
CHAPTER VI

CONCLUSION, DISCUSSION AND RECOMMENDATIONS

This chapter deals with conclusion and discussions of the study as well as recommendations for further researchable issues on the topics and activities related to the present study.

6.1 Conclusion and Discussions

Dairy farming has been promoted by Thai government in the last 20 years ago in the study area. In the past, farmers in the study area were mainly dependent on rice farming and off-farm income. Most of the interviewed farmers have more or less been adopted dairy farming for 8-9 years on average. Currently, nearly all interviewed farmers carry out dairy farming activity as the main occupation and income source. To supplement their income about 70% of interviewed farmers are also engaged in other activities such as rice farming and off-farm activities. The off-farm activities are the second most important economic activity for dairy farmers. Almost all of dairy farmers in the study area own only a small piece of land (4.8 rai/hh). Most of the interviewed farmers raised dairy cows in confinement method which use little land. Most of them have dairy barns in the same area with their houses, this led to some conflicts with their neighbor over the bad smell of manure. In addition, it was found that almost all interviewed farmers have a small piece of fodder land (3.58 rai/hh) in comparison with their total herd size (10.9 cows/hh). More than 50% of interviewed farmers do not have enough fodder for their dairy cows either in the rainy season or dry season. The dry season has a lot of impact on dairy farming because serious shortage supply of grass from inside and outside their fields. Some farmers used more concentrate feed, accounting up to 70% of total variable costs. With the present status, price of concentrate feed are so expensive and increasing every year while the price of fresh milk remains constant. This

has direct impact on income of dairy farmers. Furthermore, there are still some other problems on dairy farming such as production, marketing and policy. Particularly, the problem on marketing since the small dairy cooperatives do not have their own processing plant and they have to sell raw milk to other dairy processors. The dairy cooperatives can not meet the demand of large scale processors and since the cooperatives are limited with respect to its members and cannot expand its supply. So, these are some of the constraints limiting the expansion of dairy farming in the study area. However, in general, nearly all of dairy farmers in the study area are satisfied in dairy farming, because dairy farming generates good income and farmers can stay on the farm throughout the year. They do not have to go to other places to find jobs during off-farm season.

With respect to credit, the main credit source for dairy farmers in the study area was BAAC. All of interviewed farmers borrowed money from BAAC for initial investment, subsequent investment and operating costs. Most important kind of loan collateral is the land. The farmers can borrow money not more than 50% of the total land value. Land is one constraint for dairy farmers in the study area, in getting loans since most of the dairy farmers own only small piece of land and some dairy farmers even do not have land property right. If a farmer does not have land right, he/she could not borrow money as much as they require.

It was found that the experienced dairy farmers (>10 years) in the study area borrowed the lowest amount of loan (21,153 baht/hh) to invest in their farms. This is because most of them started their farms by raising dairy cows with a small herd size and they expanded farms by using female calves from their farms. But the new dairy farmers started their farms by raising the dairy cows with large herd size with higher initial investment (102,444 baht/hh). Sometime high amount of loan become a serious problem of new dairy farmers when they stop do their farms during the start up phase that they have to pay back high loan on the schedule to BAAC.

As mentioned before, the experienced dairy farmers raised dairy cows with higher skill than less experienced dairy farmers. It was found that the experience in dairy farming also have positive impact on milk production. Furthermore, the experienced dairy farmers have better repayment performance than less experienced dairy farmers. From these reasons, it revealed that experience on dairy farming have positive impact on farm management, milk yield, income and also have impact on loan repayment performance. Thus, good farm management is important for dairy farming in that more experience or high skill labor will help to improve farm efficiency in dairy farming.

Related to the estimated production function, it revealed that labor, building and equipment cost, operational costs and farm size are significant and they have positive impact on milk production. As for another variables such as genetic or breed and successful in artificial insemination are significant and they have negative effect on milk production. In assessing input use efficiency, it was found that dairy farmers are not used all of inputs optimally. Dairy farmers of good and average repayment performance groups use less than optimum level of operational costs but dairy farmers of all loan repayment performance groups use more than optimum level of building and equipment to get profit maximizing level of input use.

With respect to the optimum level of capital need in dairy farming, dairy farmers have different level of optimal capital according to the different repayment performance group and their farm size. Farmers with large herd size have higher level of optimal capital utilization than those with small herd size because they have to invest higher amount of capital than small farms in term of fixed and variable costs. Similarly, dairy farmers with good and average repayment performance have greater level of optimal capital than poor repayment performance groups. This is because dairy farmers in the good and average repayment performance groups have higher potential to pay back loans on the schedule than do farmers in the poor repayment performance group.

In terms of operational costs, dairy farmers have lower needs for borrowed money than they do for investment capital. This is because these short term inputs can be purchased in part through income. Therefore, out of the total requirement of the operational costs, the farmers need to borrow only 50% or less as a loan from BAAC and the remaining amount can come from the sales of their farm products such as milk and calves.

However, BAAC should consider the existing dairy farmers who already have some part of capital such as existing dairy barn and equipment such as mower, milk tanks etc. and should deduct this amount of capital from the building and equipment costs to obtain loan required from BAAC.

In addition, the optimum level of capital need can have implication with new dairy farmers when BAAC have plan to disburse credit to new dairy farmers. Initially, new dairy farmers can be classified in group of poor repayment performance as it was found that most of new dairy farmers have the highest problem to pay back loan on the schedule. However, value of cows should be added in the optimum level of capital requirement for new dairy farmers due to new dairy farmers have limited capital to invest during establishment phase in dairy enterprise. Ninety-two to ninety-four percent of total fixed costs (including value of cows) was required to initiate farm. The rest (6-8%) was required for operating costs to run their enterprise, although this level can be increased somewhat if proceeds from milk sales are a problem at the initial years. However, the level of capital need changes as the prices of output and input change.

Finally, interest rate is one factor that has a negative effect on optimum level of capital need. When farmers obtain credit at high interest rates, they will have greater problems paying back on schedule. For example, Ekasingh *et al.* (1997) found that dairy farmers in Beong-Sampan district, Petchaboon province borrowed large amounts of money (about 200,000 - 240,000 baht) at high interest rate i.e. 14-15% from commercial bank. Most of the dairy farmers were not able to pay back the loans on schedule even

through they were experienced farmers (engaged in dairy farming on an average for 7 years). Seemingly, the high amount of loan at high interest rate might be the one of the major causes of unsuccessful dairy farming. Thus, BAAC should also consider the optimum level of capital utilization for each group of farmers as well as an appropriate level of interest rate for planning credit disbursement in the future so as to ensure good repayment by farmers.

6.2 Recommendations

Based on the findings and the outcomes of this study, following recommendations have been made which might be helpful for the credit institutions especially redesigning their credit programs for dairy farmers in the study area:

1) It was found that BAAC has disbursed large amount of loan to new dairy farmers to run their dairy enterprises. Most of the new dairy farmers had problem on farm management and milk productivity during the start up phase. It was found that most of new dairy farmers have the highest problem to pay back loan on the schedule. If the dairy farmers take too much credit, it will worsen their debt positions. Thus, new dairy farmers should be considered as farmers in the poor repayment performance during the start up phase and their capital requirement should be lower than the other groups (good and average performance). Care must be taken by credit agencies not to give too high loan to these new farmers.

2) The optimum capital requirement (at 12.25% interest rate) for dairy farmers of good and average repayment performance who own 5, 10 and 20 cows is about 70,000 100,000 and 160,000 baht to run in dairy enterprises, respectively. The optimal capital (at 12.25% interest rate) for dairy farmers of poor repayment performance group who own 5, 10 and 20 cows is about 40,000, 63,000 and 95,000 baht, respectively. Thus, these amount of total capital requirement can be considered as the optimum loan size to different group of dairy farmers that they can operate their farm efficiently. As for The

Dairy Farming Promotion Special Project, some project disbursed amount of credit about 220,000 baht, of which 100,000 baht for purchasing cows, and 120,000 baht as fixed and variable costs. Some project disbursed amount of credit about 130,000 baht including purchasing 3 cows as 90,000 baht of which 40,000 baht as fixed and variable costs. Considering the optimum loan size in this study area, BAAC should redesign credit program to reduce the size of loan given to new farmers.

3) To disburse credit to new dairy farmers, BAAC should separate credit in term of short and long term loans. Short term loans are provided for operational costs such as purchasing concentrate feed, medicine etc. Long terms loans are provided for fixed costs such as purchasing land, building dairy barn etc. Dairy farmers have lower needs to borrow money for variable costs than fixed cost which variable costs can pay back in one year. This is because these short terms inputs can be purchased in part through income. Thus, to get the efficiency of credit disbursement, BAAC should know how to manage loan in short and long term to new dairy farmers to get the efficiency of credit disbursement and be available for farmers in the long run.

4) Currently, BAAC disburse credit mainly based on the overall value of assets owned and income earned by a farmer in a year. So, in future loan programs, other factors such as farmer's experience in dairy farming, farmer's loan repayment ability and overall productivity performance should also be considered.

6.3 Further Research

As dairy farming have increasingly required new technologies such as breed, milking machine etc. to improve farm productivity. Further studies should be conducted to find out the impact of new technologies in dairy farming on credit requirements and repayments. More research should also be made to study on factors affecting on loan repayment in dairy farming. Moreover, study on credit need in dairy farming should also substantial in future research.