

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

The perceived effects of work on health of rubber farmers in southern Thailand

**A dissertation presented in fulfilment of the requirements for
the degree of Doctor of Philosophy in Nursing**

**Massey University, Palmerston North
New Zealand**

**Piyaporn Boonphadh
2008**

Abstract

This study was conducted in a rubber farming community in Southern Thailand with rubber farmers and their first-line public healthcare providers as the study informants. The study aims were to first, explore perceived effects of work exposures in rubber farming on rubber farmers' health, second, identify decisions made in response to the effects of work exposures on health, and third, determine influencing factors on the construction of the perception and the process of decision making.

Data were obtained using ethnographic research methods, underpinned by an interpretative paradigm. Unstructured interviews and participant observation were employed as the principal means of data collection. Together with the primary methods of data collection, note taking (fieldnotes, fieldwork personal journal, and photographs) and reviewing/analysing existing documents were employed. While data were being collected, initial data analysis was carried out to make sense of information gained and direct further steps of the data collection. After terminating the data collection, ethnographic data analysis suggested by Spradley (1979, 1980) was used to determine themes to meet the aims of the study.

The study findings reveal that individual rubber farmers and healthcare providers construct perceptions of effects of rubber farming on rubber farmers' health and decisions on the actions taken to manage the rubber farmers' work-related health problems based on their own accounts of compounding factors. Among factors identified, discrepancies between health policy and its practice, coupled with the existence of a hierarchy of power—superior-inferior relationships among individual levels of health authority—emerge as the most powerful factors, inducing the emergence of other factors.

Recommendations made as a result of this study draw attention mainly to the minimisation of the discrepancies between health policies and their implications, and the establishment of partnership status among authorised health agencies and between health agencies and rubber farmers in order to improve the quality of occupational safety and health services provided to the rubber farmers.

Acknowledgements

Completing this thesis has been a life-changing experience for me. I grew up in a family of modest means in southern Thailand. My father was a government fisheries officer and my mother worked in a canning factory. We owned a small rubber field that my father had inherited from his parents, but it did not generate any income at that time because the trees were still immature. My parents sacrificed to ensure that my two sisters and I received the best possible education and had everything we needed. We were sheltered from life's difficulties, and encouraged to focus only on study because my parents believed that a good education would be the key for us to avoid the hardships they had experienced. Even after I graduated with a bachelor's degree in nursing I continued working within the isolation of the university environment, first as a nurse and later as a nursing lecturer. I did not think much about how other people lived their lives. I eagerly took up opportunities for further study abroad at the masterate and doctorate level. To date, I calculate that I have spent three-quarters of my life in full-time study.

It was only when carrying out the fieldwork for this research that I first pushed myself outside my comfort zone, by deciding to live with the rubber farmers I wished to study so as to experience and learn from their lives directly. My primary motivation for staying in the field was to gain the best data for my research. Everywhere I went in the villages I was treated with the utmost hospitality and respect. Seeing how the lives of the rubber farmers were dominated by long hours of hard work opened my eyes to the economic realities that forced them to put aside concern for their own health and safety to try to earn enough to feed, house and educate their families. I saw local healthcare workers under pressure to not always do or say what they thought was best for the farmers' welfare.

Back in New Zealand, I began working part-time as a nurse in a rest home and hospital for the elderly to supplement my scholarship. Most of my co-workers were caregivers working as many hours as they could for a minimal wage. Just as in Thailand I was treated with friendship and respect. And I saw my co-workers under the same pressures to compromise health and safety in order to make ends meet and retain their jobs.

Around this time, I watched a movie, “The Motorcycle Diaries.” It tells the true story of a young Argentinean doctor, Che Guevara, who travels around Latin America on a motorcycle to learn firsthand the conditions facing ordinary people and what can be done to improve them. What he saw paralleled much of my own experience in the Thai rubber fields and challenged me to think more deeply about my experiences. I had never heard of Guevara before that time. But when I learnt that he had gone on to become a leader of a popular government in Cuba, which has become a world leader in public health prevention and care, I decided to investigate further.

I greatly appreciate the experience that I have gained during this study. And I would like to take this opportunity to express my gratitude to the people of the rubber farming community, including farmers, villagers, health volunteers, healthcare providers, and my host family, for their unconditional help and willingness to share their lives with me. I would also like to thank my co-workers at the rest home for further opening my eyes to the realities of the wider world.

I would like to acknowledge Professor Julie Boddy, my supervisor, for her professional advice, encouragement and patience. Also, I would like to express my sincere thanks to Assistant Professor Kittikorn Nilmanat, my field supervisor, for her moral support, and guidance. I acknowledge Professor Steve LaGrow for dedicating his time to help me with refining Chapter 4, and Associate Professor Usanee Petchruschatachat for assisting me in selecting my field of study.

On a personal level, I would also like to acknowledge my parents for their continuous support, and for teaching me to show respect to all people without class or religious distinction. And my special thanks go to my two sisters, Kae and Pum, and their husbands, P'Nut and P'Mung, for their sustained encouragement and help. I greatly appreciate Russell’s contribution throughout the process of my study. I thank him for his support and patience, for boosting my self-confidence, for sharing his library on Che and the Cuban Revolution with me, and for challenging me to think in new ways about old problems. His periodic reminder that “the thesis will not write itself while you think about it” helped strengthen my resolve to successfully complete this study.

Lastly, I would like to acknowledge the Thai Government for its financial support throughout the duration of my study, and all colleagues at Department of Public Health Nursing, Prince of Songkla University, for approving my study leave.

Table of contents

Chapter 1: Introduction and background of the study	1
1.1 Introduction	1
1.2 Study Background	2
1.2.1 Work-Health overview	2
1.2.2 International Occupational health and safety awareness	4
1.2.3 Labour force and Workers' welfare, health and safety in Thailand	5
1.3 Justification for the study	10
1.4 Study design, and objectives	13
1.5 Chapter Outline	13
 Chapter 2: Review of Literature	 17
2.1 Introduction	17
2.2 Farm-related injuries/illness	17
2.3 Causes of farm-related injuries and illness	19
2.3.1 Loss and Incident	19
2.3.2 Immediate causes	20
2.3.3 Basic causes	23
2.3.4 Lack of control	25
2.4 Injury and illness prevention and safety promotion	27
2.5 Influence of collaboration between health professionals, associate personnel and organisations and target populations on occupational safety and health	29
2.5.1 Human perception and behaviour	32
2.5.2 Risk perception and reaction to perceived risk	34
2.6 Limitation of literature concerning occupational safety and health of Thai farmers	35

2.7	Summary	36
Chapter 3: Design and methods		39
3.1	Introduction	39
3.2	Methodology and methods of data collection	39
3.2.1	Participant observation	39
3.2.2	Interviews	42
3.2.3	Fieldnotes, Fieldwork personal journal and photographs	44
3.2.4	Review and analysis of existing documents	44
3.2.5	Survey questionnaire	44
3.3	Preparation for entering the field	45
3.3.1	Selection of the field of the study	45
3.3.2	Permission to enter the field	47
3.3.3	Developing the questionnaire	48
3.3.4	Sampling strategies	50
3.3.5	Ethical considerations	52
3.3.6	Obtaining Ethics approval before conducting the study	53
3.4	Entering the field: establishing rapport	53
3.4.1	Meeting health staff of the subdistrict health centre and village health volunteers	53
3.4.2	Decision on situating in the field	54
3.4.3	Making myself at home: moving to stay in the field	55
3.5	In the field: Collecting data	57
3.5.1	Role in the field	57
3.5.2	Identifying gatekeepers	57
3.5.3	Distribution of questionnaire	58
3.5.4	Participant observations and interviews	59
3.5.5	Fieldnotes and fieldwork personal journal and photographs	65
3.5.6	Reviewing and analysing existing documents	66
3.5.7	Quality control of the information gained	67
3.5.8	Ethical issues and role conflict in the field	67

3.6	Leaving the field	69
3.7	Analysis of information	69
3.8	Summary	76

Chapter 4: Rubber farming and rubber farmers: 77

General information

4.1	Introduction	77
4.2	Rubber farming	77
4.2.1	Field ownership	77
4.1.2	Working days	78
4.1.3	Working hours	79
4.2.4	Work activities: Typical day at work	80
4.2.5	Work exposures and rubber farmers' health: Rubber farmers (RF) vs. Nonrubber farmers (NRF)	89
4.2.6	Work exposures and rubber farmers' health: Buddhist rubber farmers (BRF) vs. Muslim rubber farmers (MRF)	92
4.3	Rubber farmers: household and health behaviour	94
4.3.1	Home and workplace	94
4.3.2	Health behaviours	96
4.4	Summary	102

Chapter 5: Being healthy and the effects of rubber farming on health: Rubber Farmers' viewpoint 103

5.1	Introduction	103
5.2	Being healthy and the effects of rubber farming on health: rubber farmers' viewpoint	103
5.2.1	Being healthy	105
5.2.2	Effects of rubber farming and its environment on health as perceived by the rubber farmers	111
5.3	Summary	130

Chapter 6: Managing work-related health problems: 131
The decision-making processes of rubber farmers

6.1	Introduction	131
6.2	Options to manage health problems	131
6.2.1	<i>Ya Luang</i> – Biomedical medicines	132
6.2.2	Folk remedies: <i>Ya Ban</i> , <i>Ya Boran</i> , <i>Ya Tom</i> , <i>Ya Samunprai</i> , and <i>Ya Re</i>	132
6.2.3	<i>Beeb/Beeb- Nuad</i> and <i>Yiap</i>	132
6.2.4	<i>Mhon or Katha</i> and <i>Jao Thee</i>	133
6.3	Making choices	134
6.3.1	Maintaining health for the sake of work	135
6.3.2	Trial and Error, Direct and Indirect experience (word of mouth/eye witness)	139
6.3.3	Features influencing the “circle of trial and error, direct and direct experience”	144
6.4	Decisions about protect and promote health	152
6.4.1	The influence of life priorities on a rubber farmer’s decision to protect and promote health	152
6.4.2	The influence of rubber farmers’ viewpoints of the effects of rubber farming on health on their decisions to protect and promote health	158
6.5	Summary	160

Chapter 7: Perception of Subdistrict healthcare providers 163

7.1	Introduction	163
7.2	Subdistrict health centre	163
7.3	The health staff’s perception of rubber farmers’ work-related health problems	167
7.4	Ideal ways to improve rubber farmers’ health versus obstacles: Health workers’ perspective	176
7.5	Summary	188

Chapter 8: Discussion	191
8.1 Introduction	191
8.2 Discussion	191
8.2.1 Stakeholders' limitation of knowledge and competencies	192
8.2.2 Words and deeds at variance	198
8.3 Applicability of OSH models originated to use in industrial work sectors to explain rubber farmers' OSH situation	214
8.4 Summary	218
 Chapter 9: General summary	 221
9.1 Introduction	221
9.2 General summary of the study	221
9.2.1 Study aims and questions	221
9.2.2 Study methods	222
9.2.3 Conclusion of the study findings	224
9.3 Implications and future directions	228
9.3.1 Long-term implications and future directions	228
9.3.2 Immediate implications and future directions	230
9.4 Limitations of the study	233
9.5 Summary	233
 References	 235
 Appendices	 249
Appendix A: Folk terms	249
Appendix B-1: Ethics approval	257
Appendix B-2: Questionnaire	258
Appendix B-3: Information sheet: English Version	268
Appendix B-4: Information sheet: Thai version	271
Appendix B-5: Consent form I: English and Thai Versions	274
Appendix B-6: Consent form II-English and Thai versions	276
Appendix C: Demographic information of questionnaire respondents	278

Figures and Tables

Figures

Figure 2-1	ILCI Loss Causation Model	20
Figure 2-2	The spectrum of prevention	28
Figure 2-3	Community health promotion cycle, highlighting its main obstacles	30
Figure 2-4	Model of accident causation	33
Figure 3-1	The cottage and the truck	56
Figure 3-2	Scenery observed from the cottage: A rubber farmer after work	56
Figure 3-3	Example II: Analysis	72
Figure 3-4	Example III: Analysis	73
Figure 3-5	Example IV: Analysis	74
Figure 4-1	A tapping knife with safety cap	81
Figure 4-2	A tapping knife with safety cap removed	81
Figure 4-3	Transport, small bucket, and container	81
Figure 4-4	Headlamp	81
Figure 4-5	Scrubbers	81
Figure 4-6	Checking the tapping site and adjusting the gutter	82
Figure 4-7	Tapping the last rubber trees of 500 trees	82
Figure 4-8	Checking the flow of the rubber latex	82
Figure 4-9	Latex vessels	83
Figure 4-10	Flow of rubber latex: from the tapping site into the cup through the small gutter	84
Figure 4-11	Collecting rubber latex from each tree	85
Figure 4-12	Pouring collected latex from the small bucket into the <i>Lhon</i> , ammonia or sodium sulphite might be added	85
Figure 4-13	A set of pictures: Selling rubber latex vs. processing rubber latex into rubber sheets	86-88
Figure 4-14	Sharpening a tapping knife	89
Figure 4-15	A set of pictures: Distance between households and rubber field	95

Figure 4-16	Household litter management	99
Figure 5-1	Rubber farmers' interplay of living and working conditions and perception of health and acceptance of work-related health problems	104
Figure 5-2	Carbide headlamp operation	116
Figure 6-1	Making choices	135
Figure 6-2	NJ's <i>Ya</i> Combo	136
Figure 6-3	PE's process of making choices	141
Figure 6-4	Features which influence the circle of trial and error, direct and indirect experiences	145
Figure 6-5	The involvement of perception of causes of health problems in PSK's process of making choices of treatment	147
Figure 6-6	PSK's house condition at the time of the fieldwork	154
Figure 6-7	Rubber farmers' circle of priority	158
Figure 6-8	The influence of the rubber farmers' understanding of the effects of their work conditions and environment on their decisions to protecting and promoting health	159
Figure 7-1	Structure of provincial health administration	164
Figure 7-2	Causes and effects of rubber farming as perceived by health personnel	169
Figure 7-3	The seesaw of factors overriding practices of health staff	177
Figure 8-1	Hierarchy of power vs. differences between words and deeds: the enemy of success	206
Figure 8-2	Underlying factors of 'lack of control' in rubber farming	215
Figure 8-3	Applicability of ILCI loss causation model to explain OSH of rubber farmers	216
Figure 8-4	Applicability of Accident Causation Model to explain the interaction between rubber farmers' perception and their process of making decision on action taken	217
Figure 8-5	Suggested approach to improve OSH provided to Rubber farmers	218

Tables

Table 3-1	Example I: Analysis	71
Table 3-2	Example V: Analysis	75
Table 4-1	Proportion of Workers Reporting Physical Demands of the Job and Hazardous Workplace-Related Exposures (RF vs. NRF)	90
Table 4-2	Proportion of Workers Reporting Negative Health Consequences (RF vs. NRF)	91
Table 4-3	Proportion of Workers Reporting Physical Demands of the Job and Hazardous Workplace-Related Exposures (BRF vs. MRF)	93
Table 4-4	Proportion of Workers Reporting Negative Health Consequences (BRF vs. MRF)	94
Table 4-5	Proportion of Workers (RF vs. NRF) Reporting Vermin in or around Households	95
Table 4-6	Proportion of Workers (BRF vs. MRF) Reporting Vermin in or around Households	95
Table 4-7	Proportion of Workers (RF vs. NRF) Reporting Choices of Healthcare	100
Table 4-8	Proportion of Workers (BRF vs. MRF) Reporting Choices of Healthcare	101
Table 4-9	Proportion of Workers (RF vs. NRF) Reporting Public Health Schemes Used	101
Table 4-10	Proportion of Workers (BRF vs. MRF) Reporting Public Health Schemes Used	102
Table 7-1	Health Centre Staff's Job Description	166
Table C-1	Proportion of Overall Questionnaire Respondents by Groups (Rubber farmers [RF] and Non-Rubber Farmers [NRF])	279
Table C-2	Demographic Characteristics of RF and NRF	279
Table C-3	Demographic Characteristics of BRF and MRF	279

Abbreviations

CCs	WHO Collaborating Centres in Occupational Health
CEO	Chief Executive Officer
CSMBS	Civil Servants Medical Benefit Scheme
CUP	Contracted Unit of Primary Care
ILCI	International Loss Control Institute
ILO	International Labour Organisation
LICS	Low Income Care Scheme
MOPH	Ministry of Public Health
MUHEC	Massey University Human Ethics Committee
NCD	Non Communicable Disease
NGOs	Non-Government Organisations
NHSO	National Health Security Office
OSH	Occupational Safety and Health
PHC	Primary Health Care
SSS	Social Security Scheme
SVHCS	Subsidised Voluntary Health Card Scheme
TTM	Thai Traditional Treatment
UCS	Universal Coverage Scheme (30 baht Health Card)
WHO	World Health Organisation
WIND	Work Improvement in Neighbourhood
WISE	Work Improvement in Small Enterprise