TABLE OF CONTENTS

		Page
Acknowledge	ment	iii
Abstract in En	nglish	iv
Abstract in Th	nai	vi
Table of conto	ents	ix
List of tables		xi
List of illustra	ations	xii
CHAPTER I	INTRODUCTION	
	1.1 Research problems 1.2 Rationale 1.3 Objectives 1.4 Usefulness of this study 1.5 Definition	2 3 4 4 5
CHAPTER II	LITERATURE REVIEW	
	 2.1 The significance of non-timber forest products 2.2 Women and non-timber forest products 2.3 Karen's life and use of forest plants 2.4 Women's indigenous knowledge of forest plants utilisation 	6 8 11 12
CHAPTER III	RESEARCH METHODS	
	3.1 Scope of the study 3.2 Data collection 3.2.1 Secondary data collection 3.2.2 Primary data collection 3.3 Data analysis	15 15 15 15
CHAPTER IV	DEMOGRAPHIC AND SOCIOECONOMIC CONDITIONS OF THE STUDY AREA	
	4.1 General description of the study area 4.1.1 Physical characteristics 4.1.2 Demographic characteristics 4.1.3 Social characteristics 4.1.4 Economic characteristics	20 21 23 24 26
	4.2 Land use systems and cropping patterns 4.2.1 Land use system 4.2.2 Cropping patterns	32 32 34

PRODUCTION AND CONS		
5.1 Karen women's role in hor	usehold	-36
5.2 Karen women's role in hou		38
and consumption		20
<u>.</u>		
CHAPTER VI FOREST PLANTS UTILIZA	TION IN KAREN WOMEN'S	
LIVELIHOOD SYSTEMS		
6.1 Forest plants for household	dongumntion and utilization	40
6.1.1 Food	r consumption and utilisation	48
6.1.2 Fodder		50 57
6.1.3 Dyes		62
6.1.4 Fuelwood		67
6.1.5 Medicine		71
6.1.6 Cultural use		77
6.2 Patterns and sources of for	est plants collection	78
6.3 Sale of wild plants	, and the second	84
6.4 Effects of declining wild p	lants abundance on household	85
consumption		•
6.5 Cultivation of forest plants		87
CHAPTER VII PLANT DIVERSITY IN KA	REN HOME GARDENS	
7.1 The significance of home a	rardens in Koren livelihood	88
7.2 Plant diversity in Karen's h		89
1.2 Than divoisity in Raich 5 i	ionic gardens	07
CHAPTER VIII CONCLUSIONS AND DISC	CUSSION	
9010		
8.1 Conclusions		94
8.2 Discussion and recommend	lations	97
REFERENCES		102
APPENDICES		
APPENDIX A Wild Plant Species Kn	own and	106
Utilized by Karen peo	ple	
APPENDIX B Plant Species in Karen	Home gardens	118
CURRICULUM VITAE		132
		~ ~ ~~

LIST OF TABLES

Table		Page
1	Population in Chan, Den, and Nong Jet Nuai villages (1998)	24
2	Religions in Chan, Den, and Nong Jet Nuai villages	25
3	Average cash income per household in Chan, Den, and Nong Jet	29
	Nuai villages, 1998	
4	Average cash income from forest products (baht/ household), 1998	29
5	Income of the people interviewed in the study area (baht/ year)	30
6	Percent of food expenditure per household (baht/ year), 1998	30
7	Average farm size (hectares) for different types of crops	34
8	Example of gender role on housework	37
9	Weaving produced by Karen women in Chan, Den, and Nong	38
	Jet Nuai villages	
10	The number of wild plant species which were used in the daily	50
	life of Karen people in Chan, Den, and Nong Jet Nuai villages	
11	The most popular of wild food plant species collected by Karen	55
	people in the study area	
12	Uses of wild plant species by Karen people in the study area	56
13	The most popular wild plant species used as fodder in the study area	61
14	The most popular wild plant species used as dyes in the study area	66
15	The most popular medicinal plants collected and utilizes by	76
	Karen people in the study area	
16	Main locations for gathering wild plants	82
17	Average income per household from the sale of wild plants, 1998	84
18	The decreasing abundance of wild plant species in the study area	86
19	Wild animals which hunted by men from Chan, Den, and Nong	85
	Jet Nuai villages	
20	Number of wild plant species cultivated by Karen men and women	91
21	List of wild plant species cultivated by Karen people	92
22	Use of Karen home gardens plants	93

LIST OF ILLUSTRATIONS

Figure		Page
1	Ethnic groups in Thailand, 1999	1
2	Wat Chan watershed, Mae Chaem District, Chiang Mai Province	22
3	Average rainfall and temperature in 1998 in the study area	23
4	Cropping patterns of main cash crops in the study area	△ 35
5	Labor utilization for paddy rice	40
6	Labor utilization for upland rice	40
7	Labor utilization for pumpkin	41
8	Labor utilization for lettuce	41
9	Labor utilization for ginger	42
10	Labor utilization for taro	42
11	Labor utilization for green pepper	43
12	Labor utilization for gladiolus	43
13	Wild plant utilization in Karen women's livelihood system	48
14	Percent of wild food plant gatherers from Chan, Den, and Nong	51
	Jet Nuai villages	
15	Percent of wild food plant gatherers by economic status	52
16	Number of wild food plant species gathered by Karen in the	53
	study area	
17	Average quantities of wild food plans gathered by Karen in	54
	Chan, Den, and Nong Jet Nuai villages per person per year	
18	Percent of fodder gatherers from Chan, Den, and Nong Jet	57
	Nuai villages per person per year	
19	Percent of fodder gatherers by economic status	58
20	Number of wild plant species gathered to feed pigs by Karen	59
	in the study area	
21	Average quantities of wild plants gathered for fodder by Karen	60
	in Chan, Den, and Nong Jet Nuai	
22	Percent of dye plant gatherers from Chan, Den, and Nong Jet	62
	Nuai villages	
23	Percent of dry plant gatherers by economic status	63

24	Number of wild plant species used as dyes by Karen	64
	in the study area	
25	Average quantities of wild plant species used as dyes	65
	by Karen in the study area	
26	Number of wild plant species used as fuelwood by Karen	67
	in the study area	
27	Percent of fuelwood gatherers from Chan, Den, and Nong Jet	68
	Nuai villages	
28	Percent of fuelwood gatherers by economic status	69
29	Average quantities of wild plants for fuelwood gathered by Karen	70
	in Chan, Den, and Nong Jet Nuai villages	
30	Basic methods of using medicinal plants to treat minor problems	71
	by Karen	
31	Percent of medicinal plants gatherers from Chan, Den, and	72
	Nong Jet Nuai villages	
32	Percent of medicinal plant gatherers by economic status	7 3
33	Number of wild plant species used as medicine gathered by Karen	74
	in the study area	
34	Average quantities of wild medicinal plant gathered by Karen in	75
	Chan, Den, and Nong Jet Nuai villages	
35	Uses of wild plants parts	79
36	Locations where people collect wild plants	83
37	Percent of people cultivated wild plants in home gardens from	89
	Chan, Den, and Nong Jet Nuai villages	
38	Number of species in home garden of Chan, Den, and Nong Jet Nuai	90
	villages	