DEBT ANALYSIS OF AGRICULTURAL COOPERATIVE MEMBERS IN THAILAND

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Abstract - The aim in this study is to analyze the debt of cooperative sector in Thailand and explain how influence factors create the debt of agricultural cooperative members. Based on the statistical data and analytical method, three key elements factors; individual factors, attitudes and values factors, and essential factors in consumptionhave insignificant relationship with debt creation impact on member commitment. The most common cause of the loan is inadequate income. Income is not enough to cover the normal expense. Most borrowed money is used to buy their members' products and support the family. It was recommended that to overcome these challenges and meet members' expectations, there is a need to; promote and increasing capacity of cooperatives and income generating for members, ensure proper financial management and better accounting practices

Key words - Agricultural Cooperative, Debt Analysis, Cooperative in Thailand

I. STATEMENT OF PROBLEM

Thailand is known as an agricultural country for a long time. Agriculture in Thailand has developed with large-scale planting and rice has contributed as wealth of its major exports [1]. Before the industrial sector began, the agricultural sector generated almost 100 percent of the country's income. Traditional agriculture was forced by economic globalization to change to a food industry. Farmer has been suffered from increasing debt problem. The first agricultural cooperative namely; Wat Chan Cooperative Unlimited Liability was established to purpose farm credit. Due to the success of first cooperative, the number of cooperatives were increasing and expanding too many types of cooperatives.

Thailand has become a newly industrialized country. Its economy is heavily export-dependent, with exports accounting for more than two-thirds of its gross domestic product (GDP) [2]. Cooperative members went into debt purchasing new machinery and buy new land. Farmers needed to purchase seeds and fertilizer fromand pay for the transportation to get these products. This is due to the increasing debt problem resulting from farmers suffering from the shift from self-sufficient economy to trade economy[3]. Consequently, they have lost their farmland and become laborers, leaving their debts unpaid.Forward looking for trends that household debt in cooperatives sector will increase approximately 5-6% by the ratio of household debt to GDP of Thailand[4].

It is the result of several factors including internal and external factors such as crop oils or higher cost of living [5]. There are many concerns to study in the influence factor impact on debt of agricultural cooperative members that will be brought all parties need more cautious in spending to prevent problems before financial crisis in future.

II. RESEARCH OBJECTIVES

1. To analyze the debt of cooperative sector in Thailand
2. To analyze the debt of agricultural cooperative members
3. To study influence factor to create the debt of agricultural cooperative members

III. METHODOLOGY

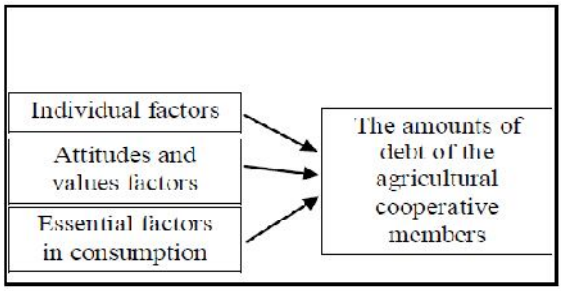
The methodology using in this study has two main tasks. Firstly, Data are usually collected throughprimary and secondary data. The field surveys were conducted in some selectedagricultural cooperative sites during 2015. The sets of questionnaire were used to interview the cooperative members 400 households and in-depth interview with some cooperative staff in the research sites. The literature and theoretical framework on cooperative in Thailand and debt of cooperative sector was reviewed. The secondary data is used from various documented reports, papers, research and journals related to the number of cooperative and debt information in cooperative sector in 2006-2015. The recent researches on debt of agricultural cooperative members were reviewed and analyzed.

Secondly, the task was data analysis adopting both qualitative and quantitative methods. The descriptive statistics were used to interpret the details of debt in cooperative sector. The statistical analysis of quantitative data was conducted by SPSS statistical package. The data were analyzed by using descriptive statistics such as frequency and percentage. The inferential statistics included the Chi-Square test result and Cramer's v value for testing relationships between categorical variables. This study is concluded about the hypothesis with 90% confidence, the value labeled Asymp. Sig. which is the p-value of the Chi-Square statistic should be less than 0.1

IV. RESEARCH HYPOTHESIS

1. Individual factors correlated with the amounts of debtof the agricultural cooperative members.
2. Attitudes and values factors correlated with the amounts of debt of the agricultural cooperative members.
3. Essential factors in consumption correlated with the amounts of debt of the agricultural cooperative members.

V. CONCEPTUAL FRAMEWORK



VI. RESULTS AND DISCUSSION

6.1 The Situation of Cooperative Sector and Agricultural cooperatives in Thailand

The cooperative is a business owned and run by and for their members. The primary cooperative is owned by individual members and democratically controlled by the members who use its services and profits are distributed to the members based on their use of the Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, co-operative members believe in the ethical values of honesty, openness, social responsibility and caring for others. The cooperative movement in Thailand has a history of nearly a century. The first cooperative was brought to the country by the initiative of the Thai government in 1916 as a tool to help the severely indebted farmers. In the whole country, Thailand,registered cooperatives are accounted for totally 8,235 cooperatives with 11 million individual members approximately.Agricultural cooperative is the largest amount of 54 per cent of all cooperatives and most cooperative members belong to agricultural cooperatives (6.54 million members: 55.08%) [4]. The type of cooperativesis officially categorized to seven (7) types, namely:1. Agricultural Cooperative (4,447) 2. Land Settlement Cooperative (95) 3. Fisheries Cooperative (110) 4. Consumer Cooperative (222) 5. Saving and Credit Cooperative (1466) 6. Service Cooperative (186) 7. Credit Union Cooperatives (609). Agricultural cooperatives are established to enable farmer members to engage in business together, thus helping one another in times of crisis as well as gaining for themselves a better livelihood and quality of life. The objectives of agricultural cooperatives are 1. To provide loans to members for productive and providential purposes at affordable interest rates; 2. To encourage members' thrift through savings and deposits; 3. To provide agricultural products and daily necessities for sale to members at reasonable prices; 4. To promote appropriate farm practices and disseminate technical know-how aimed to help members reduce production costs and obtain higher yields. With government assistance, members are introduced to proper cropping techniques as well as use of fertilizers and insecticides. Another service is in the form of farm equipment (e.g., tractors, water pumps, etc.) made available to members at reasonable charge; and 5. To enable members to market products together, thereby obtaining higher prices for their produce and maintaining fairness in terms of weights and measures. [6]. At present, agricultural cooperatives engage in various types of business in responding to their members' needs. Generally, the five main areas are loans, savings and deposits, sale of consumer and farm supplies, goods, joint marketing, and agricultural extension and services. Table 1 to Table 4 show the situation of agricultural cooperative in past ten years. The number of cooperatives and membership increased.Cooperative operative capital and business volumes were continuously increasing,and main businessof cooperative come from loan services to members. The study foundthat loan program to members have increasing level of member commitment by influencing cooperatives' financial performance, members 'willingness to invest but, since the social and economic impact to members, increasing loan amount face more debt problems.

Table 1: The number of Agricultural Cooperatives and Member in Thailand

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Year	The number of Agricultural Cooperatives	The number of members (household)
2006	3,515	5,119,308
2007	3,513	5,654,195
2008	3,470	5,875,585
2009	3,417	5,769,502
2010	3,457	6,159,598
2011	3,388	6,109,489
2012	3,435	6,274,400
2013	3,481	6,419,261
2014	3,477	6,442,540
2015	3,671	6,540,514

Source: Department of Cooperative Auditing [7]

Table 2: Financial Status of Agricultural Cooperatives in Thailand

Unit: Million Baht

Year	Assets	liabilities	Capital
2006	88,146.01	57,711.04	30,434.97
2007	99,407.14	65,417.31	33,989.83
2008	105,070.07	68,471.06	36,599.01
2009	122,046.95	82,066.69	39,980.26
2010	131,184.53	86,950.19	44,234.34
2011	144,620.34	95,197.26	49,419.26
2012	166,462.08	111,984.24	54,477.84
2013	189,416.00	128,163.75	61,252.25
2014	202,843.43	138,174.63	64,668.80
2015	227,086.36	157,000.03	70,086.33

Source: Department of Cooperative Auditing[7]

Table 3: Business values of Agricultural Cooperatives in Thailand

Unit: Million Baht

Year	Deposit	Loan	Purchasing	Marketing	Conversion	Service	Total
2006	30,554.48	33,423.12	30,061.45	34,078.97	0.00	255.28	128,373.30
2007	33,224.46	37,312.66	35,050.57	34,843.85	14,675.90	296.62	155,404.06
2008	36,580.17	40,369.96	39,814.56	36,944.09	17,108.40	294.78	171,111.96
2009	43,572.83	45,366.93	50,084.34	45,774.64	14,930.51	311.60	200,040.85
2010	50,540.69	51,826.41	44,845.00	55,676.12	12,142.79	332.08	215,363.09
2011	57,006.30	58,467.20	48,137.24	73,517.11	18,645.33	380.29	256,153.47
2012	63,837.60	67,003.72	55,533.50	85,266.74	18,269.59	439.58	290,350.73
2013	71,855.54	77,498.44	64,670.62	74,150.81	18,045.82	450.97	306,672.20
2014	68,970.87	81,893.75	68,796.62	58,586.75	15,700.91	431.88	294,380.78
2015	69,444.41	89,745.79	62,499.25	59,785.50	13,420.89	571.28	295,467.12

Source: Department of Cooperative Auditing[7]

Table 4: Comparison between Debt per Household of 7 types of Cooperative and Debt per Household of Agricultural Cooperatives

Year	Debt per Household of Cooperative Sector (7 types)				Debt per Household of Agricultural Cooperative			
	Loan (Million THB)	Members (person)	Debt per Household (THB)	Growth ratio (%)	Loan (Million THB)	Members (person)	Debt per Household (THB)	Growth ratio (%)
2006	590,890.80	8,929,319	66,174.23	4.23	33,259.63	5,449,308	6,103.46	-
2007	614,939.05	9,469,251	64,940.62	(1.90)	37,100.39	5,654,195	6,561.57	6.98
2008	675,975.56	9,915,060	68,176.59	4.75	40,153.01	5,875,585	6,833.87	3.98
2009	772,124.31	10,015,274	77,094.64	11.57	45,209.01	5,769,502	7,835.86	12.79
2010	857,179.60	10,552,839	83,933.10	5.09	51,478.93	6,159,598	8,357.51	6.24
2011	1,017,715.82	10,722,827	94,911.15	14.42	57,564.62	6,109,489	9,422.17	10.70
2012	1,132,530.40	10,878,108	104,110.97	8.84	66,264.94	6,274,400	10,561.16	10.78
2013	1,161,052.59	11,408,882	101,767.43	(2.30)	76,708.07	6,449,261	11,894.08	11.21
2014	1,167,979.78	11,577,945	100,879.71	(0.88)	80,743.33	6,442,540	12,532.84	5.37
2015	1,143,116.11	11,874,454	96,266.83	(4.79)	88,524.82	6,540,514	13,534.84	7.40

Source: Department of Cooperative Auditing[7]

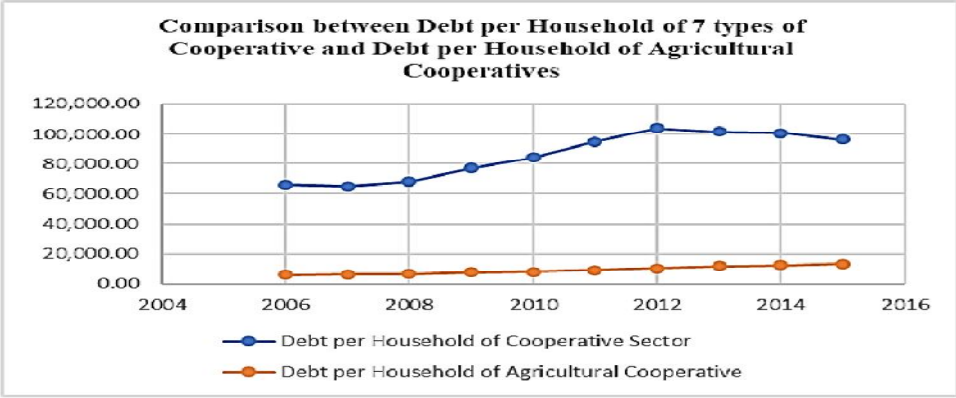


Fig. 1. Comparison between Debt per Household of 7 types of Cooperative and Debt per Household of Agricultural Cooperatives

Table 4 and Figure 1 show comparison between debt per household of 7 types of cooperative and debt per household of agricultural cooperatives. The results of operations in a portion of the loan of 7 types of cooperatives, representing liabilities per household during the past 10 years, in the year 2007are a total of 64,940.62 million baht. There are a growing in 2012 to 104,110.94 million baht. Which, if compared with the types of agricultural cooperatives,loans to members are relatively very small. Cooperative members of agricultural co-operatives with more than 50 percent compared to all the Member countries. It shows clearly that the farmers are facing problem of distributing credit and make the farmers unable to access credit, which the majority of the loan will be allocated to type of financialcooperatives, such as, Credit Union or savings co-operatives, etc. However, the cooperatives should therefore keep track of accounts receivable, repayment in accordance with the contract to prevent this quality cause liquidity risk of cooperatives.

6.2 Hypothesis testing

Significance of analyzing the data set at level 0.1 significance. If the statistical program processed value greater than 0.1 significance level refers to the independent variable to the variable does not exist. If the processor has a value less than the significance level sig. 0.1 means independent variable with the variable does not exist. By splitting assumes 3 assumptions, as shown in the table 5-7. Debt might havesome positive or negative influences on member commitment in agricultural cooperatives. In order tolearn more about such a relationship, an empirical study is conducted in Cramer's V with a number between 0 and 1 that indicates how strongly two categorical variables are associated. The aim of this study is to explain how individual factors, attitudes and values factors and essential factors in consumption influences the level of member commitment in debt agricultural cooperatives. Table 5 to table 7 showed the results that the three characteristic factors can affect creation of debt of cooperative members. Bases on the analysis, each of the hypotheses will be once again declared and briefly explained of the results from the 3 hypotheses.

Hypothesis 1Individual factors correlated with the amounts of debt of the agricultural cooperative members.

This hypothesis concerns the relationship between individual factorsandmember getting loan inthe cooperative. It was assumed that most individual factors (except monthly expense and objective for welfare) are related to themembers still raises funds from cooperative loan. The results indicated that there is a common understanding of the members' tough economic situations

Hypothesis 2Attitudes and values factors correlated with the amounts of debt of the agricultural cooperative members.

This hypothesis concerns the relationship between attitudes and values factors andmember getting loan in the cooperative. It was assumed that most attitudes and values factors (except the convenience of spending, economic growth affect on price and policy/government) are related to the members still raises funds from cooperative loan.In line with the social and attitudes, it seems like the form of trust andpersonal relationship between the agricultural cooperatives and members has an important role.

Hypothesis 3Essential factors in consumption correlated with the amounts of debt of the agricultural cooperative members.

This hypothesis concerns the relationship between essential factors in consumption and member getting loan in the cooperative. It was assumed that most essential factors in consumption (except disaster) are related to the members still raises funds from cooperative loan.The result of this hypothesis shows in most cases of members, the loans used to bemainly spent in areas such as marketing, and purchase of members 'products and members support.

Table 5: Individual Factors and Indebtedness of Cooperative Members

Items	Debt with Cooperative			Relationship
	Chi-Square	Sig.	Cramer's V	
1.Sex	3.476	0.062	0.186	Yes
2.Age	25.539	0.001	0.505	Yes
3.Status	12.401	0.002	0.352	Yes
4.Occupation	32.892	0.001	0.574	Yes
5.Education	27.751	0.002	0.527	Yes
6.Monthly income	21.391	0.002	0.463	Yes
7.Monthly expense	6.906	0.228	0.263	No
8.Lifetime membership	19.315	0.002	0.439	Yes
9. Objective for saving	14.811	0.021	0.385	Yes
10. Objective for dividend	0.002	0.965	0.004	Yes
11. Objective for loan	19.661	0.002	0.443	Yes
12. Objective for patronage	7.661	0.006	0.277	Yes
13. Objective for cremation	6.572	0.201	0.256	Yes
14. Objective for welfare	1.896	0.168	0.138	No

Table 6: Attitudes and values factors and Indebtedness of Cooperative Members

Items	Debt with Cooperative			Relationship
	Chi-Square	Sig.	Cramer's V	
1.Social status affect to your debt creation	10.589	0.0372	0.325	Yes
2.Education level affect to your debt creation	11.864	0.018	0.344	Yes
3.Financail management and planning affect on debt creation	21.181	0.001	0.460	Yes
4.Media consumption affect to your debt creation	15.888	0.003	0.415	Yes
5.Religiuos faith affect to your debt creation	47.713	0.001	0.691	Yes
6.If future income increases then consumption increase	27.321	0.001	0.523	Yes
7.High income save more than low income	18.218	0.001	0.427	Yes
8.Installment sales affect to your consumption	15.138	0.004	0.389	Yes
9. Buying a private care can save money more than using public transport	11.202	0.024	0.355	Yes
10.The convenience of spending as you want	5.966	0.113	0.244	No
11.Economic growth affect on price	2.884	0.236	0.170	No
12.Policy/Government	2.884	0.236	0.170	No

Table 7: Essential factors in consumptionand Indebtedness of Cooperative Members

Items	Debt with Cooperative			Relationship
	Chi-Square	Sig.	Cramer's V	
1.Sponsoring children education	11.519	0.021	0.339	Yes
2.Convenience	13.321	0.004	0.365	Yes
3.Medical fee	14.177	0.003	0.377	Yes
4.Disater (flood, Drought)	7.43	0.115	0.273	No
5.Physiological needs	8.933	0.030	0.299	Yes
6. Technology needs	16.469	0.002	0.406	Yes
7. Alcohol and vices	11.801	0.009	0.344	Yes

CONCLUSION AND RECOMMENDATION

The aim in this study is to analyze the debt of cooperative sector in Thailand and explain how influence factors create the debt of agricultural cooperative members. Based on the statistical data and analytical method, three key elements from the hypothesis have insignificant relationship with debt creation impact on member commitment. The most common cause of the loan is inadequate income. Income is not enough to cover the normal expense. Most borrowed money is used to buy their members' products and support the family. In such cases, the cooperatives have enough money to pay to their member, which means cooperative can provide benefits to the members. The member satisfaction generated from such a loan that will result in higher social capital in the cooperatives. On the other hand, Members spend debt for more long-term investments. The management might be damaged if the debt capital. It was recommended that the cooperative members need to diversify their income generating activities to be able to get a better price for their products. Increasing the amount of compulsory savings will contribute to the long-term success of cooperatives as well. Also the cooperatives will reasonable amount of capital may decide to investment some of the capital in profitable business like building network cooperative business apartments for supplying farm inputs and other investment priorities as per wishes of the members.

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