting method to rice broadcasting method which could decrease production cost etc.

9. Select suitable technology in order to accord with the present beside that factor of product price always lower when product enter market in high volume so that the farmer had adjusted their production period to different from the same period in order to make profit or at least not lose their money. If the farmer could not adjust production period they would added value to their product by processing instead.

10. Innovation admission were another behavior in adjustment of the farmer, those admission divided to innovator group: group of cultivated farmer, high status, the mental leader of the social and not attach to the old concept, dare to risk and are enthusiastic to seek for neo innovation, group of early adopters: are group of social leader, succeed in variety operation earlier, obtained paying respect from the social, could explain and educate about innovation to the social in order to create knowledge, comprehension and admission in innovation further, early majority group; this group would consumed time for considering in advantage and disadvantage which took model from innovator group and early adopters group, late majority group, this group still doubt in the innovation cause them were not dared to decide by themselves and most of all this group were not paid attention in new information and

laggards group this is conservative group whose closely adhered to traditional custom separated themselves from social and proceeded operating based on the past way.

11. Make money from other activity beyond agriculture which comprise of trade, labor employee after finished harvest etc. that regard as another adjustment of the farmer.

The other alternative were changed from agriculture occupation to the other occupation which they considered as the better choice and could built income security to them and their family more than agriculture occupation. Then the researcher had compiled concept and theory concerning occupation revolution in order to employ for explaining to reason of occupation revolution of the farmer

## **2.8. Concept and Theory concerning occupation revolution and adaptation**

Concentration on economic and social since the First National Economic and Social Development Plan (1961-1966) up to now that suddenly caused revolution on livelihood path of people then people had seek for the variety occupation which could made money both inside and outside community that affect to increase their income, people started to seek for facility for everyday life more and more closely so people searched for way or exit through variety means including occupation revolution in order to cash up for spend in their family accompanied with prosperity of urban community had expanded to rural community that caused learning and transfer on concept and popularity. The community were changed and imitated from urban community then they had adapted themselves and changed occupation to another one instead

Thandee, D. (1988) said that “in behalf of economist occupation were activity which produce income and were crucial basic of economic structural of any social”

Tangchuang, P. (1999) had classified occupation into 2 major categories i.e. occupation in industrial plant or gain monthly income (Wage Earns), certainly income, obtain protection by labour law on minimum wage and freelance (Self-employed) such as informal career which obtain uncertainly income and not protect by labour law on wage, freelance had to construct their career in order to avoid disaffected working

Parson and Frank (cited in Promma, S. 2007) said that occupation selection of each person depend on 3 components i.e.

1. Clearly self comprehension skill, capacity, interesting, expectation, knowledge, intelligence and financial status including reason or origin of above things
2. Knowledge about occupation kind, opportunity to succeed in those occupation, progress and various situation, demand on labour market, time, capital that employ in preparation to carry on an occupation
3. Rationalization through considering in both 2 items

When human were disappointed in their wish of course that brought sorrow to that person. Those sorrows also affected to their living whereas their efficiency lower too. (Katavanit, T., 2003) However with nature of human had created adaption mechanical in order to avoid sorrow which occur from disappointment as Tiedemann and Ohara (cited in Promma, S. ,2007) who said that occupation of person must originate from occupation selection and reasonable adaptation which had developed for a long time, so that in this context could explained that when dairy farmer were disappointed, pungent and worried about their occupation then they had to adjust themselves in order to get free from those feeling such as decided to change occupation instead to adjust through means

Ramsud, P. (1985) said that “adaptation means to where person try to resolve their frustration or where person try to behave to well accord with livelihood or environment and happy whereas these attempt consisted of subconscious and unconscious level, normally were unconscious that is the person did not intend”

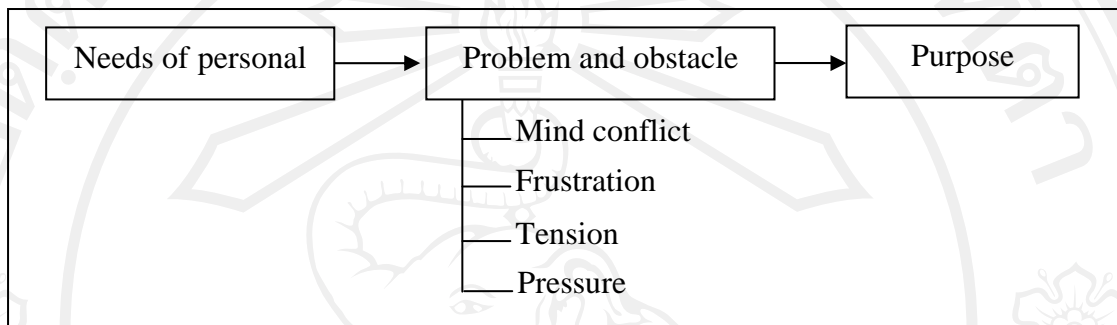
Janaim, S. (1999) gave definition as “adaptation were process which person behave in order to reach variety purpose in their environment”

Seyong, M. and others. (1999) explained that “adaptation were process that occurred or person tried to seek for approach to retort matter that affected our mind from both inside and outside, were attempt which person tried to most balance of their mind and body”

Whereas might concluded meaning of adaptation as where person tried to seek for path to relieve sorrow feeling which originated from disappointment on their wish or social expectation including alteration in behavior and lifestyle pattern in order to

suit with encountering situation and environment with purpose of happiness in lifestyle further

Katavanit, T. (2003) had mentioned to emotion state which were reason that caused adaptation of person through 4 items of emotion state i.e. conflict, frustration, pressure and tension



Source: Katavanit, T., 2003

Figure 2.9 Variety emotion state which are reason for adaptation

Whole 4 emotion state affected to the farmer to quit dairy farming occupation and became to do another career

Submee, W. (1992) mentioned to 2 reasons of occupation revolution i.e.

1. Reason which originated from inside of selfhood or altered from selfhood i.e

#### 1.1. Mind

- Dissatisfaction in occupation
- Alteration of attitude and popularity to lifestyle path and occupation

#### 1.2 Personality alteration

#### 1.3 Family alteration

- Occupation characteristic of husband or wife
- Suitability to family condition

2. Reason which originated from outside or alteration of environment

2.1. Revolution of economic condition which caused problems of unemployment, lack of labour and low wages that affect to occurred occupation revolution

2.2. Revolution of technology due to low knowledge and skill so occupation revolution occurred in order to consistent with capacity

### 3. Occupation acceptance of the social

Moreover, Songead, N. (1999) had concluded reason of occupation revolution from concept and theory which mentioned above as

#### 1. Person

- Dissatisfaction in occupation
- Knowledge and skill increased
- Opportunity and progress such as own business by themselves, better income, augment study

#### 2. Job

- Job characteristic such as hard work
- Lack of production factor such as farm land, capital
- Low compensation
- Technology revolution
- Do badly in old occupation

#### 3. Surrounding

- Acceptance social
- Decadence of natural resource
- Untoward climate
- Restricted situation such as expropriation, immigration due to dam construction

Ratanathamthee, K. (1995) studied in revolution to agriculture occupation of rural woman found that occupation revolution originated from influence of interaction between urban and rural community, comprised of guidance and assistance from relatives which were motivation of the farmer to change their occupation. Beside that also originated from expectation of family member that push by income and acquirement of news information also were another reason that caused occupation revolution

Jaisat, K. (2006) said that where human decided to change occupation, family had major participation in transfer about occupation to family member together with living especially in rural community where were agriculture social and she had

concluded reason of agriculture occupation revolution to another occupation as 8 items i.e.

1. Land became lower and some of them did not own land due to expanding of urban and industrial plant that caused high land price then farmer sale their land and became to another occupation instead agriculture, some of them own land lower because increment of population when agriculture were not suffice hen they turn to another occupation

2. Cutting a path by the government caused convenient transportation from community to seek for job out of community

3. Incoming of commercial crop caused producing for fully sell, though still agriculture but purpose were changed

4. Modern agricultural technology application for example the farmer who did paddy rice were applied technology more and more such as walk behind tractor, combine harvester and thresher etc. that decreased period for farming so farmer had free-time more then they turn to supplement occupation outer agriculture sector

5. Employment outside agriculture sector were more due to expanding of urban, industrial plant and public agency

6. Their expense were greater due to goods consuming increased from influence of advertisement and where farmer could not depend on forest resource and water source anymore that pushed them to earn more money which agriculture occupation could not response to their needs

7. Labour who aged older need to occupation revolution in order to suit with their age

8. The farmer who had advance education need to change occupation in order to obtain more income, security and suit with their qualification

Dairy farming are occupation which the farmer must have specific characteristic due to dairy animal are animal which request extremely pay attention, the farmer have to start working since early morning until nightfall due to there are a lot of load such as in the morning there are milking equipment preparing, cleaning dairy for milking, raw milk collecting and deliver to milk collecting center, when come back to farm at late in the morning they have to prepare roughage such as mow



grass, cleaning equipment and housing in the afternoon for milking again in the evening after that prepare concentrate, when finish milking and deliver raw milk to milk collecting center. Return to home for prepare milking equipment for the next morning. The farmer must milking at the certainly time twice a day. There were no holiday on dairy farming therefore the farmer must be diligent and endure person, and extremely own knowledge and skillful on plant and animal then those farmer will success in dairy farming occupation. But there some dairy farmer were not succeed in this occupation then they have to adjust and transform to another occupation which could construct income security better than dairy farming that correspond to Jaisat, K. (2006) who said that “occupation transportation ” means to alteration of status or position from one state to another state in order that are adaptation of person in order to could survive in the social whereas almost transport occupation to higher status such as the farmer change occupation to commerce, employee or construction worker etc

Therefore, effectively develop occupation of dairy farmer in upper northern and build permanency must base on basic of analysis in actual requirement of the farmer whole requirement on economic and social, the information which obtain from the farmer will be a path for stakeholder to lay plan concerning dairy farming occupation development with purpose to cause dairy farmer have a better livelihood and life quality

## **2.9. Concept concerning Development**

Tumnong (1980) (cited in Intarucomporn, W. 2003) gave meaning of development as systemic progress, revolution and progression whole concrete: entity with appearance; and abstract entity which succeed on mind or sentiment; that could evaluate difference or revolution

Aragul, V. (1992) gave meaning of development prosper, reinforce, accumulate, restore, execute progress, change to upgrade, ease up which could concluded meaning as development caused progress in whole economic, social, education, public health and another concerning livelihood when there are development to progress from formerly irrespective of any level also describe as development

Suthasupa, P. (1998) said that development means to revolution via desirable path of person, community or all social

Srimongkol, K. (1999) concluded meaning of development as systemic change on state and qualification whole economic, social and surrounding in assigned period beneath help oneself process through motivation from outside i.e. developer and cooperation of person who obtained development beneath suitable surrounding and favorable period

Intaruccomporn, W. (2003) gave meaning of development as where economic grow up, social change upgrade, National income and per capita income increasing including better living standard, that is life quality both quality and quantity

From meaning of development which had mentioned above, the researcher had concluded and gave definition of development in our view as upgrade revolution in various facets that would affect to satisfy and happy the person who took development more than the past, free from frustration, tension and sorrow

## **2.10. Concept of Participation**

Cohen and Uphoff (1977) had mentioned to participation in decision making go together with implementation and decision remain concerning to people on benefit and evaluation in development activity, indicate that decision almost directly concerning to implementation but concerning to benefit and evaluation too through benefit arise from implementation and benefit are determinant to occur evaluation which all arise from decision making. Beside that there is feedback from evaluation and implementation to decision too.

Hongviwat, T. (1984) gave meaning as where people or community develop their capability on management, control and distribution existence resource for benefit on economic and social living that cause people had developed perception and intellect then express in decision to decide their life. The public sector have to give back power in development determination to people in order to people particularly woman, poor or underprivileged in the social could express requirement to seek for alternative or propose demand in order to protect co-benefit of group and become to person who have major role in community development activity proceeding,

determine the basic needs of community and mobilize various resource in order to response basic needs and reach some objective of social, economic and politics

Krittayapisit, T. (1995) gave meaning as where individual, group or community all agreed in any issue which affected to their livelihood then signify about co-requirement to change inline with their objective until brought to decision to implement in order to reach the objective. There were cooperation and responsibility in development activity which useful to the social through all procedure of those activity had group or community organization to support people who joined to develop intellect and perception to could analyzed and made decision for decide their living, capable to develop their capacity in management, control and distribution of resource for benefit of economic and social living

Patanapongsa, N. (2003) gave meaning of participation as provide people take part concerning process of decision, proceeding project and co- take benefit from those project, beside that it concerning to attempt to evaluate those project too

Jamrig, S. (1997) gave meaning of participation as provide people evolve problem and be leader: that do not decide from outside then provide people join; must be entity which people create by themselves through 5 algorithms i.e. participation in search for problem, arrange priority of problem and analyze for reason and origin, select resolving means, laying plan for resolve problem, proceed follow plan and analyze problem and obstacle and factor which contribute to success

Songkrawsook, N. (1998) gave meaning of participation of people in kind of procedure of development since beginning until end i.e. analysis (community research), planning, decision, operating, management, follow up and evaluation including benefit allocation

WHO / UNICEF(cited in Valaisathain, P. and others, 2000) said that participation of people result in procedure and structure which rural people could express their requirement, arrange priority of participation in development and obtain benefit from those development through emphasize on power offering to the people, and when considering in content of participation, Ho(1983) had viewed as participation of the people on development should had content as following

1. Emphasize on worth of planning in local level
2. Application of technology and resource which acquire from local

3. Training which emphasize on people could operate development by themselves

4. Resolve problem of basic needs by community member

5. Collaborative each other follow traditional

6. Employ culture and communication which consistent to development

And had concluded meaning of participation that participation had 2 meaning kinds i.e.

1. Participation in kind of development process through provide people take part in development process since origin until end project i.e. accompany to search for problem, planning, decision making, resources and local technology mobilization, management, follow up and evaluation including obtain benefit from project where those project have to consistent with way and culture of community

2. Participation in political divide into 2 participation i.e.

2.1. Participation in political significance through people or community develop their capability in management in order to preserve benefit of group, control employment and distribution resource of community which result in process and structure that rural people could express their capability and obtain benefit from development

2.2. Revolution of development mechanism by government to development which people have major role through distribute power in planning from centre to regional in order to regional are individually, own political power, management and bargaining power to negotiate in resource allocation in the same standard which people could validated or might say that is empowerment on development to people in order to participate for determine their future in order that must considering to development which comparable operating between gender too

### **Participation Step**

Krittayapisit, T. (1995) mentioned to participation step in development which quality measurement divide into 5 steps as following

**Step 1** Participation in step of initiate development, this is step which people take part in search for problem and cause of problem in community including take part in decision to determine community requirement and participate in priority arrangement of requirement

**Step 2** Participation in step of laying development plan, this is step which people take part in decide policy and objective of project, decide procedure and operating path including decide resource and source for employment

**Step 3** Participation in step of development execution, this is step which people take part in benefit building through reinforcement on property, material and labour or join in management, coordinate and conduct on ask for help from outside

**Step 4** Participation in step of take benefit from development, this is step which people take part in take benefit which should obtain from development or take benefit which result from development both physical and spiritual

**Step 5** Participation in step of development evaluation; this is step which people join in evaluation that how much finish of those performed development whereas evaluation might be in formative evaluation which are intermittent progress evaluation or in summative evaluation which are total conclusion evaluation

Meaning and characteristic of participation which had mentioned above could concluded as participation are stimulation of people to join in seeking for problem through learning from problem condition which occurred in their community, co-planning, co-operating and co-follow up with purpose for take benefit together

Therefore in case of take concept of participation and several step which had mentioned above to apply with participation in dairy farming development, should build participation since firstly step of development through let the farmer take part in searching for problem and reason and specify requirement of the farmer, in second step should provide the farmer take part in development planning including operating path. Afterwards in third step should provide the farmer take part in operating up to their willingness. Fourth step the farmer should take part in taking benefit and final step the farmer should take part in development evaluation how much succeed follow to the objective whereas total procedure will aid to produce permanence in dairy farming occupation

## 2.11. Associate Research

### Research associated with problem of dairy farming

Ekasingh, B. and others (1997) said that problem of high production cost were originated in almost farmer emphasized on concentrate in order to increase raw milk production and paid less attention on pasture or other roughage which feeding with concentrate in inappropriate ratio would affected to health status, milk production efficiency and reproduction system

Uraikul, S.(1997) mentioned to situation and development path that remained dairy problem which still could not solved i.e. lack of forage cropping area, epidemic of feet and mouth disease, mastitis and at most the farmer were not feed concentrate that match to theory whereas the farmer feed concentrate less which were major reason that cause quite low milk production. In case of new face farmer, normally faced a problem of capital deficiency

Maneerat, A. (1998) who studied in dairy farming condition and economic reward of the farmer in Chiang Mai found that there were the most of problem and obstacle in dairy farming which the farmer had mentioned to i.e. efficiency of dairy animal (milk production lower than standard, low fertility rate, short lactation period), feed (expensive concentrate feed, insufficient roughage in dry season, irregular feed quality) and problem of product and price (low product per animal, low raw milk price )

Thijae, K. (1999) studied in “Sustainable Environment Management of Small Dairy Farmers in Chiang Mai Province” found that almost minor dairy farmer had low education then affected to cause wrong dairy farm management such as wrong design and construction house, animal health attention, forage, incorrect keep and disposal excrement

Kanchanasinith, P. (1999) studied in “The Comparative Study of Knowledge, Attitude and Practices Affecting Productivity of Dairy Farming in Chiang Mai Province”. and compared knowledge, attitude and practice which affect to dairy farming in Chiang Mai found that

The farmer who cultivated i.e. farmer owned quite less experience in dairy farming and the farmer who owned a large farm

The farmer had attitude which suit to dairy farming i.e. elevated farmer and farmer who were often consulted about dairy farming

The farmer who had suitable practice on dairy farming i.e. elderly farmer, farmer who had experience on dairy farming quite less, farmer who owned large farm, farmer who make big money from dairy farming and farmer who obtained training frequently

Wittayagone, P. (1999) mentioned to problem of dairy farmer in Sankampang District, Chiang Mai Province that the farmer still faced a dairy farming problem in expensive concentrate, low fertility rate, lack of pasture and water source and deficient in capital

Aiumlamai, S. and others (1999) mentioned to problem of knowledge transfer process and research to extension and the farmer found that educate, training and develop officer concerning suitable technology transfer, fundamental knowledge on dairy farming and education of specific officer which provided to the farmer were not enough whereas some aspect were not consistent to practical in local beside that there remain mechanism or process on transmission of success research result into local in order to solved problem up to the objective as the researcher had established

Promma, S. and others (1999) said that lack of fine quality roughage were one of factor which caused milk yield and corpulence of dairy lowering particularly in dry season despite of grass were forage which easily provided the most and employed convenient management and save time because could employed for several years successive

Opatpatanakit, A and Prason, P. (2002) mentioned to situation on dairy farming of minor farmer who still faced several problems and limitations for example debt due to took on a loan to investment, inappropriate farm management, lower the milk price, high cost of concentrate and roughage, lack of labour and environmental facet. Beside that there were limitation of less intellect improvement of farmer on dairy farming due to dairy farming were western intellect which employed advance skill

Sankhankeaw, C. (2002) studied in "Dairy Production Situations and Economic Returns of Farmers in Chiang Rai Province" found that the farmer encountered problems and obstacle in dairy farming that could sort out priority from

much to less as following capital, expensive concentrate, lack of fine breed dairy, mastitis disease, deficient farming area, parasite and illness, deficient of roughage in dry season and dirty, damp and muggy house

Jitmanus, P. (2003) said that almost dairy farming in Sukothai Province encountered problems and obstacle i.e. expensive concentrate, low fertility rate, low raw milk price, low milk yield, lack of capital, lack of pasture, lack of farm area, chronic disease and lack of water source

Khunthong, A. (2003) mentioned to problem and obstacle of the farmer on production and usability of fine roughage found that the farmer had limited area for pasture, limited local waste, insufficient cognizance farmer on significance of forage preparing and information perception including technology of the farmer still lack of careful meditation and the farmer had mimic behavior without judgement.

From mentioned research above were indicated that although dairy farming occupation obtained assistance and supporting from the government all the pass time but dairy farmer remain faced a problem and obstacle in those occupation particularly in problem and obstacle which occurred from themselves such as knowledge and practice in dairy farming, farm management and lack of forage area etc. which all affected to efficiency of raw milk production both quantity and quality, moreover, including dairy farming occupation development in the future

### **Research associated cooperative management process**

Hughes, R. and others (1968) who studied in Thailand agriculture cooperative found that quite a bit of cooperative fail due to reason as follows cooperative lack of personnel who educated in management, accounting and cooperative financial analysis, member barely did transaction with cooperative or member had less responsibility to the cooperative due to not understood about cooperative, organizer did not studied in possibility or suitability before establishment of cooperative and lack of agriculture promotion and research for cooperative etc.

Cooperative Promotion Department (cited in Thipchaimetha, T 1985) surveyed on economic condition and cooperative operation in Thailand totally 47 cooperatives found that most of agriculture cooperative run operation on loaning to member only, problem of management due to there were bare operative officers that



caused cooperative could not ran complete business, member did not have participate in cooperative management, cooperative lack of capital, size of business were to small, member did bare transaction with cooperative and most of member only graduated from elementary school that caused member did not have knowledge about cooperative management and lack of responsibility to their cooperative

Specific subcommittee for reconsidering and assign on plan for improve Agriculture Cooperative (1982) studied in “Agriculture Cooperative and else concerning” found that member could not managed cooperative business beneficial with in short period because their low economic basic, education and social status, member lack of conscience and responsibility on cooperative management by themselves due to almost cooperative establishment proceeded from requirement of the government. Almost cooperative still employ assistance from the government which difficult to develop themselves follow to means of cooperative and high level cooperative or cooperative group could not help locally cooperative in marketing remedy due to efficient management etc.

Thongpitak, T. (cited in Kaewsom, N., 2004) studied in “problem and obstacle in operation of Agriculture Cooperative” found that problem of management, deficient personnel, deficient capital and cooperative management technique that because of almost member had low education (elementary school) then they lack of knowledge, comprehension and technique in cooperative management particularly in modern transaction which must employ knowledge in production, marketing and management beside that mostly member did not have knowledge, cognizance concerning cooperative, lack of knowledge about business, attention and enthusiastic in cooperative and especially they lack of responsibility to their cooperative

Jencharoen, A. (1998) studied in “The role of Agricultural Cooperative to need respond of farmer: A case study of Chae Hom – Mueang Parn Agricultural Cooperative” found that almost member viewed as the cooperative could responded to their requirement well but the importance problem were most of member lack of knowledge and comprehension in actual cooperative principal that caused problem in cooperative operation such as do business of member with cooperative and did not sense to ownership in cooperative

Pattamarakha, K. (1989) studied in “Determinants of Member’s Participation in Cooperative Activities” found that the major obstacle of participation in various activities of cooperative were member had knowledge and comprehension concerning cooperative management in low level

Cooperative Promotion Department (cited in Kaewsom , 2004) studied “success factor of excellent cooperative: case study in Sung Neun Agriculture Cooperative Limited” found that member side most influenced to cause alteration in success of cooperative and second were material side respectively

Raktham, P. (1999) studied in “Factors Affecting Members’ Participation in Activities of Chiang Mai Dairy Cooperative Limited” found that participation in various activities of member related with expectation to acquired benefit and high social status which considering as major factor that impacted to participation in various activities of the member

Arunsookruge, K. (2003) studied in “Members’ satisfaction to Operating of Chaiprakan Dairy and Agriculture Cooperative Limited, Chaiprakan District, Chiang Mai Province” found that on the average cooperative member had knowledge about cooperative especially member who always contacted to cooperative in order to used service and did duty on meeting which of course caused member had knowledge concerning cooperative

Boonphang, (2005) studied in “ Members’ Attitude of Operating of Maewang Dairy Cooperative Limited” found that problem and obstacle on cooperative operating were production in insufficient equipment for raw milk preservation, cooperative officer unsuitable to management organization that cause underdeveloped management and less potential development in dairy farming of member that caused slowly cooperative development

Jaicham, A. (2005) studied in “Operating of Maejo Dairy Cooperative, Nongharn Sub-district, San sai District, Chiang Mai Province” found that problem on cooperative operating were officer lack of well coordination, member lack of cooperation in some case and member did not have knowledge and comprehension in cooperative as expected

From research study which mentioned above indicated that efficient cooperative management process must originated from member felt to cooperative

ownership, had consciousness and responsibility to cooperative which lead to actual participation of member including to whom concerning cooperative management particularly executive who must had knowledge and comprehension in cooperative management process and could applied with suitable and effectively in order to reach objective which cooperative had assigned that caused cooperative could ran business vigorous and sustainable

### **Research associated occupation revolution and adaptation**

Deesuankoke, C. and Thirasasawat, S. (1994) studied in “Behaviour and efficiency of labour in North East of Thailand: A case study at Nakhon Ratchasima Province” found that reason which the farmer became to employee (outside agricultural) majority originated from financial requirement, second income from agriculture occupation were low, had free time after farming season, rain shortage, agriculture occupation were hardly, had no farmland respectively, as for reason of employee of several establishments changed job were get better job, bored old job, hard work, less salary, have to get up early and risk job etc.

Wongprom, J. and Thirasasawat, S.(1994) found that skillful employee quit job due to get better job with better income and quit job because further study or get marry

Suteesorn, S and Sungkawan, D (1995) studied in “Self – reliance of people after immigration: A case study of Eastern Seaboard Development in New Urban Area found that reason of occupation revolution due to 31.6% situation forced to change occupation, 44% deemed that new occupation should better as before and 6.6% explained that old occupation lost money

Sanitwongse Na Ayuttaya, T, (1995) studied in “A Study on Job Preparation of Nong Ngu Hao People to be Migrating for new International Airport Construction Area”. found that 55.2% of people who change occupation seem that new location suit their new occupation or had no land for their old occupation 20.9% deemed that they had knowledge enough to do new job and 11.9% deemed that new occupation have better income

Sanit, S. and others (cited in Ratanathammathee, K. 1995) studied in decision on occupation revolution of Thai farmer and factor which concerning to

occupation revolution of the farmer in community near and far away from city, result from both research revealed that main factor which influenced to the farmer who lived near city decided to change occupation more that the farmer who lived far away from the city were influence of market economy and urban culture which expand to rural community whereas found that new occupation which they turn to the most were commercial, second were technician and labour respectively. Moreover, Samak, S. found that there were another factor concerning to occupation revolution of the farmer, that is factor of personal and household characteristic, factor of economy and factor of communication channels farmer and where farmer who lived near the city would promoted their lineage to study in high level in order to get more opportunity to change occupation than the farmer who lived far away from the city

Shungdang, N. (1999) concluded that occupation revolution from agriculture to another should be originated from learning process that result from interaction between themselves with variety surrounding factors which divided into family factor i.e. father, mother, wife and relative etc., social and culture factor i.e. knower, successor in occupation etc., source of informal education factor i.e. school, temple, variety mass medias and economic factor i.e. expectation for income

From research which mentioned above indicated that occupation revolution and adaptation originated from personal factor, economic factor and social factor whereas the objective of revolution to seek for better for themselves and their family particularly expectation on income increment which were building of economic security

#### **Research associated participation**

Chaipakdee, S. (1993) studied in “Farmers’ Participation in Beef Cattle Raising Group in Changwat Nakhon Sawan” found that beef cattle farming group were took part in taking benefit the most second were took part in coordination and public relations, group activity proceeding and consulting respectively whereas there were 6 statistic significant variables i.e. news information obtaining, requirement on fame and honour, expectation on obtained benefit, social status, size of owned land and positive influence to participation of the farmer

Trithan, V. (1996) studied in “People’s Participatory Planning Process for Community Development” found that major condition which impacted to participation of people in planning procedure for participated development were opportunity and power of people to decide path and operating on problem solving by themselves

Ruengmalai, P. (1998) studied in “Farmers’ Participation in Water Management of Mae Kuang Udom Tara Irrigation Project in Banthi District, Lamphun Province” found that there were moderately participation of the farmer in irrigation management for agriculture and when separate to consider follow to step of participation found that the farmer took part moderately in consulting and proceeding in part of took part in taking benefit and coordination were less

Sanankong, K. (2000) researched through participation procedure in research procedure topic “Operational Process in Agricultural Extension of San Sai Tambon Administration Organization, Saraphi District, Chiang Mai Province” found that the community employed participation procedure in problem community solving whereas community took part in every step of research proceeding that caused learning process in community and they could brought to solved their problem by themselves in order that community would able to bring those learning process to develop and apply with another problem of the community as well

Khanabkaew, E. (2001) studied in “Increasing Community Participation for Reducing Chemical Pesticide Use Among Farmers in Lamphun Province” found that after clarified those concept to community leader and the farmer, all of them agreed with those concept then caused another activities follow on. Each activities were true requirement of community in learning process of each issue and each activity and proceed naturally. It indicated that community had comprehension on concept of participation procedure especially in independence decision of community where no one forced or decided on as in the past

Buakleebai, P. (2000) studied in “Farmers’ Participation in Community Forest Conservation and Development, Ban Pa Sak Ngam, Luang-Nue Sub-District, Doi Saket District, Chiang Mai Province” found that level of participation on conservation and development community forest in several facets i.e. facet of news information obtaining were in high level, facet of follow up and evaluation,

proceeding, planning were moderately whereas there were factor which related to participation i.e. personal factor (age, education level), economic factor (household income) and social factor (attitude to community forest conservation and development)

Manoi, P. (2002) studied in “Farmer’s Participation in the Implementation of Tambon Agricultural Technology Transfer Center, Lampang Province” found that participation of the farmer in operating of the center were related to transmitted activity obtaining, participation in solving means selection of center operating related to social rank and transmitted activity obtaining. In part of participation in follow up and evaluation on center operating were related to benefit which the farmer sample obtained from knowledge transmission

Chanayat, S. (2002) studied in “Implementing Agricultural Development Plan of Tambon Administration Organization (TAO) in Chiang Mai Province” found that participation in agriculture development planning for member and participation in plan application to operating on agriculture development of Sub district administration organization tend to much. Beside that gender, occupation, household income, period of holding a position and news information obtaining were related to participation in agriculture development planning as well

Kaewsom, N. (2004) studied in “Development Process for Participatory Administration of Chaiprakan Dairy and Agricultural Cooperatives Ltd” found that participated management development procedure which occurred from cooperation of all sectors that caused systemic management procedure in cooperative and clarity in management structure more whereas there were management pattern that suited to cooperative operating which based on truth reason, experience and database

Darapong, P. (2005) studied in “Participatory Learning of the Farmers in Farmer Field School, Chiang Mai Province” found that participated learning of the farmer on mention, planning, doing activity and evaluation were in much level considered to 38.2%, 40.9%, 53.6% and 52.7% respectively. Participated learning of the farmer in total picture were in much level

Sriyab, T. (2006) studied in “Members’ Participation in Developing of Supanimit Agricultural Co – operatives, Phrae Province” found that member took part

in step of planning at high level, in part step of doing activity, evaluation and taking benefit member took part in moderately. Result from hypothesis testing shown that economy factor i.e. experience of member on joining activity were related to participation with significant at level 0.1, psychology factor i.e. expectation on benefit obtaining were related to participation with significant at level 0.05

From research which mentioned above indicated that participation were heart of development in all level and organization until country developments which have to employ of citizen sector on management and problem solving together. Participation contributed to resolution of all sector on joining of thinking, action and taking reward from co-working which lead to efficient development

Consequently in this research, the researcher brought participation concept to apply in dairy cooperative management process contributing to occupation development of dairy farmers in upper northern Thailand whereas the researcher believed that problem resolution in dairy farming occupation of those farmer should developed from participation of whom concerning which i.e. farmer representative, government officer and milk factory owner in upper northern, Thailand in order to obtain dairy cooperative management process which facilitate to dairy farming occupation development in upper northern Thailand with efficient and sustainable that could applied in the other context.