

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT	i
ABSTRACT	iii
TABLE OF CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xiii
CHAPTER 1. INTRODUCTION	1
1.1 Rationale	2
1.1.1 Credit Problems of Farmers in Thailand	2
1.1.2 Agricultural Credit Research in Thailand	4
1.2 Objectives	6
1.3 Review of Literature	7
1.3.1 Credit Utilization	7
1.3.2 Estimation Methods	8
CHAPTER 2. METHODOLOGY	12
2.1 Theoretical Framework	12
2.2 Scope and Limitation	15
2.3 Data Collection	15
2.4 Analytical Framework	17
2.5 Data to be Gathered	19
2.6 Model Specification:	19
CHAPTER 3. AGROSOCIO-ECONOMIC BACKGROUND AND RURAL CREDIT SITUATION IN THE STUDY AREA	24
3.1 General Background Information	24
3.1.1 Crops Planted	26
3.1.2 Cropping Patterns	28
3.1.3 Farm Household Production and Income	29
3.1.4 Market and Other Support Services	30

3.2 The Agricultural Credit System	32
3.2.1 Demographic Profile of Farm Borrowers	32
3.2.2 Sources of Credit	32
3.2.3 Types of Credit Extended	34
3.2.4 Farm Household Borrowing	35
3.3 Highlights	36
<b>CHAPTER 4. CREDIT UTILIZATION AND MANAGEMENT</b>	<b>37</b>
4.1 Distribution of Farm Borrowers	37
4.2 Factors Influencing Farmer's Borrowing Decision	40
4.3 Extent of Formal Credit Constraint	42
4.4 Credit Needs for Farm and Non Farm Operation	45
4.5 Credit Repayment Situation	48
4.6 Farmers Perception and Credit Use	51
4.7 Highlights	54
<b>CHAPTER 5. IMPACT OF CREDIT ON FARM PRODUCTIVITY OF RICE AND SOYBEAN CROPPING SYSTEMS</b>	<b>55</b>
5.1 The First Stage Estimation: Probit Maximum Likelihood Model	56
5.1.1 Relevant Explanatory Variables	58
5.1.2 Factors Influencing the Probability of Being Credit Unconstrained Farm Households	61
5.2 The Second Stage Estimation: Optimization of the Output Functions	66
5.2.1 Simple Correlation of Explanatory Variables	71
5.2.2 Impact of Credit on Farm Productivity of Rice	76
5.2.3 Impact of Credit on Farm Productivity of Soybean	80
5.3. Policy Implications	83
<b>CHAPTER 6. SUMMARY, CONCLUSION AND RECOMMENDATION</b>	<b>87</b>
6.1 Summary	87
6.2 Conclusion and Recommendation	91
<b>BIBLIOGRAPHY</b>	<b>95</b>
<b>CURRICULUM VITAE</b>	<b>99</b>

## LIST OF TABLES

	Page
Table 1. Distribution of borrowers for crop production loan in Chiang Mai Province	16
Table 2. Percent distribution of borrowers for rice and soybean in Chiang Mai Province	28
Table 3. Distribution of farmers having market problems in Chiang Mai Province, crop year 1991-1992	31
Table 4. Membership to association of farmers for rice and soybean cropping systems in Chiang Mai Province, 1992	31
Table 5. Distribution of rice and soybean farmer borrowers by type of sources in Chiang Mai Province, crop year 1990-1991	33
Table 6. Distribution of farm borrowings by type of cropping system in Chiang Mai Province, crop year 1991-1992	35
Table 7. Distribution of farm borrowers in the study area by type of cropping system, crop year 1991-1992	39
Table 8. Per capita income classification and farm topography of poor areas in Chiang Mai Province, 1990	39
Table 9. Average yield and net farm income of rice and soybean cropping systems across four districts in Chiang Mai Province, crop year 1990-1992	41
Table 10. Ranking of factors influencing farmers to borrow from the formal source by cropping system in Chiang Mai Province, crop year 1991-1992	41
Table 11a. Extent of formal credit constraint of rice-soybean farmers from four districts in Chiang Mai Province 1991 - 1992	43
Table 11b. Extent of formal credit constraint of soybean farmers from four districts in Chiang Mai Province, 1991-1992	44
Table 11c. Extent of formal credit constraint of rice farmers from four districts in Chiang Mai Province, 1991-1992	44
Table 12. Distribution of loan purposes by type of lender for rice and soybean cropping systems in Chiang Mai Province crop year 1990-1991	45

Table 13. Ranking of credit needs for non-farm activities by cropping system in Chiang Mai Province, crop year 1991 - 1992	48
Table 14. Percentage of farmers paying their loans after harvest by cropping system in Chiang Mai Province crop year 1991-1992	49
Table 15. Farmers source of money to pay for the loan in case of crop failure by cropping system in Chiang Mai Province crop year 1991-1992	50
Table 16. Distribution of farmers source of money for farm operation in case of cash shortage by cropping system in Chiang Mai Province, crop year 1991-1992	50
Table 17. Ranking of major factors in farm activities by cropping system in Chiang Mai Province, crop year 1991-1992	51
Table 18. Ranking of farmers perceive benefits in utilizing farm credit by cropping system in Chiang Mai Province crop year 1991 - 1992	53
Table 19. Farmers perception of the way the loan has helped their farm households by cropping system in Chiang Mai Province, crop year 1991-1992	53
Table 20. Descriptive statistics of the relevant explanatory variables in the Probit Model for rice	59
Table 21. Descriptive statistics of the relevant explanatory variables in the Probit Model for soybean	60
Table 22. Probability of being credit unconstrained for rice farmers	62
Table 23. Probability of being credit unconstrained for soybean farmers	63
Table 24. Descriptive statistics of the relevant variables for rice output function ( unconstrained regime )	69
Table 25. Descriptive statistics of the relevant variables for rice output function ( constrained regime )	70
Table 26. Descriptive statistics of the relevant variables for soybean output function ( unconstrained regime )	70
Table 27. Descriptive statistics of the relevant variables for soybean output function ( constrained regime )	71
Table 28. Correlation matrix of relevant explanatory variables for rice output function ( unconstrained regime )	72

Table 29. Correlation matrix of relevant explanatory variables for rice output function ( constrained regime )	73
Table 30. Correlation matrix of relevant explanatory variables for soybean output function ( unconstrained regime )	74
Table 31. Correlation matrix of relevant explanatory variables for soybean output function ( constrained regime )	75
Table 32. Estimated coefficients of the output functions of rice in two regimes adjusted for truncation effect	77
Table 33. Estimated coefficients of the output functions of soybean in two regimes adjusted for truncation effect	81
Table 34. Estimated marginal value product ( MVP ) of major inputs for rice	84
Table 35. Estimated marginal value product ( MVP ) of major inputs for soybean	84

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
 Copyright© by Chiang Mai University  
 All rights reserved

## LIST OF FIGURES

	Page
Figure 1. Credit constrained optima in the use of a variable input under current and improved technology	12
Figure 2. Map of Chiang Mai Province showing the study area	25
Figure 3. Map of irrigable areas in Chiang Mai Province	27
Figure 4. Primary credit needs for farm activities	46
Figure 5. Secondary credit needs for farm activities	46



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright© by Chiang Mai University  
All rights reserved