DEVELOPMENT OF A COMMUNITY-BASED PREHOSPITAL CARE MANAGEMENT MODEL FOR EMERGENCY VOLUNTEERS

TAWEEWUN CHALEEKRUA

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY (POPULATION EDUCATION)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2010

Thesis
entitled

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……..……..……
Mrs. Taweewun Chaleekrua
Candidate

……..……..……
Assoc. Prof. Supavan Phlainoi,
Ed.D.
Major- advisor

……..……..……
Assoc. Prof. Adisak Plitponkarnpim,
MPH., MD.
Co-advisor

……..……..……
Lect. Pragai Jirojanakul,
Ph.D.
Co-advisor

……..……..……
Prof. Banchong Mahaisavariya,
M.D., Dip Thai Board of Orthopedics
Dean
Faculty of Graduate Studies
Mahidol University

……..……..……
Asst. Prof. Teeradej Chai-Aroon,
Ph.D.
Program Director
Doctor of Philosophy Program in
Population Education
Faculty of Social Science and Humanities
Mahidol University

Thesis
entitled

DEVELOPMENT OF A COMMUNITY-BASED PREHOSPITAL CARE MANAGEMENT MODEL FOR EMERGENCY VOLUNTEERS

was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Doctor of Philosophy (Population Education)
on
May 14, 2010

……
Mrs. Taweewun Chaleekrua
Candidate

……
Asst. Prof. Uthaithip Jiawiwatkul, Ph.D.
Chair

……
Assoc. Prof. Adisak Plitponkarnpim, MPH., MD.
Member

……
Assoc. Prof. Supavan Phlainoi, Ed.D.
Member

……
Mrs. Wanee Pinprateep, Ph.D.
Member

……
Lect. Pragai Jirojanakul, Ph.D.
Member

……
Prof. Banchong Mahaisavariya, M.D., Dip Thai Board of Orthopedics
Dean
Faculty of Graduate Studies
Mahidol University

……
Assoc. Prof. Wariya Chinwanno, Ph.D.
Dean
Faculty of Social Science and Humanities
Mahidol University

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to Assoc. Prof. Dr. Supavan Phlainoi, my major-advisor for her kind academic advice, and her encouragement in openness to the theoretical, spiritual, and practical understanding of the community action research, and practice. I am truly grateful to Dr.Pragai Jirojanakul , Assoc.Prof. Adisak Plitponkarnpim my co-advisors, for theirs kind academic and spiritual guidance. I am deeply grateful to Dr. Wanee Pinprateep , for her support, and her strongly comments. I would like to also thanks Asst.Prof. Dr.Uthaithip Jiawiwatkul for her constructive comments and invaluable advice.

I would like to thanks: all the professors in the Population Education program for their kindness and support, as well as encouragement in exploring different worldview on population education.

I am deeply indebted to the King Prajadhipok and Queen Rambhai Barni Memorial Foundation for grant support this thesis research, my beloved husband and my mother for their love and support, which has helped me through all these years of hard work on studying.

I am also deeply indebted to the Phetcabun provincial public heath office, Lomkao district heath office, the Crown Prince Lomkao hospiltal, the Nasum health center, and the Nasum Local Administrative Organization, for their kind support in my study.

I wish to thank the village header, the VHCs header, grandmother ‘Pa’ and all people in Kangtone village, for their helpful support in this study to learn and develop on a model of a community-based prehospital care management for emergency volunteers.

Taweewun Chaleekrua

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TAWEEWUN CHALEEKRUA 4838066 SHPE/D

Ph.D. (POPULATION EDUCATION)

THESIS ADVISORY COMMITTE: SUPAVAN PHLAINOI, Ed.D., PRAGAI JIROJANAKUL, Ph.D., ADISAK PLITPONKARNPIM, MPH., MD.

ABSTRACT

This study aimed to develop a community-based prehospital care management model for emergency volunteers. It is based on community action research and contains three phases. The first phase explored background and basic structures including socio-cultural, emergency illness context, emergency volunteer paradigms and needs assessment of management for emergency volunteers. Results of the first phase were used to build the second phase: the capacity building phase. The third phase was evaluation which covered three phases of this study. One hundred twenty six practitioners, consultants and researchers in the study acted as stakeholders. Data were collected by in-depth interviews, group interviews, workshops, a community forum, training of emergency volunteers, an empowerment evaluation forum, and lessons learned. The collected data were analyzed by using the methods of content analysis, free-list analysis, mean difference method and concurrent analysis.

The results included three components: structure mechanism; management; and evaluation. Firstly, the models was located in a remote rural area at risk of emergency illnesses; people practice reciprocity concerning prehospital care; i.e., the caring process for emergency patients laid the foundation of the functionalist paradigm and the interpretive paradigm; and most caregivers are family members. Other considerations are the practitioners, consultants and researchers; organizations; regulation; budgets; and management plans and development for emergency volunteers based on community needs and information. The community also formed an informal organization, flexible rules for vehicles, and established communication and budgeting by self-organization. The government took action regarding organization, technical support, location and multimedia for managing emergency volunteers.

The management of emergency volunteers was related to an integrated paradigm of management including the functional paradigm and the interpreted paradigm. Integrated paradigms were managed by recruitment and retention of emergency volunteers. The community recruited emergency volunteers by using selection, assessment, matching and defined job descriptions. But retention was managed by the community with government support including: through development of emergency volunteers; increasing motivation; and recognition by certificates.

Evaluation of emergency volunteers showed that the functional paradigm used a qualitative approach, whereas the interpreted paradigm used a quality approach and process. Both paradigms were evaluated by the organization, people, and emergency volunteers.

This model resulted in effective methods for learning and collaborating in order to manage emergency volunteers. In addition, the results indicated a building of self-confidence among participants. The recommendations are that model should be used in other areas where the community context is similar to this model, and that there should be a policy for the management of emergency volunteers in remote rural areas.

KEY WORDS: A COMMUNITY-BASED/ MANAGEMENT/ EMERGENCY/ MODEL EMERGENCY VOLUNTEERS

228 pages.

การพัฒนารูปแบบการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลผู้เจ็บป่วยฉุกเฉินก่อนนำส่งสถานพยาบาล
DEVELOPMENT OF A COMMUNITY-BASED PREHOSPITAL CARE MANANGEMENT MODEL FOR EMERGENCY VOLUNTEERS

ทวีวรรณ ชาลีเครือ 4838066 SHPE/D

ปร.ด. (ประชากรศึกษา)

คณะกรรมการที่ปรึกษาวิทยานิพนธ์: ศุภวัลย์ พลายน้อย, กศ.ด., ประกาย จิโรจน์กุล, ปรด., อดิศักดิ์ ผลิตผลการพิมพ์, พบ.,วว.

บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์ เพื่อพัฒนารูปแบบการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐาน ในการดูแลผู้เจ็บป่วยฉุกเฉินก่อนนำส่งสถานพยาบาล การวิจัยนี้ใช้แนวคิดของการวิจัยเชิงปฏิบัติการ เพื่อสร้างชุมชนแห่งการเรียนรู้ ผู้เข้าร่วมวิจัยเป็นระยะ ผู้มีส่วนได้เสียจำนวน 126 คน มี 3 กลุ่มคือ กลุ่มนักปฏิบัติ กลุ่มที่ปรึกษาและกลุ่มนักวิจัย การวิจัยแบ่งเป็น 3 ระยะคือระยะที่ 1 ระยะวิจัย เป็นการศึกษาบริบทสังคมวัฒนธรรม บริบทการเจ็บป่วยฉุกเฉิน กระบวนทัศน์การอาสาฉุกเฉินของชุมชน และการประเมินความต้องการจำเป็นการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐาน ระยะที่ 2 การพัฒนาศักยภาพ เป็นการนำผลจากการวิจัยระยะวิจัยมาพัฒนาศักยภาพผู้เข้าร่วมวิจัย ระยะที่ 3 ระยะการประเมินเพื่อการเรียนรู้ เป็นการสะท้อนผลการวิจัยทั้งสามระยะ ทำการเก็บรวบรวมข้อมูลการวิจัยจากการทบทวนเอกสาร การสัมภาษณ์เชิงลึกและสัมภาษณ์กลุ่ม Card sort technique เวทีประชุมเชิงปฏิบัติการ เวทีชุมชน การอบรมอาสาสมัคร ฉุกเฉิน เวทีประเมินผลแบบเสริมพลัง และการถอดบทเรียน ข้อมูลที่ได้นำมาวิเคราะห์เชิงเนื้อหา Freelist analysis, Descriptive analysis, Mean Difference Method และ Concurrent analysis

ผลการศึกษาพบว่า รูปแบบการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐาน ในการดูแลผู้เจ็บป่วยฉุกเฉินมี 3 องค์ประกอบคือ 1) ด้านโครงสร้างกลไก บริบทชุมชนที่ศึกษาเป็นชนบทที่ห่างไกล และเป็นพื้นที่เสี่ยงต่อการเจ็บป่วยฉุกเฉิน คนในชุมชนที่มีความเกื้อกูลกัน มีการกระบวนการดูแลผู้เจ็บป่วยฉุกเฉินภายใต้กระบวนทัศน์หน้าที่และกระบวนทัศน์การให้ความหมาย ส่วนใหญ่ผู้ที่ดูแลคนที่เจ็บป่วยฉุกเฉินเป็นครอบครัว คนที่เกี่ยวข้องเป็นนักปฏิบัติ ที่ปรึกษาและนักวิจัยในชุมชนซึ่งมีการตกลงร่วมด้านการวางแผนการจัดการและการพัฒนาอาสาสมัครฉุกเฉินบนฐานของข้อมูลการเจ็บป่วยฉุกเฉินและความต้องการของชุมชน องค์กรที่รับผิดชอบเป็นกลุ่มที่ก่อตัวขึ้นเองในชุมชนและองค์กรจากหน่วยงานภาครัฐ การจัดการมีระเบียบที่ยืดหยุ่นในการใช้พาหนะ อุปกรณ์สื่อสาร และงบประมาณของชุมชน ส่วนภาครัฐเป็นองค์กรที่สนับสนุนด้านวิชาการ สถานที่และสื่อมัลติมีเดียในการจัดการอาสาสมัครฉุกเฉิน 2) ด้านการจัดการอาสาสมัครฉุกเฉินเป็นการจัดการบูรณาการกระบวนทัศน์หน้าที่และกระบวนทัศน์การให้ความหมาย ชุมชนได้สรรหาอาสาสมัครฉุกเฉินด้วยชุมชนเอง คือคัดเลือก ประเมิน เลือกงานและกำหนดหน้าที่ให้เหมาะกับคนที่อาสา จากคนที่เกี่ยวข้องในชุมชน สำหรับการดำรงรักษาอาสาสมัครฉุกเฉิน ชุมชนได้จัดการร่วมกับหน่วยงานภาครัฐ พัฒนาศักยภาพอาสาสมัครฉุกเฉิน สร้างแรงจูงใจด้วยการสนับสนุนค่าดำเนินการ และการให้ความสำคัญต่ออาสาสมัครฉุกเฉินด้วยการประกาศเกียรติคุณ 3) ด้านการประเมินผลการจัดการอาสาสมัครฉุกเฉิน ให้ความสำคัญต่อกระบวนการมากว่าการวัดผลการอาสาฉุกเฉิน ผลการประเมินจึงเป็นแนวทางเชิงคุณภาพมากกว่าแนวทางเชิงปริมาณ และดำเนินการประเมินโดยอาสาสมัคร ประชาชน และองค์กรที่มีส่วนได้เสีย

ผลที่เกิดขึ้นจากรูปแบบนี้ทำให้ผู้มีส่วนได้เสียได้เกิดการเรียนรู้ ร่วมมือกันในการสร้างแนวทางใหม่ในการจัดการอาสาสมัครฉุกเฉิน และยังทำให้นักวิจัยชุมชนและนักปฏิบัติเชื่อมั่นในการจัดการด้วยตนเองมากขึ้น ข้อเสนอสำหรับการศึกษานี้ควรนำผลที่เกิดขึ้นไปขยายผลในพื้นอื่นที่มีบริบทคล้ายคลึงกัน และควรนำไปกำหนดนโยบายการจัดการอาสาสมัครฉุกเฉินในพื้นที่ชนบทห่างไกลต่อไป

228 หน้า

CONTENTS

CONTENTS (cont.)

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

EMS	Emergency Medical Services
FEMA	Federal Emergency Management Agency, United State of America
EMIT	Emergency Medical Institute of Thailand
MoPH	Ministry of Public Health
HSRI	Health System Research Institute
RAV	Rural Ambulance Victoria Australia
QAS	Queensland Ambulance Service, Australia
DHS	Department of Health Services, Queensland Australia
FDMD	Fire and Disaster Management Agency, Japan
LAO	Local Administrative Organization, Thailand
MOD	Ministry of Defense, Thailand
Vitalise	Vitalise Organization, United Kingdom
Heartwood	Heartwood Organization, Canada
TVS	Thai Volunteer services
Greenpeace	Greenpeace South East Asia, Thailand
RC	Red Cross, United State of America
FLSA1985	Fair Labor Standard Act 1985, United State of America
ASA 1989	Ambulance Services Act 1989,Victoria Australia
ASA 1991	Ambulance Services Act 1991, Queensland Australia
FOA 1964	Firefighting Organization Act 1964 ,Japan
ELST 1991	Emergency Life-saving Technician Law 1991, Japan
IMPEFA1993	Implementation manual on promotion activities to diffuse and enlighten first-aid." in March 1993
N-PO	Non-profit organization
CERTs	Community Emergency Response Teams
N-PO	Non –profit Organization

LIST OF ACRONYMS (cont.)

FR	First Responder
EMT-B	Emergency Medical Technician -Basic
ESCP	Emergency Service Cadets Program, Queensland Australia
FAC-1	First Aids Class 1, Japan
IMPFA 1993	Implementation manual on promotion activities to diffuse and enlighten first-aid.1993
LAO	Local Administrative Organization, Thailand
HV	Health Volunteer, Thailand
NR	Non record
Y or ✓	Yes
Quan	Quantitative
Qual	Qualitative
Org.	Organization
VHVs	Village Health Volunteers
HSRI	Health System Research Institute
IPSR	Institute of Population Social research
NHSO	National Health Security Office

CHAPTER I
INTRODUCTION

1.1 Background and significance of the problem

From the past until the present, there have been approximately one hundred million people called volunteers who have worked to serve others. Volunteers are those people who work voluntarily, having a mind, and willingness to work for the public benefit. Furthermore, the work must not be their job or duty (Ellis & Noyes, 1990: 3-4). They may be unpaid or do not receive any benefit or may be paid or get some benefit in return but it is not normally not equal to what has been done. They may volunteer formally with some organization or may do so informally without being members of any organization (Cid, Ed., 2003: 2).

Being a volunteer helps improve the quality of life of volunteer as well as their society and ultimately their country. Researches from outside Thailand has found that volunteering affected the mind as well as the persons overall well-being (Thoits & Hewitt, 2001: 115), and developed skills, self-confidence and quality of life (Ockenden, Ed., 2007: 24). Research in Thailand has found that being a volunteer made people happy and that results in a willingness to continue volunteering as well as making the volunteers have faith in others as well as themselves and made them feel friendly with the other volunteers, and helped them to socialize in order to adjust to new environments (Orsri Nghamwitthayaphong, 2006: 13-23).

In the context of the community, volunteers brought valuable knowledge linked to the requirements of the community, and promoted learning in the community as well. Moreover, they built a strengths that can cement social norms and inculcate a sense of civic responsibility and belonging (UNDP, 2003: 1). In the development of the country, a study in England showed that volunteering contributed to improvement in public health which affected the economy of the country in the terms of the environment as a whole (Ockenden, Ed., 2007: 6). A United Nations Development

Program report found that volunteering was worth 8-14% of the Gross Domestic Product of a country (UNDP, 2003: 1).

The significance of volunteering is that it affects the quality of life of the volunteers their communities, and their countries. This has resulted in a high increase in the number of volunteers in all countries in the world. During 1965-2000, the volunteering continuously increased (Putnam, 2000: 127-128). However, the next few years, the percentage of volunteers decrease from 28.8 percent in 2004 to 26.0 percent in 2008 (Bureau of Statistics United State Department of Labor, 2008: 2).

In Thailand, a well-defined report about volunteers does not exist. The report of the Office of Board Welfare Promotion of Thailand, Ministry of Social Development and Human Security in 2004, revealed that there were around 9.8 million volunteers or 14.8 percent of the country's population (Thai Fund Foundation, 2007: 54). This was less than the numbers reported by the Bureau of Statistics United State Department of Labor. However, it appeared that the numbers of volunteers in Thailand had decreased, though the tradition and culture of Thais was originally based on close relationship similar to brotherhood had encourage volunteering. The relationship between people was like that of relatives which was expressed by people helping each other. The reason for the decrease in the numbers of volunteers has been the growth of individuality (Uthai Dulyakasem, 2006: 5).

Volunteers can be divided into administrative volunteers and service volunteers (Somporn Thepsittha, 1989: 17-18). Administrative volunteers perform administration functions. They are members of boards of committee or boards of directors of private organizations. They are in the positions of both advisors and policy setters of the organizations. The service volunteers perform their functions by serving and helping those people who are in trouble, such as Red Cross volunteers of Red Cross Thai Association, woman volunteers in territorial defense, village health volunteers, civil defense volunteers, and emergency volunteers to mention only a few.

The emergency volunteers may be the volunteers with duties to rescue victims, called Rescue volunteers or volunteers providing prehospital care to the save lives of people, these kind of volunteers in USA are called as the First Responder and Bystander (Adisak Plitponkarnpim, KingKaew Udomchai & Jirawan Klommeak,

2001: 23). In Australia, this kind of volunteer is called Community Emergency Responder Teams (Rural Ambulance Victoria, 2007: 52). The Emergency Medical Institute of Thailand also uses the term first responder as in the USA.

However, whatever words are used, in this study emergency volunteers refers to those who volunteer with the mind and wiliness to provide prehospital care to emergency patients where this is not a full-time jobs. They may be unpaid or do not get any benefit or may be paid or get some benefit in return for performing this task but what they get is not equivalent to what they have done. They may work with some organizations or may not.

This study only covers volunteers who provide prehospital care to emergency patients. The study has been done for several reasons: firstly, providing efficient prehospital care to emergency patients could help them to be recovered and return to their quality of life as before. A related study found that efficient prehospital care could save the lives around sixty thousand emergency patients per year. (Surachet Sathitniramai, 2006: 1).

Secondly, statistical records reveal that the numbers of emergency patients during 2003-2008 increased continuously (EMIT, 2008a: 1-2) due to real world situations including in various natural disasters such as for example Cyclone Nagis that hit Myanmar, the earthquake that hit Sichuan Province in China, and similar event in the world. Thirdly, the economic value and benefits of emergency patients care were very high meaning that the value to emergency patients was between three and five billion baht per year and the benefits from prehospital cares were tens times greater than the costs (Thailand Development Research Institute, 1996: 61-63). The last reason is that prehospital care which is one of the emergency medical services systems in Thailand is not sufficient to satisfy the demand (San Hutthirut, et al., 2001: 1-3).

Emergency volunteers are crucial as they are close to other members of their community and can be the first person to save emergency patients from death and disability. This is especially true for injury and hearth diseases which happen frequently to victims when they are outside their residence (San Hutthirut, 2005: 2). This is consistent with research in Japan revealed that emergency volunteers could save people having a heart attack in Expo in Japan (Tanigawa & Tanaka, 2006: 365). An evaluation of emergency volunteers found that they could save the lives of

emergency patients life two times better than those people who were not emergency volunteers. (JICA, 2006: 235). Moreover, being an emergency volunteer who practiced life saving skills (Fahey & Walker, 2002: 29) made the person realize then self value (Ullrich, Mueller & Shambaugh-Miller, 2004: 3). A report in Australia showed that the Community Emergency Responder Team was a major force in taking care to the emergency patients in the communities as more than half of the Emergency Volunteers got chances to save the lives of emergency patients (Rural Ambulance Victoria, 2005: 20, 23).

The first emergency volunteers were created in foreign countries before they were formed in Thailand. They were formed to help injured soldiers fighting in wars (Adisak Plitponkarnpim, KingKaew Udomchai & Jirawan Klommeak, 2001: 27). After 1960 the first responders were trained with modern medicines. This resulted from the rapid progression in modern medicines and the pattern of mortality in developed countries. Later, there were some other factors that supported the work of emergency volunteers: these included budgets, laws and standard courses for Emergency Volunteer training, including follow up and evaluation (Tanigawa & Tanaka, 2006: 369). At present, most of the organizations responsible for the work of emergency volunteers are the government organizations and some are non-profit organizations (Rural Ambulance Victoria, 2005: 23-24). The number of emergency volunteers in the USA has declined. In 1994 there were 897,750 first responders and in 2003 the numbers of first responders had fallen to 800,050 (FEMA, 2007: 1).

In Thailand, a report records that emergency volunteers first occurred a long time ago in the form of charitable group such as volunteers from different philanthropic foundations, aid given by friends to victims etc. There was, however criticism from some people that such volunteers might cause the situation of the victims to become worse (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 1). The criticism stimulated the government to train first responders with knowledge of modern medicines as in foreign countries. Until 2002, the government made emergency medical services system one of the policies of the country. That placed first responders under the responsibility of the Ministry of Public Health.

At present, the number first of responders is increasing. In 2006, there were 17,305 first responders and this had increased to 54,244 in 2008. This was a

threefold increase from the year 2006 (EMIT, 2006: 1-5; 2008b: 1-5). This was the period in Thailand of high growth of first responders. The conclusion, following a monitoring evaluation by the MoPH (Bureau of Inspection and Evaluation, 2007: 249), discovered that a major problem for the emergency volunteers was that they had insufficient time to volunteer. This situation was consistent with research from both foreign countries and Thailand which found that the problems concerning emergency volunteers were similar. It was difficult to recruit them, because of their lack of available time to perform volunteer work (FEMA, 2007: 1). That caused a lacked of emergency volunteers as well as retention problems as a result of the failure to develop knowledge in the first responders (Fahey & Walker, 2002: 7-13).

The problems for emergency volunteers were also the result of the effects of changes in the volunteering paradigm that had made it more complicated, and had led to different management requirements in this decade. Therefore, if the management did not conform to the volunteering paradigm, it might raise problems for the emergency volunteers. The cause of the problems derived from macro-factors and micro-factors. The first macro-factor was that laborers in the economic system was increasingly shifting out of the system due to globalization (Kusol Soonthornthada, 2007: 81-83) and the growth of cities (Pangpond Rukkitumnuay & Piriya Pholphirun, 2007: 184-185). The nature of freelance labor in the present may be that it is a part-time work, home-based work, sub-contract work, or short-time work.

The second macro-factor was the population factor; especially the occurrence of aging in society as those of working age left their hometown to the cities. A study shows that the structure of the world population has changed to a higher proportion of aged in society: in 1950 the proportion was 5 percent but 7 percent in 2007 (Population Reference Bureau, 2007: 6). In the case of Thailand, the statistics show that the proportion of aged in Thailand increased from 1.2 percent in 1960 to 7.5 percent in 2007 (Chuenruthai Karnchanachittra, et al., 2007: 88). The third macro-factor was the policy factor. The government declared the emergency medical services systems to be a national policy (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 3). As a results of a national policy, it was formed two factors; centralization structure and the formal volunteers. The formal volunteer called first responders which was a component of the emergency medical services systems,

and ultimately to problems. The last macro-factor concerned the laws. A report in the USA revealed that after legislation concerning emergency medical volunteers was introduced a reduction in the number of emergency volunteers (FEMA, 2007: 16).

The first micro-factor was the continuous incremental increase of emergency situations. A report of the WHO Collaboration Centre for Research on Epidemiology of Disasters disclosed that the occurrence of natural disasters in 2006 was two times higher than in 1996 (Hoyois, et al., 2007: 18). The second micro-factor was that the nature of volunteering is based on altruism and philanthropy for those suffering. Thus, the recruitment process and the existence of emergency volunteers depended on altruism and philanthropy as significant factors.

The last micro-factor was the nature of emergency volunteering work that requires people to have knowledge about life saving and the capacity to use that knowledge to save lives. Hence, the volunteers should have the ability to take correct and accurate decisions under specific situations and have the knowledge that would save the life of the victims and reduce the chances of the latter becoming disabled. Thus, it was decided that volunteers must be healthy and be between twenty-five and forty years old (Lavinson & Granot, 2002: 175). However, it did not mean that people outside these ages limits could not be volunteers. The reports from foreign countries revealed that the youngest volunteer was 13 years old (Queensland Government, 2006: 1-2) and the oldest volunteer was more than seventy-five years old (Ullrich, Mueller & Shambaugh-Miller, 2004: 3).

Various example of volunteering in the present are the outcomes of changes in individual paradigms, communities, and societies. Prathepwethi (Prayut Payutto, 1989: 735-736) defined that the definition of the paradigm was a constellation of assumption, beliefs, opinions, core values and method Ritzer (1980 quoted in O' Connor & Netting, 2009: 45) to determine people, organization, communities, and society at a specific of time. Besides that, Macduff (2006: 31) said that in the twenty first century the volunteering paradigms that exist have led to the occurrence of various kinds of volunteers such as Traditional volunteers, Serendipitous volunteers, Social change volunteers and Entrepreneurial volunteers. These each required different volunteering management styles. This led to the development of the concept of the multi-paradigm of volunteering.

Similar to the kinds of volunteering mentioned above, the existing emergency volunteering paradigms are various and hence lead to various emergency volunteering behaviors, thus, they require different management styles to manage the emergency volunteering. Hence, it might be said that the volunteering paradigm was significant because it led to the way of emergency volunteering management that was suitable for the existing volunteering paradigm. The outcome of this was that it helped to reduce the above emergency volunteer problems.

This research were applied three concepts to synthesis of emergency volunteering model in the prehospital care. The first concept was the system theory (Bertalanffy, 1969: 38, 43-44). The reason is that the system theory bring to the target as the target of saving the emergency patients from death and disability. The second concepts was theory of volunteering management (Volunteer Canada, 2008: 1-5) consisting of various elements in managing volunteers. That could help in correcting the weaknesses of the concepts which did not mention that which element was the most important one. And the last concept was the concept of management under the concept of the multi-paradigm of volunteering (Macduff, 2006: 31-36; Macduff, Netting & Katherine, 2006: 1-2) with the reason that each volunteer had a different volunteering paradigm thus volunteering management must be different in order to the suite with the paradigm of each volunteer.

Both Thailand and foreign countries showed that distinct research in emergency volunteering management of prehospital care. However some reports expressed that model of emergency volunteering management occurred in the contexts of urban and rural areas. For instance, in Australia had particular pattern in the rural areas (RAV, 2007: 52) and in Japan the system was applicable to the rural as well as urban areas. Moreover reports founded that emergency services of emergency volunteers dealt with injuries caused by accidents, disasters and emergency illnesses such as heart disease.

The first element of the emergency volunteering management model is structure and mechanism. It is found that most of the organizational structures were government institutions. There were some organizations that are non-profit organizations but not a large number. These responsible organizations had similar organizational cultures, especially when it come to dress. These organizations drove

the systems by using budgets within the laws and regulations of the organization.

Training courses used for training emergency volunteers were similar in all case but there were some differences in the ages of the volunteers and curriculum such as in Queensland State, Australia, where young people aged thirteen to sixteen years old, were integrate into courses with older emergency volunteers (Queensland Government, 2006: 62). For other countries such as the USA, Japan, and Thailand, the volunteers are aged eighteen and above. Some courses were similar in detail such as the ways and methods to help the injured and heart attack victims before transferring them to hospitals, and the principles of helping injured patients. The courses had durations of between three and one hundred and thirty six hours (Siam Scuba Diving, 2007; FEMA, 2007: 8). Formal emergency volunteers have more time training than non-formal emergency volunteers.

The second element is the dimension of volunteering management. The emergency volunteering management consisted of two paradigms. Most of the volunteers were managed under the Functional paradigm. The nature of the Functional paradigm is that management is controlled and commanded according to precedence. It was found that there was some emergency volunteers managed under the Interpreted paradigm but not in a large number. The nature of the Interpreted paradigm is to give value to consensus. The synthesis of emergency volunteering management in foreign countries and Thailand meant that there were four paradigms of which two are those mentioned previously and the other two are the Radical Structural paradigm and the Radical Humanist paradigm. The last element was the evaluation of emergency volunteer management. This found that there was no difference in the evaluation of emergency volunteers for foreign countries and Thailand in terms of community and economic evaluation.

The synthesis model of emergency volunteering management in Thailand indicated that organizations valued at the Functional paradigm more than the other paradigms. It was different from the concept of the multi-paradigm of volunteering. Macduff (2006: 33) mention that the strong point of the Functional emergency volunteering paradigm give a clear outcome but its drawback was that it required a huge budget to manage it in order to achieve required results. Thus, it might not be suitable to Thailand with an insufficient budget (Surachet Sthitramai, 2006: 3).

In the context of Thailand, all the government organizations have shown that the emergency volunteer management were the Factionalist paradigm such as policies of Ministry of Public Health (MoPH, 2006: 1) and the Ministry of Interior (Department of Disaster Prevention and Mitigation, 2006: 1-3). Moreover, the structure and mechanism of government organizations have monitored by centralized administration such as first responders have monitored by Provincial Emergency Medicine Office and Emergency Medicine Institute of Thailand, and civil defense volunteers who volunteer as emergency volunteer have monitored by Ministry of Interior (Surichai Hankeaw, et al., 2006: 29).

In addition, natural disasters such as floods are still severe and create the lost to people every year (Chuenruthai Karnchanachittra, et al., 2007: 56-59). The result in Thailand about the numbers of emergency patients who died from the injuries, coronary heart disease and ischemic heart disease during 2007-2016 shown an increase continuously from 71,791 cases in 2007 to 75,201 cases in 2008 (Anan Ketwong, 2000: 79-85; HSRI & IPSR , 2003: 8-9, 20-22).

Therefore, in accordance with all the above words, it may be summarized that in Thailand in the present, the management model of emergency volunteers, gives highly importance to the functional paradigm that required a large budget to maintain the structure that support the management of emergency volunteers. The factor about the numbers of emergency patients, which are continuously increasing and the factor about the increase in occurrence of natural disasters all influenced the managing of existing emergency volunteers in Thailand which in turn results in unsuitable management and uncovering services that are not provide not only urban area but rural ones as well: particularly, in the remote rural areas where emergency patients are cannot be reached.

Research in Australia disclosed that in the rural and remote areas, the greater the distance from the urban areas the higher the death and sickness levels i.e. people in the rural areas had higher risk of death due to health problems (Australian Institute of Health and Welfare, 2000: 223-225). In addition, the management styles may not be suitable with various work patterns in nowadays such as American Red Cross volunteers in the humanism paradigm (American Red Cross, 2007: 13), Greenpeace volunteers in the structure paradigm (Greenpeace, 2008: 1-5).

Accordingly, it is necessary to find out different alternatives to manage the emergency volunteers in providing prehospital care to the emergency patients effectively as well as efficiently as set-out in the emergency medical services strategic plan 2007 – 2011 (Surachet Sthitniramai, 2006: 3). The above necessity has led to this research was and specially, how to develop a community-based prehospital care management model for the involvement of emergency volunteers.

This research aimed to study in community level. It meant that prehospital care management based on a community-based such as the structure of mechanism, volunteering management, and the evaluation. This community-based management was corresponded to the development of the quality of people in the alternative paradigm with the final aim of enhancing human abilities and so improving the local society as well as the country as a whole (Supavan Phlainoi, 2006: 7-9).

This research was conducted in order to explore for any new knowledge by developing a community-based prehospital care management model for emergency volunteers. This concept and method was different from emergency volunteering volunteers in the past. In this study, the researcher adjusted the concept of "Community Action Research: CAR" to be as a tool for developing the community-based prehospital care management model for emergency volunteers. The most important reason for this study was the new knowledge for society and concentration was on building new theory and new concepts based on the concept that working together people can get the desired job done (Senge & Scharmer, 2001: 238, 240, 248).

Consequently, a chain of relationship among researchers, academicians, and other parties was built so that they could understand how good were the new concept and the old concept (Supavan Phlainoi, 2004: 7-9). However, since in the past, research has not been done about the emergency volunteering paradigm concerning people involved and volunteers in the communities therefore, it was necessary to explore what an emergency volunteering paradigm is. When the results was obtained, it would lead to the standard mean for emergency volunteers.

To manage emergency volunteering management without concern for the needs of people and organization in the community brings about some endless problems. As Suwimol Wongwanich (2005: 28) say such problems that occur lead to

the lack of cooperate from people and society as a whole. The services provided may not serve the target group cause delays in providing services and result in the loss of resources. Moreover, according to Witkin and Altschud (1955: 5-6) evaluating the needs of people would result in the decision to create the plan and project which were benefits to people will result in decisions to create plan and projects that benefit people, especially in term of service that will be provided for them. Thus, the exploration of what the needs of a community-based management is. Therefore, Considering the needs of a community-based management with emergency volunteering paradigm is an essential in order to develop model of a community-based management for emergency volunteers.

Development of a community-based prehospital care management model for emergency volunteers will have advantages not only in microeconomics but also in macroeconomics. Advantages in microeconomics, for examples, means that emergency volunteers will have a chance to improve their knowledge, skills and their mental preparedness for any task they are required to perform. Emergency Volunteers will learn how to live happily with others in society. In term of social life, they will meet new friends and build up new relationship with those they had helped. People, organizations, community's leader, researchers, and supporters will learn the processes of doing research methodically. The belief is that this method would lead to long lasting development of communities. For this reason, people in communities will be secure and have a good quality of life. For the dimension of macroeconomics, the benefits on developing of emergency volunteering management are the saving in the government budget. Hence, the government can use the saved amount of money in other way to improve the quality of life of people in society as a whole.

1.2 Research objectives

To develop a community-based prehospital care management model for emergency volunteers.

1.3 Limitation of the research

1.3.1 Area: The area was selected by purposive sampling as follows:

1.3.1.1 A community in the north of Thailand. The reason was that this area had had the least emergency volunteers training (EMIT, 2006 1-5: 2008b: 1-5).

1.3.1.2 The community is located in a province in the north of Thailand. Its topography is mountainous and easily faces with flooding. Furthermore, its environment is dangerous and so can cause injury and emergency related illnesses.

1.3.2 The research: To explore new knowledge to develop a community-based prehospital care management model for emergency volunteers as well as creating learning processes of the parties concerned and their supporters.

1.3.3 Samples: Samples were consisted of three groups of people. These were researchers, practitioners, and consultants.

1.4 Operational definitions

1.4.1 Emergency patient means a person who has an injury or sudden illness. For examples such conditions results from accidents, poisoning and disasters or any other causes that can affect any organs of a person.

1.4.2 Emergency volunteer means a person who is concerned and willing to help patients before transferring them to the health facilities. The work is not their duty but they love to do it without any pay or benefits in return. What they get cannot compare with what they have done.

1.4.3 Prehospital care or Ambulance care means the process of taking care of patients before they reach the health facilities. The tasks include detection, reporting, on screening care, care in transit, and transferring to definitive care.

1.4.4 Emergency volunteering paradigm means a constellation of assumption, beliefs, opinions, core values to volunteering including the means to determine emergency volunteers, organization, communities, and society at a specific of time.

1.4.5 Model of a community-based prehospital care management model for Emergency Volunteers means a model based on community management in terms of taking care of emergency patients before transferring them to the heath facilities. This pattern is composed of the following components:

1.4.5.1 The structure and mechanism means area, service, man, organization, regulation, budget, development of emergency volunteers, planning and information people and the process of helping emergency patients by department or organization.

1.4.5.2 The system of volunteering means recruitment and retention.

1.4.5.3 The evaluation means by the volunteer, people, and organization.

1.4.6 Health Facilities means sub-district health center, community hospital, and private clinic both sub-district and district. (MoPH, 1998: 3-4; NHSO, 2002: 15-16)

1.4.7 Development of a community-based prehospital care management model for Emergency Volunteers means the process of developing the model of emergency volunteering management. This process is adapted from the applied research for creating a learning community concept by Senge and Scharmer (2001: 238-248). Its components were as following:

1.4.7.1 Researchers; the essential persons in doing the research which consists of researchers and community researchers, for instance, academic health officers, professional nurses and volunteers.

1.4.7.2 Practitioners comprises two groups

1) Community co-researchers; they are co-researchers for this study such as volunteers and the leaders in various fields such as political, thought, religion, health, and community development.

2) Community participants; these were invited to be part of the study. They assisted in brainstorming, making decisions about certain activities. The eighteen year old presenters from a variety of families were examples of these groups.

1.4.7.3 Consultants; the invited person involved in the research. Their duties were included giving their opinions and helping make decision about certain activities. These persons came from the local administrative organization (LAO), the director of district public health office, the chief of sub-district health center, the director of community hospital and the director of provincial public health office.

1.5 Research contributions

1.5.1 Researchers, practitioners and consultants will learn how to create the knowledge of a community-based prehospital care management model for emergency volunteers.

1.5.2 To achieve lessons learn from the development of a community-based prehospital care management model for emergency volunteers.

1.5.3 Supporting and setting of a policy for a community-based prehospital care management model for emergency volunteers will benefit to wide areas both at the provincial level and country level.

CHAPTER II
LITERATURE REVIEW

The concepts and theories that were investigated concerning the development of a community-based prehospital care management model for Emergency volunteers were as follows:

2.1 Prehospital care and the quality of life; including:

2.1.1 The definition of an emergency patient and the concept of emergency patient care;

2.1.2 Prehospital care by emergency volunteers and development of the quality of life; and

2.1.3 The Emergency Medical Act 2008.

2.2 The concept of a volunteering paradigm; including:

2.2.1 The definition of volunteer and emergency volunteer;

2.2.2 The definition and the concept of the volunteering paradigm; and

2.2.3 The concept of the multi-paradigm of volunteering.

2.3 Prehospital care by emergency volunteers; including:

2.3.1 The formation of emergency volunteers;

2.3.2 The existent of emergency volunteers; and

2.3.3 Types of emergency volunteers.

2.4. The development of a community-based prehospital care management model for emergency volunteers; including:

2.4.1 Volunteer management theory;

2.4.2 The concept of management of the multi-paradigm model of volunteering;

2.4.3 Community action research (CAR);

2.4.4 Rapid assessment procedures (RAP);

2.4.5 Needs assessment.

2.4.6 Empowerment evaluation.

2.4.7 Techniques for this research:

2.4.7.1 Future search conference (FSC);

2.4.7.2 After action review (AAR); and

2.4.7.3 Issue book

2.4.8 Research about the development of a community-based prehospital care management model for emergency volunteers.

2.1. Prehospital care and the quality of life

2.1.1 The definition of an emergency patient and the concept of emergency patient care

2.1.1.1 Emergency patient means a person who gets injured or sudden or is suddenly ill, through for examples, diseases, natural disasters or human actions. If the person cannot reach a the clinic or hospital in time, that person can be face with disabilities, or death. This meaning also includes illnesses that are perceived as putting people as people at risk of disabilities, or death (San Hutthirut, et al., 2001: 4).

From the Emergency Medical Act 2008, an ‘emergency patient’ is referred to as person who gets injured or faces a sudden illness which can harm their life or any organs and needs to be evaluated, managed, and cured in time to prevent death worse injury or further illness (The Government Gazette, 2008: 2). EMIT provides that there are two kinds of emergency patients. The first group consists of people who suffer injury or have accidents such as a car accidents, falls, self-harm, attacked, drown, electric shock, fire, scalding, and poisoning. The second group are people who face with disasters such as natural disasters, fire, building collapse, bombs, chemical poisoning, and other causes (Somchai Kanjanasut & Penrung Boonrag, Eds., 2005: 100).

Based on the causes of injury and illness mentioned above, WHO (2007: 1-19) has classified these event and their results as ICD-10 with 22

groups and 211 subclasses. In this thesis research focused on accidents and poison groups (code V01-V99, W00-W99, X00-X59, Y10-Y89). The world population projection shows that transportation related injuries were projected, to increase continuously during 2002-2030 and to account for the first fifteen causes of death. In 2002, transport injuries were ranked number but will become eighth in 2030 (Mather & Loncar, 2006: 2020, 2026). Cardiovascular disease (code I60-I69) and Ischemic heart disease (code I20-I25) were ranked second and first as causes of death in both 2002 and 2030 respectively (Mather & Loncar, 2006: 2020, 2026). Similarly in Thailand, cardiovascular disease was the most important factor to cause death in women and was ranked fourth men (Suwit Wibulpolprasert, Ed., 2007: 169).

In this thesis research, emergency patient means a person who gets injured or has a sudden illness from, for examples, accidents, poisons, disasters, diseases or any action that can threaten them with disabilities, or death.

2.1.2 Concepts for emergency patient care This concept consist of two dimensions which are:

2.1.2.1 The dimension of pre-emergency patients care. This concept stresses that accidents and injuries occur from behavior and environment and so can be avoided. In 1937, Godfrey was the first person who to advance this idea by applying the methodology of epidemiology to accidents. In 1978, Haddon created the concepts of protecting and controlling accidents following three aspects: (i) how to avoid accidents occurring. (ii) how to deal with accidents when they happen, and (iii) how to prevent disabilities or death when accidents occur (WHO, 2004). Later on, the concepts were applied in Sweden and Norway to prevent and control accidents (Welander, Svanstrom & Ekman, 2004: 127-128). In 1989, WHO (1989: 2-12) brought these ideas to use with communities called each of which was to be call a “safe community”. After that WHO divided the safety concepts into those that are tangible and those that are intangible. Tangible concepts, include behavior and environment; whereas those that were intangible, dealt with the feelings of safety and security among people. Preventing and controlling risk that would lead to accidents was focused on as an essential key to safety.

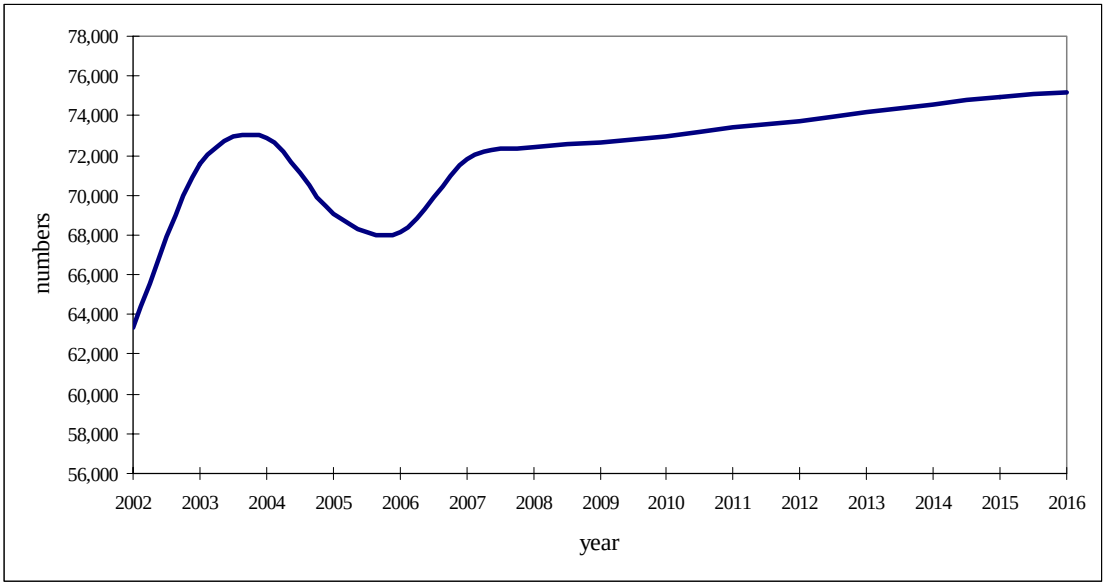
2.1.2.2 The dimension of emergency patient care. This concept concern life-saving and consists of two concepts (Adisak Plitponkarnpim, KingKaew Udomchai & Jirawan Klommeak, 2001: 8-9). The first concept is Anglo-American emergency care or "Scoop and Run". The concept concentrate on transferring emergency patients to definite care. In the USA, this concept is influenced by the intensive care concept in which a surgeon is the person in charge. Emergency patients must be transfer from on screen as soon as possible and be treat as least as possible on screen care. The second idea is Franco-German of emergency care or "Stay and Play" in which an anesthesiologist is the person in charge. This concept stresses "on screen care" as patients are admitted to a health facility.

Franco-German emergency care was first introduced in France during era of the Emperor Napoleon. Emergency patients who had trauma were treated by the medical chief of Napoleon in the Napoleonic Wars (Shah, 2006: 414). Anglo-American emergency care concept was initiated on the battlefields in the USA where trauma patients would be transferred to medical facilities using rapid transportation (McSwain, 2005: 493). This concept gave rise to personnel called Paramedics whose abilities include taking care of emergency patients (Adisak Plitponkarnpim, KingKaew Udomchai & Jirawan Klommeak, 2001: 8-9).

Other literature on prehospital care suggest two terms these are emergency medical services system, and emergency treatment care system. However these cover prehospital care, ambulance care, and the hospital emergency department. In thesis research ambulance care is the same term as prehospital care. The meaning of these includes detection, reporting, on screen care, care in transit, and transfer to definitive care (King Prajadhipok's Institute, 2005: 3-13, 3-14; Suphan Srithamma, 2006: 49-50).

This thesis research focused on prehospital care. There are four reasons for this: firstly, emergency patient numbers have been increasing. There were 84,768 emergency patients in 2004 but this increased to 641,834 in 2008 (EMIT, 2008a: 1-2). Similarly, the prediction of the death from cardiovascular disease and ischemic heart disease show that the numbers of death are increasing (Health Systems Research Institute, Ministry of Public Health, and Institute for Population and Social Research, 2003: 8-9, 20-22) see Figure 1.

Figure 1 Predicted mortality from injury, cardiovascular disease and ischemic hearth disease in Thailand, 2000-2016



Source: HRSI., MoPH and IPSR, Mahidol University, 2003: 8-9, 20-21
Bureau of Health Policy and Planning , MoPH, 2007.
Population Projection of Thailand, 2000-2020.

Secondly, prehospital care could safe the lives of patients more than from moving them to the hospital (Surajit Suntorntham, 2005: 2-90). In Thailand, the Bureau of Epidemiology estimated that efficient prehospital care could save the lives of patients by as many as 60,000 emergency patients per year (Surachet Sathitniramai, 2006: 1). Thirdly, the value and benefits in terms of the economy are very high. Research in Thailand has showed that the cost of emergency care is approximately three to five billion baht a year. The benefits of prehospital care are worthy as much as ten times their cost (Thailand Development Research Institute, 1996: 61-63).

Lastly, the prehospital care in Thailand is part of the EMS system but it is inadequate. The shortages cover in many dimensions as process of prehospital care, the fiscal and financial management system, national structure and management mechanisms, infrastructure of physical location, transferring to definitive care, knowledge of disaster management, and national systematic data collection

(Suphan Srithamma, 2006: 42-49). Health care officers lack the skills to help injured patients and especially emergency volunteers are poorly trained to care for emergency patient, and reporting emergencies (San Hattherat, 2005: 2). Therefore, prehospital care is an important issue for Thailand to develop and manage in order to minimize the number of deaths and disabilities among emergency patients.

2.1.2 Prehospital care by emergency volunteers and development of the quality of life

Emergency volunteers are important people for emergency patients before they arrive at the hospital; especially at the community level. The reasons are that emergency volunteers are the closest people to other member of the community and are the first to help emergency patients. Emergency volunteers normally arrive ahead Basic Life Support (BLS)Team or Advance Life Support (ALS) Team because injuries and heart attack mostly happened outside patient's home (San Hattherat, 2005: 2). Moreover, emergency volunteers are an essential part of prehospital care as reported in Australia where more than half of emergency volunteers helped emergency patients (RAV, 2007: 23-24). In Japan, emergency volunteers assisted an emergency patient who suffered apnea at the Expo Fair. Evaluation performance revealed emergency volunteers could save the lives of patient two times better than people who were not emergency volunteers (JICA, 2006: 235). Studies in England showed that emergency volunteer work was the equivalent of twelve million baht from fifty-nine hospitals (Okenden, Ed., 2007: 6). A report from the United Nations Development Program also claimed that volunteer works was worth about 8-14% of the gross national product of a country (UNDP, 2003: 1).

Apart from the matter above, emergency volunteers not only benefited communities but also benefited themselves. Reports from outside Thailand, also suggest that emergency volunteers did good jobs for communities as well as themselves and they lived with happily and had a good quality of life (Thoits & Hewitt, 2001: 115) and by improving their rescue skills could increase their pride (Fahey & Walker, 2002: 29). Similarly, studies in Thailand declared that volunteers who worked on 'Chalad Tamboon Project' were happy and felt willing to attend these kinds of activities again. Not only do volunteers have more respect for themselves, and

are friends with other volunteers but they were socialized into new environmental contexts (Orasri Ngamwitthayaphong, 2007: 13-23).

Therefore the existence of large numbers of emergency volunteers meant that the emergency volunteers could develop themselves and they would also be a major force to improve their communities. These together would result in the country saving some of its population development budget and this amount could be transferred to other activities such as decreasing poverty, education, public health, and the environment. The outcome would be that people's lives would become more security life and this would lead to a better quality of life.

2.1.3 The Emergency Medical Act 2008

Legislation concerning emergency medical services systems was enacted in foreign countries before Thailand. There have been more than one act in each country. The acts were changed according to changing the contexts of the countries. The characteristics of the acts were classified according to the groups covered. Some acts protected only services receivers and other protected both services receivers and services providers. Based on time, these acts can be divided into those that have been issued not more than twenty years ago and those issues more than twenty years (Taweewan Chaleekrua, 2007: 13).

In the case of Thailand, the Emergency Medical Act 2008 came in to effect on February 23, 2008. The Act was issued later than comparable Acts in other countries. Protection applies to services receivers. Moreover, the difference from the past is that the structures and mechanisms of responsible organizations are considered as juristic persons. In addition, there is the inclusion of punishment for the organizations or people who infringe their emergency functions. The essential details of the Act included 5 sections and 45 articles and temporary provisions. These are summarized below (The Government Gazette, 2008: 1-17).

Articles 1 to 4 are definitions used in the Act such as emergency patients, emergency medical services, nursing homes, governmental nursing homes, and operational units.

Section 1: Medical Emergency Committee: 9 articles i.e. articles 5 to13. The main point is the structure of authority of the Medical Emergency Committee,

where the Minister of Public Health is the president and the other twenty-one committee numbers are from government institutions, private organizations, and individual experts.

Section 2: Medical Emergency Institutes: 14 articles i.e. articles 14 to 27, set institutions as juristic persons, authorities, responsible persons and official in charge of the institutes.

Section 3: Emergency Operation: 6 articles i.e. articles 28 to 33, emphasizes the protection of emergency patients. These article state that the emergency operating units, health facilities, and the operating officers perform emergency operations follow this Act, the EMIT support budget for them. If emergency operating units, health facilities and operating officers reject emergency treatment outright, the institutes would be authorized to punishment them.

Section 4: Emergency Medical Funds: 3 articles i.e. article 34 to 36, stressed the setting up of emergency medical funds to support emergency operations, roles of the funds to the government institutions and local administrative organizations.

Section 5: Administrative Punishment: 4 articles i.e. articles 37 to 40, covered punishment for operation units, health facilities and operating officers that neglected to care for emergency patients as mentioned in section 3 and the emergency operations.

Temporary Provisions: 5 articles i.e. articles 41 to 45. The main points cover individuals responsible for the work of the organization and the individuals who work for the organization during the period of transfer from the former organization to a future organization.

2.2 The concept of volunteering paradigm

2.2.1 The definition of volunteer and emergency volunteer

The term of .volunteer were definitions inside and outside of Thailand. Other terms relating to volunteer are volunteering, voluntarism and volunteerism which are described in the following paragraphs.

Ellis and Noyes (1990: 3-4) describe volunteers as ‘those who choose to work voluntarily, having a mind and willingness, to work for the social responsibility, and to get useful to individual, groups and societies without monetary profit.’. Moreover the works must not be job or duty and it is also beyond basic obligations such as looking after family, going for vote.

Darvill and Munday (1984: 3-4) said that volunteers may be unpaid or not receive any benefit or may be paid or get some benefit in return but it is normally not equal to what has been done. They may volunteer formally with some organization or may do so informally without being members of any organization. Cid (2003: 2-3) mentioned that benefits are right , training and recompense.

In Thailand, volunteers are people who work voluntarily and willingly without profit (Samanjai Khunteethou, 2004: 37; Somporn Thepsittha, 1989: 17). Furthermore, Somporn Thepsittha (1989: 4) said that volunteers have the spirit of voluntarism. The head of Tsunami volunteer Center, Phangnga province, mentioned that volunteer must be a free will person taking action for good results (Surichai Wankhaw, et al., 2006: 66). Whereas Suparat Rattanamuk (2005: 2) said that volunteers are those who work without concern for financial gain.

In this research, volunteers mean those who have the mind and willingness to work formally and informally for the public benefit. Works were not a job or duty and conducted without benefit. However, if they are paid, what they received is normally not equal to what has been done. The reason for defining the term “volunteers” as mentioned above is that at present there are some volunteers working and receiving some benefits such as food, travel and accommodation expenses, money or the opportunity to work with prehospital care like volunteers in Australia, New Zealand (Fahey & Walker, 2002: 35), USA (Ullrich, et al., 2004: 8) and Thailand (Wongsa Laohasiriwong, 2006: 101).

In the past time, ‘Voluntarism’ mean all types volunteering of informal organizations in the USA (Ellis & Noyes, 1990: 4). Nowadays, voluntarism means types of activities in which volunteers work voluntarily in non-government organizations. ‘Volunteerism’ is formed by Naylor and Scheier applied since the early century of 1970. Volunteerism is related to volunteers and both of government and non-government organizations (Ellis & Noyes, 1990: 4).

Volunteerism in current pattern means volunteer activities undertaken willingly. It includes all kinds of organizations such as non-government organizations, non-profit organizations and government organizations. Moreover, it also means pattern of volunteer activities which are formal voluntary activities such as working in organization and informal voluntary activities which results from self motivation (Cid, Ed., 2003: 2-3).

There are at least three common features of volunteering. First, it is out of a person's free will, choice and motivation. Second, it is being without concern for financial gain (non-remunerated). Last, it is aim to benefit to someone other than the volunteer (European Volunteer Centre, 2006: 3-4). Other features of volunteering are the aim to benefit society, community and the environment. Volunteering also contributes to a cohesive society, creating bonds of trust and solidarity and social capital (Edinburgh's public agencies and the voluntary and community sector, 2006: 7). There is formal and informal volunteering. Informal volunteering is voluntary activity for individual and society without monetary benefit. It is done mostly by non-profit organization. However, formal volunteering is public help for people and community without any benefit or with benefit in return but not equal to what has been done (Cid, Ed., 2003: 3-4; Low, Butt, Paine, & Smith, 2007: 10).

Emergency volunteer refers to a volunteer who voluntarily and willingly works doing prehospital care for emergency patients. This work is not a job or duty and it is unpaid, does not receive any benefit, or may be paid or get some benefit in return which is normally not equal to what has been done. People volunteer formally as a part of an organization or informally without being a part of an organizations.

2.2.2 The definition and concept of the volunteering paradigm.

2.2.2.1 Definition of paradigm. Academics have provided various definitions, some of which are outlined below.

1) A paradigm is a constellation of assumptions, models, patterns, beliefs, concepts, values, perceptions and relationships between people and community activities (Capra, 1997: 5-6; Guba, 1990: 17; Khun, 1996: viii; Koson Chaophagha, 1999: 19-21). Khun applied the term to scientific community while Capra applied the term to world society. Ritzer (1980 quoted in O' Connor &

Netting, 2009: 45) suggested that the paradigm does not only mean beliefs and values but also means techniques which determine what is exists, where we seek and what we are able to explore. Moreover, O' Connor and Netting (2009: 45) expanded the meaning of paradigm perspective composed of assumptions affecting action of individuals, communities, organizations and societies.

From another view point a paradigm is a thinking process, perception and interpretation method for living. Accordingly to Buddhism, 'Ditthi' is beliefs, insights, opinions, theories, concepts and values used to indicate human behavior and social living. Ditthi is a process called "Mind action". A wrong view or Michha Dhitti is wrong thinking, speaking and acting while right view or Samma Dhitti is right thinking, speaking and acting. (Prathepwethi (Prayut Payutto), 1989: 735-736).

2) A paradigm as the structure is an ontology which means nature of true knowledge and is an epistemology which is the nature of the relationship between knowledge seeker and that knowledge (Guba, 1990: 17-18; Komart Chungsatheanhsab, Ed., 2002: 75-79; Koson Chaophagha, 1999: 19-21).

Paradigm in this research means the assumptions referring to beliefs, values and methodologies which determine living behavior of people, in organization, and society in a specific period.

Volunteering paradigm in this research means the assumptions referring to beliefs, values and methodologies which determine volunteering behavior of volunteer in organization, and society in a specific period.

2.2.2.2 Importance of volunteering paradigm.

Volunteering paradigm is an important concept. Due to it determine volunteer practice. Volunteer also have different view about volunteering, depending on each persons assumptions. As O' Connor and Netting (2009: 45) said that "People have different views of the world, embedded in assumption that are important to them, whether they recognized or not. Assumptions are set in diverse views of the world and in how people act with in it."

A multiparadigmatic framework were developed by O'Connor and Netting which based on the concept of Burrell and Morgan (1979: 21-37) and Cameron and Quinn (2006 quoted in O' Connor & Netting, 2009: 327-328).

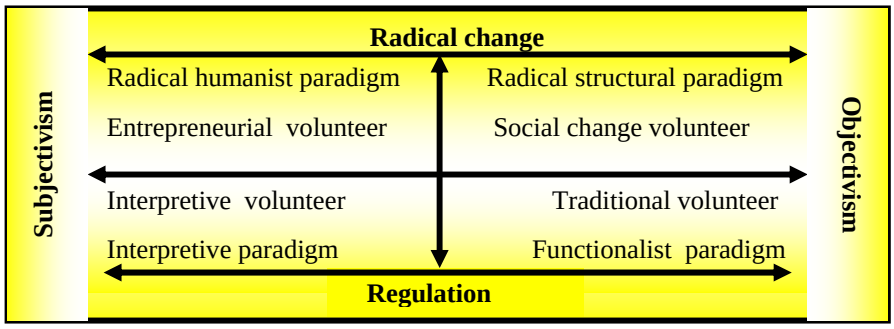
This framework can explain the differences of assumptions brought to various practices of individuals, organizations and societies. However, which framework did not aim to indicate which paradigm was the best and most suitable to be applied since actually one could have different paradigms for different context and at difference time. A multiparadamatic framework is the base of four concepts of volunteering paradigm which be describe section 2.2.3

2.2.3 The concept of the multi-paradigms of volunteering

Volunteering is the first mention more than hundred years ago. It frequency appears formally organization structure. Nowadays, there are social change such as woman's role, family role, marriage culture, economics, politics, disasters and so on. These change resulted in volunteering various occurred as Macduff (2006: 31-32) revealed that the multi-paradigm model of volunteering was developed from a multiparadigmatic framework.

There are four kinds of multi-paradigm model of volunteering. First is the functionalist paradigm. Volunteers of this paradigm are traditional volunteers. Second is the radical structural paradigm in which volunteer are social change volunteers. The third is the Interpretive paradigm. Volunteer in this paradigm are serendipitous volunteer. The last is the radical humanist paradigm involving entrepreneurial volunteers. All kinds of the multi-paradigm models of volunteering were shown in the Figure 2.

Figure 2 The multi-paradigm model of volunteering



Source: Adapted from Macduff, 2006: 32
O'Connor and Netting, 2009: 46

First kind of volunteer is traditional volunteer who view as the objective perspective. Their basic philosophy is resulted from the functionalist paradigm so that is believed that reality is free from human minds and there are universal truths. The truths occurred is concrete called Positivist. The knowledge could measure by using natural science. It called the nomothetic. Moreover, traditional volunteer view as regulation which need satisfaction with the concrete, social integration and cohesion being solidarity, orderness and consensus (O'Connor & Netting, 2009: 93-95). Then, volunteers of this paradigm need to be assigned tasks and controlled in order that the results could be measured appropriately such as quantity, efficiency and effectiveness.

The second kind of volunteer is the social change volunteer who view as the objective perspective the same as the first kind of volunteer. However, these volunteer's basic philosophy is different from that of traditional volunteer. Social change volunteer has radical change, structural conflict and discrepancy. The truth is emancipation and potential. The truth needs to be applied with transformational change. O'Connor and Netting (2009: 157-158) mention that "the difference between radical humanism and radical structuralism is systematical management and conflict consciousness. The conflicts lead to the activities for structural changing, empowering, dominating and inequitable social". Therefore, this volunteering needs empowering and activity cooperation for transformation to reach the goals (Macduff, 2006: 35).

The serendipitous volunteer is the third-kind of volunteer and view as the subjective perspective. Basic philosophy comes from interpretive paradigm. They believes that truth is from the human being mind and there are multiple truths. It also results from antipositivism, ideographic, voluntarism. The perspective is similar to that of the volunteer of functionalist paradigm but the consensus is different. O'Connor and Netting (2009: 216-219) mention that "the functionalist paradigm exploit universal standard or voting while interpretive paradigm use exchanging opinions until achieve the actual needs". Therefore this volunteering relies on personal experience and recognition. It is quite flexible and mainly emphasizes on understanding.

The last is the entrepreneurial volunteer. They view as subjective perspective and wants change. The basic philosophy coming from the radical humanist paradigm which believes that truth is universal and concrete but it is social construction and comes from individual consciousness interacting to the society.

Moreover, O'Connor and Netting (2009: 276-279) mention that "humanist is also believed that knowledge is contributed by experience and human is independent and alterative" Hence, entrepreneurial volunteers are creative and work, manage and control independently.

The objective perspective represent orderliness while the subjective perspective represents individual support or group support. The difference between the volunteers on the subjective-to objective continuum dictates whether the advocacy is individual or collective. On the other hand, volunteer intent to find out programs that are stimulating and fit his or her vision of work and change. Volunteers at this end of the continuum seek organizations with advocacy goals (Macduff, 2006: 32).

2.3 Prehospital care by emergency volunteers

2.3.1 The formation of emergency volunteers

In Australia, there are emergency volunteers of both genders to help people who were injured during war (St. John Ambulance, 2004: 31). In Japan, health professional organized be emergency volunteers to cope with disasters (JICA, 2006: 228-229). Since 1960, the medical profession has developed rapidly. Death patterns in developed countries has changed to emergency injury and non-communicable disease. This made developed countries alert to training emergency volunteers.

In USA, the development of emergency volunteers were done based on the medical profession with support from government and law (Stoy, et al., 1997: x-xiii). Emergency volunteers were given precedence by being given the right to have a vocation, holding emergency volunteers competition, and evaluation. However, characteristic and capability of emergency volunteers were difference in each country. Emergency volunteers worked with various organizations such as government organizations, local administrative organizations, nonprofit organizations, and independent organization (RAV, 2005: 23-24, 30).

In Thailand, emergency volunteers started with reciprocity since 1910 or a hundred year ago (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 1) whereas in other countries such as the USA (McSwain, 2005: 493) and Australia,

emergency volunteers began since 1891 or about 120 years ago to help people injury in war (St. John Ambulance, 2004: 13). Since 2002, the numbers of injuries and deaths have increased every year in Thailand. The WHO urged Thailand to improve its EMS system, hence, the government approved the budget to do. Two years later, emergency volunteers based on modern medicine started. In Thailand, emergency volunteers formulation formed in three stages:

1. Beginning Stage: Emergency volunteers in Thailand were shaped a hundred year ago based on reciprocity of emergency volunteers in the Poh Teck Tung foundation who helped people injured in accidents. They help others without hoping to get anything in return so this was a form of informal emergency volunteering. However, sometimes, helping without proper methods could accidentally harm injured people, such as while in transit process. Consequently, emergency patients are disable and dying (Surachet Sthitniramai, 2006: 1-2). Later on, other foundations such as the Ruamkatunyu Foundation or local foundations were set up. In conclusion, during the beginning stage, emergency volunteers in Thailand were started from reciprocity.

2. Changing Stage: The idea to save emergency patients lives by using modern medical knowledge through prehospital care took place due to cooperation between the government and private sector. They held meetings many times about this issue. In 1993, the 7th National Economic and Social Development Plan (1992-1996) contained a pilot project of Rajavithi Hospital and Khon Kean Hospital. This project tried to train emergency volunteers in the foundations to work in helping emergency patients. In the 8th National Economic and Social Development Plan (1997-2001) the scope of emergency volunteers and foundations was enlarged. Emergency volunteers performed through rescues in some provinces. Khon Kean Hospital and Rajavithi Hospital assists in training members of local foundations. Emergency volunteers worked in their local areas without any monetary returns. However, the EMS system still was not successful during the 8th National Economic and Social Development Plan. The reasons were the limitations of the law and the monetary and financial system. Moreover, services for emergency patients were given as a priority to normal hospitals (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 3-5).

3. Prospering Stage: The 9th National Economic and Social Development Plan (2002-2006) launched in 2002, provided a more defined the government policy. The government declared the EMS system would be one of the main policies covered by the Ministry of Public Health. The services were changed from focusing on hospital to dispersal to urban and rural. Proper financial management in 2006, was committed to as one of the missions of the Ministry of Public Health. The aim was to expand 3,000 sub-district responder units around the country (Ministry of Public Health, 2006: 1). Because emergency volunteers are an essential component to drive Sub-district Responder unit, so emergency volunteers grew together with Sub-district Responder units ability. Sub-district responder unit services were set up and emergency volunteers were educated using a standard curriculum of first aid in certain of the Local Administrative Organization (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 117).

The project of the First Aid course in each the LAO focused on developing emergency volunteers based on modern medicine. It focused on helping emergency patients as well as creating sub-district responder unit. The concept of emergency volunteers development was similar to the health volunteer concepts. Emergency volunteers assisted people in their communities and, finally, communities could become self-reliant. (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 27,117).

The project included the instructors's manual for First Responders and Community Based EMS curriculum, selected emergency volunteers, competencies such as technical skill, and process skill which emergency volunteers had to perform according to EMIT (Committees for First Aid curriculum, 2004: 1-10). EMIT provided training and budgets for local administrative organizations (Wongsa Laohasiriwong, 2006: 39). A person who finished the course would be registered to be an emergency volunteers with EMIT and he would be called a First Responder. First Responders would be under the responsibility of the LAO. However, some of them worked for national foundations such as the Poh Teck Tung Foundation, Ruamkatunyu foundation or local foundations such as the Rompho Foundation and the Koksai Foundation in Phetchabun province.

After training, the results would be monitored and evaluated by EMIT in each province and Bureau of Inspection and Evaluation (Bureau of Inspection and Evaluation (2007: 248-250). Furthermore, emergency volunteers would receive certificates after finishing the curriculum. Occasionally, emergency volunteers may be involved to a national seminar. The EMS system focused on the participation of all parties concerned. Sub-district Responder units would decide whether or not to give emergency volunteers pay. In some areas, Emergency volunteers would get nothing. However, in some areas, emergency volunteers would get pay by being appointed to be staff of the LAO but it was just a small amount of money (Wongsa Laohasiriwong, 2006: 101).

From the explanation above, emergency volunteers in Thailand and other countries were formed differently in term of timing or it could be said that emergency volunteers in Thailand were formed after other countries. War is recognized as the origin of creating emergency volunteers. In Thailand, it was true to say that reciprocity brought about emergency volunteers to work with foundations and the LAO. The development of emergency volunteers around the world, was done follow modern medicine. Nowadays, the budget, law, curriculum with a high standard, monitoring, emphasis on emergency volunteers, and emergency volunteer evaluation are arranged**.**

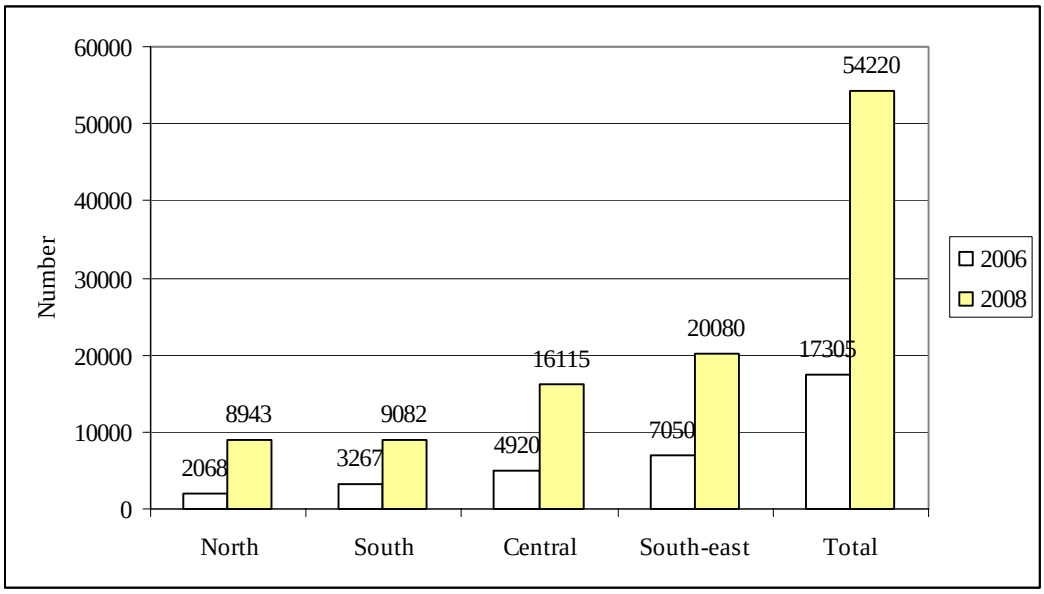
2.3.2 The existent of emergency volunteers

Nowadays, the development of emergency volunteers both in Thailand and in other countries still uses the old ways. Only the situations and problems have changed. A report in the USA reported that number of emergency volunteers was 897,750 in 1984 but decreased continuously to 777,100 in 1989 due to the problems of recruitment and retention. In 2003, the number of emergency volunteers was recorded as 800,050 (FEMA, 2007: 1). Problems of emergency volunteers have still been a serious national problem. Recruitment of new emergency volunteers and retention of emergency volunteers are difficult because emergency volunteers do not seem to have time for their volunteering (Fahey & Walker, 2002: 7-13; Ullrich, Mueller & Shambaugh-Miller, 2004: 3). Now there are formal and informal emergency volunteers. Formal Emergency volunteers work with some organizations

whereas informal emergency volunteers are trained by the government sector and private sector. The training course follows the standard curriculum and expenses are paid by certain organizations. However, informal emergency volunteers do not work for a specific organization as do formal emergency volunteers.

In Thailand, formal emergency volunteers are very important and act to provide prehospital care to the communities. EMIT started to develop emergency volunteers and has organized training courses on first aid in the LAO since 2004. In 2006, 17,305 emergency volunteers were trained and registered with EMIT. This number was increased by more than three times to 54,244 in 2008. In the Northeast region, the number of emergency volunteers was the most when compared to other regions both in 2007 and in 2008. The least number of emergency volunteers was in the North region in 2006 and 2007 is shown in Figure 3 (EMIT, 2006: 1-5; 2008b: 1-5). Informal emergency volunteers worked in government organizations and nonprofit organization such as foundations (Wongsa Laohasiriwong, 2006: 35) and Thai Red Cross Association, etc. (2007: 1).

Figure 3 The number of emergency volunteers in Thailand 2006 and 2008 by region and countryside



Source: EMIT, 2006: 1-5; 2008b: 1-5

From the evaluation emergency volunteers, it was found that emergency volunteers did not have to be trained because they are busy with their jobs (Wittaya Chatbanchachai, et al., 2004: 16). They did not have time to work as an emergency volunteers even though they had been involved in the training curriculum (Bureau of Inspection and Evaluation, 2007: 249). There were some researches showed that ethics in volunteering (Samanjai Khanteetaw, 2004: 100-103), technical skill, (Arun Jirawatkul, et al., 1998: 68-76) and processes skill (Srisuree Eajiraphongphan, 1999: 116, 120).

To sum up, the existent of emergency volunteers in Thailand and abroad developed in the same way for both formal and informal emergency volunteers. However, in abroad, there were more organizations to take responsibility for development of emergency volunteers than in Thailand. Emergency volunteers in abroad were trained by government sector, private sector, the LAO whereas emergency volunteers in Thailand were only trained by the LAO and foundation.

2.3.3 Types of emergency volunteers

Emergency volunteers in Thailand are grouped based on the multi-paradigm model of volunteering. In Figure 2, present four kinds of emergency volunteers. The first group was traditional volunteers based on the functionalist paradigm. First responder (FR) is an example of traditional volunteer in USA and Thailand or First Aids Class One (FAC-1) in Japan (Tanigawa & Tanaka, 2006: 366). The second group are serendipitous volunteers. For example, emergency volunteers in the project called “Mo Auom”, emergency volunteers named bystander in Japan, and emergency volunteers for Katrina cyclone disaster by American Red Cross. The third group was social change volunteers but there was no evidence to support that this type of emergency volunteers. Only development of volunteers for Social Development and volunteers for environment was founded. The last group of emergency volunteers was entrepreneurial volunteer such as emergency volunteers for Tsunami disaster, (Surichai Wankhaw, et al., 2006: 46) and emergency volunteers for Katrina cyclone by American Red Cross (2007: 13).

2.4 The development of a community-based prehospital care management model for emergency volunteers

To develop the model of a community-based prehospital care management model for emergency volunteers, the details in this sections as follows:

2.4.1 Volunteer management theory

Volunteer management theory was advanced in Canada (Volunteer Canada, 2008: 1). This theory is suited to the volunteers in this study. Because the volunteer management theory can be used to describe the whole processes of the development volunteering. The management is also the important part of existing volunteer. UPS Foundation (United Parcel Service, 1998: 14) revealed that defective management could cause volunteers to discontinue working. For example, inconvenient timing, no chances to present volunteer talent and vague job assignments. In addition, UPS Foundation said that inappropriate management would bring about loss of volunteers more than loss of persons who were not interested in volunteer work because of their personalities and family problems. This theory can give details for managing volunteers (see Figure 4) (Volunteer Canada, 2008: 1-3).

2.4.1.1 Planning: Planning is an essential process of this theory. This process include plan for designing volunteer position, plan for creating application form, plan for developed applicable policies and procedures, and plan for educating other in the organization about involving volunteers.

2.4.1.2 Recruitment: Recruitment was done after planning. Recruitment teams had a brainstorm who should be volunteers, why a particular person fit the job, where and when to get the volunteers, and how to communicate with people to get them to be volunteers.

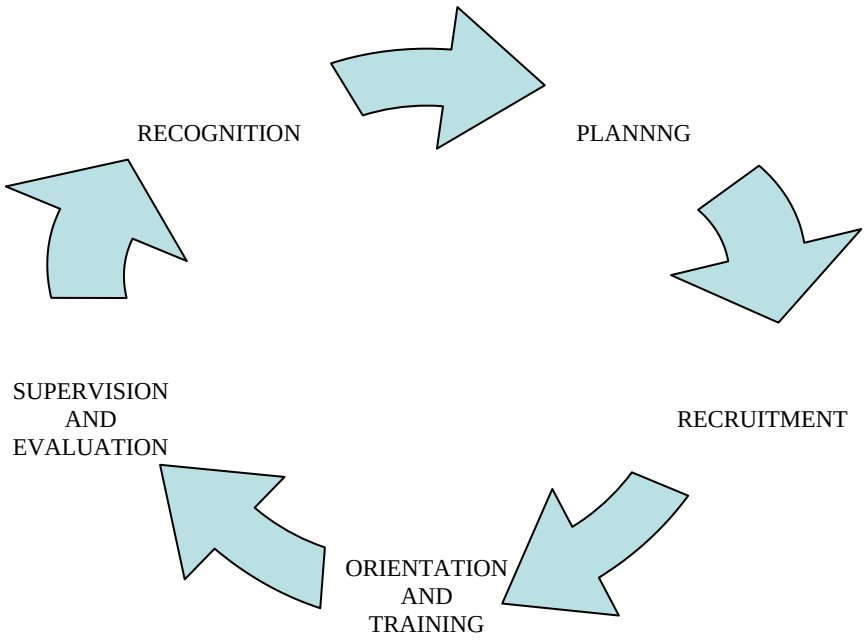
2.4.1.3 Orientation and training: Orientation and training deals with providing the information to the recruited volunteers. Organizational information and expected outcome must be explained to the volunteers.

2.4.1.4 Supervision and evaluation: This process would benefit both volunteers and supervisors. Supervisors had to evaluate and find out the

means to support the volunteers so that they could work with high efficiency. Supervisors also had to certify volunteer status. Normally, the evaluation would be prepared by the supervisors and they would find out how to enhance volunteers' satisfaction or rectify some work.

2.4.1.5 Recognition: After supervising and evaluating, organization would praise the work and announce this to the public. It may be done either by formal or informal ways, for example, having a thank you party. In this process, the essential part was that the organization needed to know how to praise the volunteers in order to make them memorize and impress even when they quit volunteering.

Figure 4 The cycle of volunteer management



Source: Adapted from Volunteer Canada, 2008: 3.

2.4.2 The concept of management of the Multi-Paradigm Model of Volunteering.

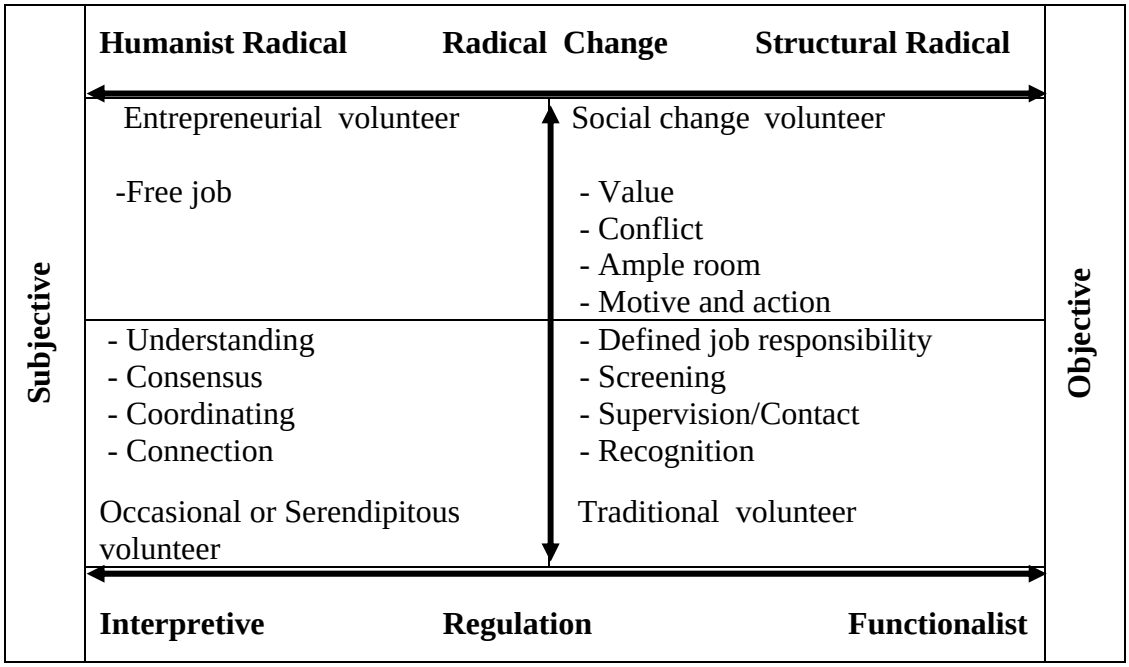
Nowadays there are many types of volunteers such as traditional volunteers, occasional volunteers, social change volunteer and entrepreneurial

volunteer. Each volunteer type required different management styles and the Multi-Paradigm Model of Volunteering could explain well comparing to the volunteer management theory. As Macduff (2006: 33-36) gave examples of the types of jobs appealing to the volunteer and implications for volunteer management. The details was expressed in Figure 5.

Regulation are the traditional volunteers and occasional volunteer. The regulation composed of traditional volunteers and serendipitous volunteer. The traditional volunteer manage by using defined job responsibility, screening, supervisor, contact and recognition. Occasional volunteers were able to manage by using consensus with people, coordinating, and connection.

Radical change are entrepreneurial volunteer and social change volunteer. Entrepreneurial volunteer manage by requirement of works free job. Social change volunteer gave the first priority to value based on activities and outcomes. Conflict was the motive to drive them to take actions. Management of social change volunteer also need motive to take action and have to take action at the ample room.

Figure 5 The difference of the management volunteering



Source: Adapted from Macduff, Netting & Katerine, 2006: 1-2

Macduff, 2006: 33-36.

2.4.3 Community action research: CAR

The processes of learning and creating new knowledge is called research. Research is classified into positivism and phenomenological. Positivism believes that everything can be measured and this is the concept of quantitative research. Phenomenology described the variety of relational database and is behind to qualitative research. When combining these two kinds of research together, action research was born (Supavan Phlainoi, 2004: 8-11). In this study, the researcher used the community action research (CAR) which is based on action research. Therefore, action research would be described first and followed with the details of CAR.

2.4.3.1 Action research (AR)

Background of AR: Academic officers (Kemmis & McTaggart, 2005: 560; Pasmore, 2001: 45) report that Kurt Lewin who was a German psychologist but living in the USA (Pasmore, 2001: 46) was the first person to define AR. The objectives of AR were to find the way to solve problems especially social problems arising after World War two. Recently, this research has been used various matters such as community development, business organization, education, and public health. The AR would be called differently upon the kind of works.

Definition of AR: Many definitions were given by academic officers such as positivism perspective and social perspective. The details are as a follows:

Positivism perspective: Levin and Greenwood (1998: 4) said that social researches which were acted by professional researchers and organization or community members could find out the better solution for the problems. Stakeholders of research take a part in the process research to solve problems of them. As Winter and Munn-Giddings (2001: 8) defined that studying certain social situation by stakeholders who were directly involved would cause good solution due to good understanding situation.

Social perspective: Stringer (2007: 1) reported that exploring new knowledge systematically could help people in the community solve problems effectively and made them concentrate on specific local problems. Additionally, Supavan Phlainoi (2004: 13) said that action research was such a connection between theories and actions. Action research also was the continuously adjusting processes

between inquiry and actions. Operating and innovating were operated as a cycle and reflect feedback. In this thesis research, I define AR is the same meaning as Stringer and Supavan Phlainoi due to this research emphasize community learning.

Concept of action research was found that issues involving in action research were participation, collaboration, inquiry, empowerment, critical reflection, and knowledge on social change (Schmuck, 2006: 29; Stringer, 2007: 1).

Elements of action research consisted of three essential elements. (Greenwood & Levin, 1998: 7-8).

1. Research: the powerful factor in order to create new knowledge.

2. Participation: Participation based on democratization which is free from other peoples' control would bring about procedures to create knowledge. Researchers are just facilitators to assist people and organization to create AR processes for each situation that they would like to solve.

3. Action: Action done by communities without control from government finally resulting in self-reliance.

Types of action research (Grundy, 1982 quoted in Master, 2000: 3-9)

1. Technical action research: This research adapted the concept from positivism. Researchers and academic officers would detect problems by formulating on hypothesis and solving problems based on existing theory. Practitioners would bring theories to practice. This research was the original method since in the past.

2. Mutual collaboration action research: This kind of research was derived from the phenomenological perspective. Researchers and academic officers collaborate to specify problems and try to solve and understand the problems.

3. Critical emancipation action research: Critical science perspective was used as the idea to this research. Theories and actions would work together. Theories would be monitored throughout the process. Interaction between researchers and practitioners also was observed so that theories could be developed for improving communities.

From types of AR mentioned above, it can be seen that the any difference between the three was based on authority. Technical action research gave authority to researchers and academicians. Mutual collaboration action research decentralized power equally for both stakeholders and academic officers. Critical emancipation action research, focused on relationships in terms of power for insiders and outsiders.

The differentiation between participatory action research (PAR) and community action research (CAR) was action research (AR) would concentrate on research. Therefore, authority for searching new knowledge of AR was given to academicians more than practitioners and supporters whereas PAR focused on equal participation between academicians and other parties concerned. Hence, PAR would create knowledge from experts by experiences. On the other hand, developing on capacity-building of stakeholders was given priority on CAR.

Step for AR: There are different methods to do research due to the knowledge used. Although there were some distinct processes, the similarity was that research method was done as a cycle and was developed consequently. The methodology was divided into two groups as follows:

1. Four steps (Kemmis & Mc Taggart, 2005: 63-64): Firstly, action research was planned, specify problems, and asign working processes to parties concerned. Acting, observing, and reflecting were done after that.

2. Three steps (Stringer, 2007: 8-9): Action research began with looking and gathering information to explain any situation. Thinking was essentials in order to search, analyze, and answer some questions about phenomena, for example, what they are and why they happen. Finally, acting was done by applying plans to reality and analyzing results to apply for use in the next cycles.

Quality of AR:

Herr and Anderson (2005: 53-57) developed the criteria of quality for action research which composed of five criteria as it can seen it Table 1.

1. Process validity: Action research should be dependable and competent and it happen when the solution is suggested from diverse opinions from co-researchers. When process validity was considered with the objectives of the research, it would be a proper methodology for referencing discovered knowledge.

2. Outcome validity: Activities which were occurred during the research process should be used to solve problems which could be used to adjust other activities in the future. Outcome validity depended on processes. It could be said that if research results revealed roughly or had any gaps, it reflected the processes of research. Research results would be successful when outcome validity combined with the research objectives.

3. Catalytic validity: It is change and catalyst process which gain deep understanding of stakeholders in real situation of the community context. The changing in each activity could reflect on he next activities.

4. Democratic validity: All parties concerned shared and cooperated in the research equally. Considering democratic validity together with the research aim, research produce results which was related to the local context.

5. Dialogic validity: A quality research would be built especially when it was criticized and review by peers or others such as educational journal, and friends. If research target was studied with dialogic validity, it could be referred to as applying new knowledge.

Table 1 Anderson and Herr's goal of action research and validity criteria

Goal of Action Research	Quality/Validity Criteria
1. The generalization of new knowledge	Dialogic validity and Process validity
2. The achievement of action-oriented outcomes	Outcome validity
3. The education of both researcher and participants	Catalytic validity
4. Result that relevant local setting	Democratic validity
5. A sound and appropriate research methodology	Process validity

Source: Adapted from Herr & Anderson, 2005: 55

Ethics of AR: Mill (2003: 91-95) presented ideas about ethics to be applied before, during, and after research as below:

1. Ethical Perspectives: Researchers must have high ethic perspectives to other co-researchers.

2. Informed consent: Researchers should make only dialogue with stakeholders and assure them that their personal information would be kept secret. Herr and Anderson (2005: 119-121) believe that informed consent was not enough for doing research. Therefore, the consent process should be applied with respect and reciprocity. Research should follow not only because it was required but the researcher should see it as an "ethic reflector" and do their duties with prestige.

3. Social perspectives: Researchers should keep in mind that how they have an impact on a community. Democracy and equality are examples of fundamental ethics.

4. Flinder's conceptual framework for ethics: Researchers should consider the following ethics when they do any research:

4.1 Utilitarian ethics: Research should be do benefit mostly to the target groups or communities.

4.2 Deontological ethics: Research is done with honesty and without any hidden benefit.

4.3 Relational ethics: Equal collaboration present from all parties concerned.

4.4 Ecological ethics: Researchers understood feelings, background, and context of research for both communities and organization.

5. Deception: Researchers must respect interviewees when they suggested some idea.

6. Accuracy: Researchers must use the information gathered from the research without adjusting any details no matter what the result of the research.

7. Consider: Researchers should be careful about anonymity and avoid harm to stakeholders in the research.

2.4.3.2 Community Action Research: CAR

Background: MIT (The MIT Organization Learning Centre: OLC) developed this kind of research ten years ago. In 1995, OLC presented the tree model which was the processes of doing CAR (Senge & Scharmer, 2001: 238-239). This concept was found in Gustavsen's research about problems of labor unions in Sweden (Gustavsen, 2001: 18-23) and this research was such an obvious example of CAR (Senge & Scharmer, 2001: 238). Another example was the Demon Project of Levin and Greenwood which was done in Norway. The Demon Project did not only present CAR for inside organizations but also outside organization (Levin and Greenwood, 2001: 18-19).

Concept of CAR: CAR was created in order to build cross-organizational learning by adapting knowledge from previous forms of AR. It also forced some changes among stakeholders, consultants and researchers. The important part of CAR was based on trust in arranging three important activities (Senge & Scharmer, 2001: 238, 240, 248).

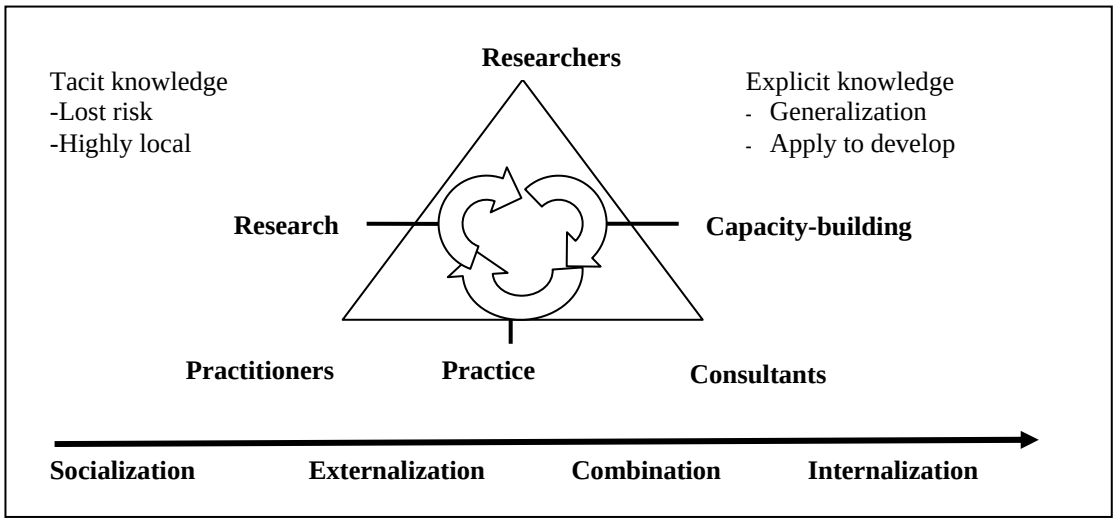
1. Research: Research was done continuously so that new theories and new concepts would be disclosed.

2. Capacity-building: CAR emphasized on improving ability and cooperation from stakeholders more than other research types.

3. Practice: Practice must be applied to get new concepts, theories, and knowledge.

It is true to say that CAR is such a research that could get clear and in-depth knowledge to create new ideas as it is presented in Figure 6.

Figure 6 Community action research



Source: Adapted from Supavan Phlainoi, 2004: 24

CAR concentrates on participation not competition by focusing on (Senge & Scharmer, 2001: 238):

1. Helping and collaboration between researchers, consultants, and practitioners

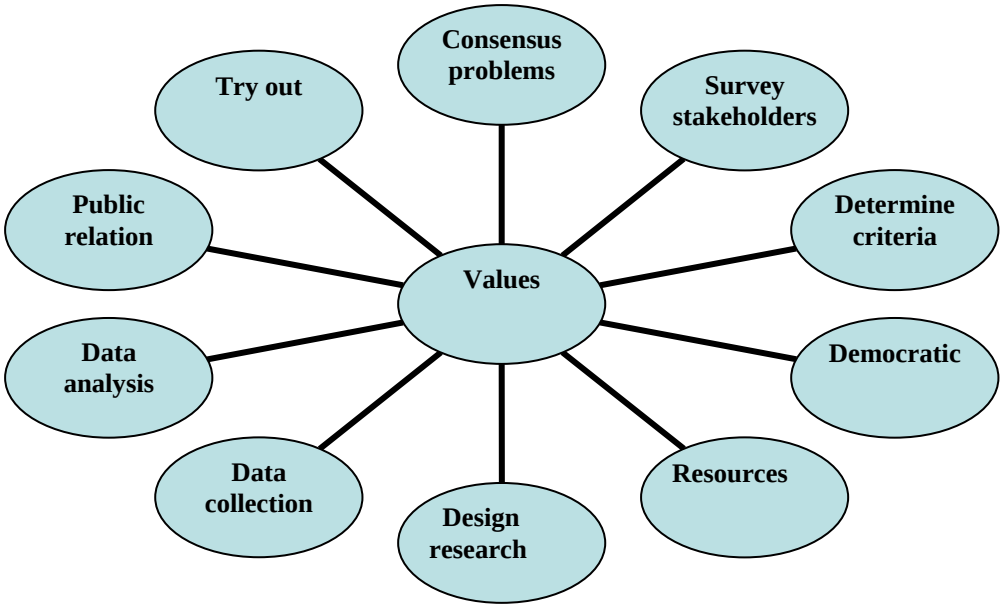
2. Having the same learning objectives within an organization and cross-organization, and

3. Improving isolate organization's ability to work together with others for long lasting advancement.

Processes of Creating CAR: The tree model used the analogy of a tree. The root was compared with theories that could not be touch but were important to grow the tree. The branches and leaves could be seen and were compared to methodology to apply theories into practice. Fruit were like the results of the practice or new knowledge. Lastly, sun light was compared to community power which drove new knowledge (Senge & Scharmer, 2001: 249-250).

CAR's methodology included 10 steps which would be done in any order as it is shown in Figure 7.

Figure 7 Process of Community action research



Source: Adapted from Supavan Phlainoi, 2004: 28

Role of researchers in CAR: As CAR is adapted from AR, so researcher role in CAR and researchers in AR are similar. Stringer (2007: 24) and Supavan Phlainoi (2004: 30-31) suggest that a catalyst is a person who stimulated people to change and in which the processes must of more concern more than than results. People in communities should be able to analyze situations by themselves and see them as they are not as they wanted them to be.

Quality and ethics of CAR were applied to used in CAR as Herr, Anderson, and Mill above.

The reason to used CAR: CAR was used to develop a community-based prehospital care management model for emergency volunteers. CAR is a tool to build good relationship among researchers, practitioners, and consultants. Learning was potentially allowed process that all parties to understand each other not only in a community but also cross-community in order to achieve sustainable development.

Related researches to CAR

Gustavsen (2001: 18-23) studied about the mediating discourse of labor union problems in Sweden. This research clearly showed how to adapt Habemas's theories to practicing by using democratic methods and building good relationship among all stakeholders. The research started with making proposals based on combining theories and practice. After that, the proposal was brought to use in the factory at a meeting. Then, the results and feedback were considered for further improvement from the organizational level the to European region. The study proved that strong connections and participation were built among industries, municipalities, and government organizations.

Levin and Greenwood (2001: 108-109) tried to use CAR to change university to be community of learning by using the Demon Program with master's degree student about organizational development. Co-researchers of the Demon Project were doctoral degree students, professors, companies, and university students. Research began with a meeting among students, supervisors from companies, and professor by holding seminars every month. Involved companies would come to provide information and give viewpoints through informal conversations. The last process was that students adjusted work experiences and work values to meet companies' objectives. Students also learnt how to detect problems and how to solve problems. They faced many problems during doing research, hence, they had to study and read a lot about specific problems and solve them. Of course, the experiences they gained would benefit them for their future. Professors who joined the project, faced challenges that were different from what they faced in the classroom. Finally, students who joined this project were offered jobs from the participating companies.

2.4.4 Rapid assessment procedures: RAP

RAP was developed from United Nation's project about understanding and solving problems about health services. At the beginning of 1980, Scrimshaw and Hurtado used these techniques and they were refined again in a meeting in Geneva and the documents were distributed in 1987 (Kachondham, 1992: 27). Later on, RAP was widely used for health issue such as AIDS, epilepsy, nutritional deficiencies, birth

control (Scrimshaw & Gleason, Eds., 1992: 1).

RAP was built by cooperation between anthropologists and sociologists using ethnographic methods and social perspectives and took a long time to create. It is a the method to evaluate community problems in only one two weeks with few expenses (Taweesak Nopakesorn, 2006: 35). It also integrates qualitative and quantitative method but emphasizes quantitative methods. The important concept underlying RAP is collaboration and multi methodology (Scrimshaw & Gleason, Eds., 1992: 1). RAP steps are as below (Gittelsohn, et al., 1998: 11-27).

1. Walked rally map: Walking around communities to make a community map and having informal conversation with people. Komart Cheungsathiensub, et al. (2002: 21) believe that community mapping is very important and must be done before other processes.

2. Exploring areas around interesting places in terms of social, cultural, politic, and health systems by gathering information from major interviewers must be done. Observing and participating can explain beliefs and the behavior of people about health problems.

3. Searching interesting situation by using tools such as free listing, pie sort, group discussion, and in-depth interviews, etc are some of the processes.

4. Analyzing quantitative information and writing report are the last steps.

The reason to used RAP: This method give more details of interesting situations in when written documents cannot offer enough information. RAP focuses on qualitative methods rather than quantitative method. Moreover, this method involved all parties to make it work (Taweesak Nopkesorn, 2006: 36-37).

2.4.5 Needs assessment

Background: Needs assessment was introduced in 1930 and during a of progressivism. Eight years later, it was accepted to be an important concept in USA. It spread quickly in the USA and there are laws to about needs assessment when using the budget from the government and local organization. Nowadays, it is applied to

various matters such as education and health care services (Witkin, 1994: 17-18). In Thailand, there is no such law to support needs assessment and it not used widely (Suwimol Wongwanich, 2005: 7) except for in education.

Needs assessment means the difference between the real situation and the way it should be in other words a discrepancy between existing and desired (Altschuld & Witkin, 2000: 7; Stufflebeam & Shinkfield, 2007: 375). The situation was dissatisfied and it needed to solve problems by using alternative solutions (Suwimol Wongwanich, 2005: 522).

Concept of need assessment: The procedure take place operated systematically so that the aims are achieved based on the need of the project, project adaptation, and dispersion of resources (Altschuld & Witkin, 2000: 7). Additionally, Witkin & Altschuld (1995: 5, 7) expressed that the need assessment was based on database and perception to policy and procedure in certain population. Furthermore, it focuses more on the target than on methodology although data were collected to solve problems.

Types of needs assessment: Suwimol Wongwanich (2005: 47-58) investigated the types of needs in terms of assessed group, and time to use for assessment. Other academicians focused on different parts of needs assessment. For instance, Maslow was concerned with psychology; Stufflebeam and Scriven talked about definitions; Roth concentrated on data collection periods; Moroney said about state that it should be; Gilmermore and Campbell mentioned about data collection; Kuffman emphasized the things to be evaluated; Witkin reported about target to be assessed; and Rossi and Freeman specified the nature and data types. In this study, the researcher chose Witkin's concept which is similar to Suwimol Wongwanich's concept. These two concepts answered the questions concerning comprehensive needs assessment. The researcher adopted the types of needs as describes by Witkin (1994: 19-20).

1. Primary needs: Service receivers such as students, customers, patients, data users, and consumers.

2. Secondary needs: Service providers or policy makers such as teachers, parents, social workers, nurses, doctors, executives, and directors.

3. Tertiary needs: Resource solutions such as buildings, facilities, tools, technology, plans, class room size, procedures, and atmosphere in workplaces.

Furthermore, Suwimol Wongwanich (2005: 53) mentioned that there are three steps in needs assessment; these (i) needs identification, (ii) needs analysis, and (iii) needs solution. The most important step is need identification.

Plan for need assessment Suwimol Wongwanich followed the concepts of needs assessment from McKillip; Kauman; Rouda and Kasy; and Altshuld and Witkin concept (2000: 18-43) suggested that any plan for needs assessment is divided into three phases.

1. Pre-assessment or exploration: This phase needs the leader and committees to work together in order to do needs assessment in order to create a plan with with boundaries, aims, data collection, sources, methods, data application, and criteria. The plan is used in the second and third phases.

2. Assessment or data gathering: Committees have to gather data and opinions. Then they need to prioritize the data and opinions to do the needs assessment.

3. Post-assessment or utilization: After collecting the data, the committees will use that information to find solutions, make plans and suggestions, and use that information for various matters.

From the three-phase plan for needs assessment, it can be seen that step one which is planning leads to step two which specifies need assessment and causes. The last step is detecting the alternative solution (Suwimol Wongwanich, 2005: 101).

The reasons to use needs assessment: Data collecting results in methods to search for targets of a community-based management of emergency volunteers. Certain studied area had the specific geography and population. Therefore, information and perception to project would provide value to community as Witkin and Altschud (1995: 4-5) said that different area and different population had different needs.

Related researches about need assessment

There is a research “A public health approach to health needs assessment at the interface of primary care and community development (Horne & Costello, 2003: 340-352) and the findings are based on AR study to evaluate the

needs of providing services to communities. The information was gathered in terms of quantitative and qualitative data from the Bureau of Epidemiology; therapy summaries from physicians and nurses; group discussion; conversations with data providers; and censuses. Needs in term of health service varied area by area because each area had a different economy. There was a community which rejected health services. The diseases found in the communities were heart disease, strokes, asthma, and diabetes. The assessment found that health services were mostly provided by health service officers. In addition, it was a trouble by people to reach secondary services because the lived in a remote area and the waiting time at the out patient department. People knew little about primary health service and public health officers especially if they were from ethnic minority groups. The distinct issues which needed to be dealt with included increasing the understanding of people and trust in primary health services, and development of government health service officers. Another issue of concern was the cooperation between professional and service receivers because as it existed it did not provide health services equitable among people.

Later on, needs assessment was done in Canada with the topic of "Bridging the gap in population health for rural and aboriginal communities: a need assessment public health training for rural primary care physicians" (Buxton, et al., 2007: 81-87). This study differ from Horne and Costello's research that sample was selected by using purposive and area setting located in three rural area. There were various samples such as service receivers, service providers. Tools used in this research were interviewing and group discussions. The result showed: (i) that there were many projects done by physician, and (ii) doctors should possess good communication skills, be sensitive to culture, act as a supporter, and be a partner with the communities. The community identified that giving the priorities to enthusiastic people did not encourage doctors to join or do the research on public health. In conclusion, health service officers had high potential to train people in the community about first aid in order to improve people's health and work together with the communities.

In Thailand, there have been some researches studies on developing activities and techniques to evaluate needs for project design (Patinya Kosolsiritpoj, 2004: 4, 106-109). The sample groups were teachers and students in Grades 4 and 5.

Tools used in this research were group discussions, observation, interviews, and evaluation by using t-test. Finally, the study found that (i) activities to do needs assessment included six aspects which were (a) capability to do the project (b) choosing studied issues (c) planning on project (d) operating as plan (e) cooperation with others and (f) writing the report and presenting the project, (ii) techniques needed in needs assessment can be grouped into two types as following (a) exploration techniques such as interview, observing, checking, and self-evaluating, self-reporting and (b) group techniques such as discussing with teachers, students and participants, (iii) the research found that students had better skills on doing research at the confidence level 0.01 but it was still under the standard level, (iv) teachers and students related to be satisfied with processes and techniques on needs evaluating for project design.

2.4.6 Empowerment evaluation

Background: Empowerment evaluation is a phenomenon that began in 1993 by Fetterman. He presented this idea which based on community psychology, anthropology, and action research in a meeting of the Monitoring Association in USA. (Fetterman, 2001: 9-10). While Akin (2004: 387) said that empowerment evaluation was applied from action. Later on, empowerment evaluation was popular to use in health education.

Empowerment evaluation was done by people with limited resources within communities and it related to politics and decision making. Decision making must be done by members of the communities. People in the communities used empowerment concepts based on democratic participation. They would evaluate themselves and create life styles by themselves (Fetterman & Wandersman, 2005, Eds., 10-11).

Concept of empowerment evaluation (Wandersman, 2005: 29-38): Empowerment evaluation included ten important aspects as follows: (i) improvement, (ii) community ownership, (iii) inclusion, (iv) democratic participation, (v)social justice, (vi) community knowledge, (vii) evidence-based strategies, (viii)capacity building, (ix) organization learning, and (x) accountability.

Evaluation step: Empowerment evaluation was divided into three steps shown below (Teeradej Chai-Aroon, 2006: 72-84):

1. Preparing process. Location, tools, baseline data, indicators, other written documents, photos, and other media must be prepared. However, the most important thing to prepare are people. They need to have experiences and know the details of the project.

2. Steps of empowerment evaluation "The Three Steps Approach" was applied to carry out group process in communities. This process was assisted by the facilitator in each step as described below:

Step 1: Specify Mission: In this step, the evaluator would give chances to the participants to explain about their duties in the project.

Step 2: Taking Stock: This step dealt with self-evaluation based on the mission or target which was set by members. This step also used meetings as the main method by dividing steps 2 into two sub-steps:

2.1 Giving priority to each activity: the evaluator would let members to specify current activities which were about ten to twenty activities. After specifying activities, priority would be given to each activity and then members would give their opinions to other members. Finally, the assessor would again summarize the priority of each activity to members, and

2.2 Self-evaluation: After arranging the priority order of each activity, the evaluator would give chances for members to evaluate how good each activity was done. They could discuss the reasons how the result arose. Average scores would be considered. Therefore, everybody was able to see the strengths and weaknesses of each activity as well as the whole picture,

Step 3: Planning for The Future: Facilitators would discuss with members in order to get opinions for future plans. The focusing would be on what the objectives would be, how activities could be done, what were the strategies and methods, what tools would be used, and when activities could be done.

3. Follow up the project. From step 2, members would obtain doing projects in the future. To make sure that they worked, the follow up process must be done. Evaluator must be the person in charge to follow up the project and find ways to improve the situation if the project did not work.

Reasons to use empowerment evaluation: It offered more chances to success in the project by increasing the capacities of stakeholders, letting them be involved, and conducting self-evaluation. This could develop stakeholders both in present and in the future. It could be adopted for use with individual, organization, and social level (Teeradej Chai-Aroon, 2006: 72). Empowerment evaluation also was suit to action research techniques which concentrated on participation of people in the community, leaders, organization, supporters, and researchers.

Related researches about empowerment evaluation

In aboard, Fatterman's concept was applied to use in the research called 'Empowerment evaluation as a Social Work Strategy' (Secret, Jordan & Ford, 1999: 120-127). It used empowerment evaluation on a community-based HIV prevention. The evaluation was done on issues such as policies, operations, and research topics. People involved were stakeholders, affected people, and research experts. The research found that empowerment evaluation could be used as a tool to measure and evaluate the project. The results could be transferred from experts to stakeholders and could help them to walk through obstacles in term of applying the result to use in practical situation.

In Thailand, empowerment evaluation has been used in education, human development, and health care. Education shown that research named empowerment evaluation on measurement system analysis and evaluating on the basic education were done (Sawaschai Sriphanomthanakorn, 2008: 140). Research were collected information by observation, informal interviews, and evaluation. Human development shown that research name project of empowerment evaluation in order to sharpen staff potentials in seventeen province (Nawarat Phlainoi, et al., 2007: 191). In health care services, empowerment evaluation also used in the project on preventive dentistry for elder people who had dental implants (Institute of Dentistry, 2008). Therefore, stakeholders could share their experiences with others and they also could develop themselves. Cooperating, advising, and sharing opinions freely would help stakeholders to reach their goals, adjust, and find means during the project period.

2.4.7 Techniques for this research

2.4.7.1 Future search conference: FSC

FSC is a process by which concerned groups participate to show their experiences in the order to create vision and commitment for the organization. The objective of the latter are to develop strategic targets for the organizations. FSC was developed by socio-psychologist in the business sector in England and USA. Since 1997, Dr. Taweesak Nopkesorn applied FSC to the training project to promote strong communities which is managed by The Council of Rajabhat University (Sanit Sattayophad, 2004: 29).

FSC based on concepts Lewin and Bertalanffy. Lawin's concept claims that it is action and the synergy of groups that produce planning and change. Bertalanffy's concept is system theory which believes everything in the world connect is together (Dewey & Carter, 2003: 246). FSC was carry out two to three days with groups approximate fifty to sixty people. The process consisted of three step as follows (Theerapong Kaewhawong, 2543: 163-180):

1. Understanding the previous time. Stakeholders create an understanding the previous times by using a time line. Then, they presented their time lines in the conference.

2. Understanding the present time. Stakeholders perceived their perspectives of the present time by mind mapping. After that, they analyzed the situation and presented their conclusion using play acting.

3. Future search. Stakeholders plant for the future by using action plan action.

Reasons to use FSC: Because FSC can produce mission and strategic plans they were use in this research.

2.4.7.2 After action review: AAR

AAR is learning during work which aim to improve program and can be conducted after any identifiable event. AAR aid team and individual learning. Moreover, AAR focus on trust and unity of team (Supavan Phlainoi, 2008a: 29).

AAR is a tool which was used in the USA army. The objective of AAR in the past was to learn during activity and improve combat in Vietnam (Collison & Parcell, 2002: 76). In Thailand, it used various projects such as the internal evaluation project of a healthy city (Supavan Phlainoi, 2004b: 3-4,10-11).

AAR techniques are used after an activity is finished and take approximate twenty minutes. AAR makes a facilitator and stakeholders to learn together, but it did get an answer from activity. The four steps of AAR include the following main questions: 1) What was supposed to happen? 2) What actually happened? 3) Why was there a difference? and 4) What have we learned ? The result of AAR require Specific Action Recommendations: SARs (Collison & Parcell, 2002: 78, 80-81).

AAR is used enhance learning during do activity and doing an activity and to work quickly. Moreover AAR produces SARs that are used for planning a later time (Praphaphan Un-Ob, 2006: 111).

2.4.7.3 Issue book

Issue book is tool of public deliberation. The objective of Issue book was to drive public policy. Issue book believe that problems in the world do not solve by stakeholders. The government do not achieve the policy result, if the policy do not form the deliberation of stakeholders. The target of issue book is to change civil to active civil (Uthaithip Rakjunyabun, 2008: 43-46).

Issue book show the knowledge of significant public problem and present framing of deliberation which form from the explicit and tacit knowledge. Nowadays, it was used broadly in education and politics in the USA (Jesse, Eds., 2003: 5). In Thailand, it was used in the project of knowledge management to empower for social manager by the Population Education program, Department of Education, Mahidol University (Supavan Phlainoi, 2008b: 106-107). There are three phase to the issue book. They as follows (Uthaithip Rakjunyabun, 2008: 43-46):

1. Preparing: This phase prepares teams who are public minded, unbiased people, accept other opinions and have experience with people in the community. Then, stakeholders built and connected networks to collect data for

concerning framework of deliberation. Finally, research is done to explore concerns inside and outside the community. Later, the results of the research are brought to the public forum for deliberation.

2. Framing issue of public deliberation; This phase has eight steps as follows: 1) finding the concern of the stakeholders; 2) grouping and setting issue mapping; 3) naming the problem; 4) to consider benefit and drawback of choices. 5) to emphasize tension of choices; 6) to define activities for trade off and check direction of the stakeholders; 7) to verify framing and naming issue book; and 8) to reflex learning in the forum.

3. Taking issue book action. The results of the second phase come before public forums for deliberation as an approach to problem solving. Then The issue book must evaluate after issue book took to act approximately one to four weeks.

This research used the issue book approach at the second phase. These steps were; to consider benefits and drawbacks of choice, to emphasize tension of choice, to define activity for trade off, and to reflex learning in the forum. Due to learning of stakeholders become active citizen for prehospital care in their community.

2.4.8 Research about the development of a community-based prehospital care management model for emergency volunteers

This research used the system concept, the Multi-paradigms of volunteering and volunteer management theory as a framing of analysis. The review of the literature from Thailand and abroad , did not reveal research about the development of a community-based prehospital care management model for emergency volunteers. Therefore, the researcher synthesize models from reports and research. The components of a community-based prehospital care management models are as follows:

2.4.8.1 Structure and mechanism: (i) meaning context of area; (ii) services that are emergency illness context and the process of emergency volunteers management; (iii) organizations are (a) the public sector (b) non-government organizations (c) non-profit organizations and (d) cultural organizations; (iv) regulation

of management for emergency volunteers; (v) budgets for management of emergency volunteers; (vi) man who related with management; (vii) vehicle and communication; (viii) development of man; and (ix) planning for management.

2.4.8.2 Management for emergency volunteers meaning that recruitment is defined as defined job responsibility; assessment; matching; screening and selecting; and that retention is defined as orientation; training; supervisor; consensus; coordination; contact; motives; intensives; safety work; reorganization; and free job.

2.4.8.3 Evaluation for emergency volunteers means method of evaluation follow the paradigm and evaluator of management for emergency volunteers.

Table 2 and Table 3, these showed the management paradigm models for emergency volunteers and volunteers in Thailand and aboard that there are four paradigm as described the following.

1. The model volunteering of functionalist paradigm. This model has exist long time in the past. The model differs from others as it tries to measure exactly the outcome of volunteering but it has retention and recruitment problems. Whereas, this model reveal recruitment and retention problems. The insufficient time available for the volunteers to volunteer cause problems. The drawback of this model is that it requires a huge budgets to achieve the targets. The components of this model are as follows;

1.1 Structure and mechanism. This model has been used in urban, rural, and remote areas. In Thailand it has been specially in conflict area in the south. The model has been used in two context. The first is health volunteering to deal with emergency illness, disabled people and inform about is for health in the public sector. The second is for social development in urban and rural communities.

There are four example of the use of this paradigm. The first as authorized by the government at province, state and country level. (Wongsa Laohasiriwong, 2006: 34-35, 68; JICA, 2006: 229). The second is the independent organizations which receive grants from the government and donation

from elsewhere such as the Community Emergency Response Team in Victoria, Australia (RAV, 2007: 52). The third is a non-profit organizations which like independent organization get donation and grants from the government (Thai Red Cross, 2007: 1). The last is the state enterprise which like nonprofit organizations get grant alike (Sturgess & Clough, 2005: 2).

In Thailand and abroad, the emergency volunteer organization showed that cultural organizations were the formal garment and symbolic organizations. Emergency Volunteers worked both as part time and regular schedule. The value of organization committed to save life emergency patients (FEMA, 2007: 1). In contrast, the volunteer organization founded that cultural organization were informal garment (Thai Volunteer Foundation, 2007:1-3), and emergency volunteers work only part time. The value of organization committed to help suffering people and social development (Sturgess & Clough, 2005: 2).

Almost all emergency volunteers are over eighteen years old, because saving people needs a person who is active and strong (Lavinson & Granot, 2002: 175). But in Australia, there are some people thirteen to sixteen years old, who train to be professional emergency volunteers (Queensland Government, 2006: 1-2; 2008: 62-63). In the south of Thailand, police and women soldiers were trained as emergency volunteers (Bureau of Health Supporting, 2007a: 1-4). In many countries, reports indicate that leaders, managers and coordinator are important contributes to saving people's lives.

The development of emergency volunteers and other kinds of volunteers depends on a curriculums and teaching plan, but there are different in details and time to developed emergency volunteers (Tanigawa & Tanaka, 2006: 366-368). In foreign countries, the curriculum last long and aimed competency in and Basic Life Support more than Thailand (FEMA, 2007: 8). However, in Thailand the for First Aid and Basic Life Support were the same as in foreign countries (Bureau of Health Supporting, 2007b: 23-24, 48-69). Thailand (The Government Gazette, 2008: 1-17) and Japan (JICA, 2006: 232) were alike in legislation and planning management for emergency volunteers.

1.2 Management for emergency volunteers. It comprised of recruitment and retention. Recruitment including; defined job

responsibility; assessment; screening; matching; and selecting. Retention including; orientation; training; supervisor; coordination, contact; motivation; recognition; and safety work.

1.3 Evaluation for emergency volunteers. As a result of laws in many countries, governments can know how the objectives for volunteering are achieved. Accurate measurement as a part of the management of the functionalist paradigm is notable. The evaluation of emergency volunteers depends quantitatively on the perception of services receivers such as efficacy and efficiency.

2. The model volunteering in the interpretive Paradigm. This model has exist for a long time, but is rarely discussed. Nowadays, volunteering in the interpretive paradigm appears increasingly. Because of increasing of emergency patients and communication in the globalization. The notable component of the model are understanding and consensus within the organization. The drawback of it were college in the organization got frustrated. The components of this model were as follows;

2.1 Structure and mechanism. This model has been used in urban, rural and some specific area. The specific uses have been for disaster, (American Red Cross, 2008: 1-7) conflict areas, (Royal Thai Army Medical Department, 2007: 1) social development (Orsri Nghamwitthayaphong, 2006: 13-23; 2007; 1-24) and youth development (The Heartwood Centre for Youth Development, 2006: 1-15).

The services provided showed three characteristics. The first is health volunteering in emergency situation. The second is disaster rehabilitation. The third is for social services in the community. The budgets of the interpretive paradigm is like that for the functionalist paradigm. There are two organization structures; the first authorized by the government such as the state and province (FDMA, 2008: 1-2), and the last are nonprofit organizations (American Red Cross, 2008: 1).

In Thailand and the abroad, emergency volunteers organization showed that cultural organization were the informal garment and non-

symbolic organization. The curriculum and value of organization like the functionalist paradigm, but an hours of curriculum is less than the functionalist paradigm. Emergency volunteers and volunteers worked both part time and free time.

The interpretive paradigm is different from the functionalist paradigm in the characteristics of emergency volunteers. The interpretive paradigm emphasizes the training in youth and people such as in Japan and Thailand. The interpretive paradigm and the functionalist paradigm are similar in many features: materials, law related developed emergency volunteers, curriculum, and planning.

2.2 Management for emergency volunteers. Both the interpretive paradigm and the functionalist paradigm shared the same recruitment such as define Job responsibility, assessment; screening, matching; and selecting (Fernandez, 2007: 4-5). But retention founded only consensus, training, motivation (Fernandez, 2007: 5) coordination (The Heartwood Centre for Youth Development, 2006: 13-14) and contact (Orsri Nghamwitthayaphong, 2006: 13-23; 2007; 1-24).

2.3 Evaluation for emergency volunteers. Establishing an accurate measurement of performance for volunteering is not easy. Volunteering depends more on mind than performance. Thus paradigm, therefore, evaluates mind, care for emergency patients.

3. The model volunteering the radical structural paradigm. It is popular model for volunteers in the world. However, it is not used for emergency volunteers. Unlike the functionalist paradigm and the interpretive paradigm there is ample room and conflict in order to change structure and people mind. The limit of this model is that new structure effect on benefits, it might cause volunteer safety. The component of this model were as follows (Greenpeace South-East Asia, 2008: 1-5).

3.1 Structure and mechanism. In common with the interpretive paradigm are context area, cultural organization, curriculums, materials, planning and services i.e. social development and environmental protection. However, the organization are non-profit and the national and global region. The source of budgets are donation from foundations or individuals, grants from governmental or companies are not accepted. For volunteering, such organization emphasize working

within international agreements. Similar to the functionalist paradigm, volunteers are eighteen years of age and over.

3.2 Management for emergency volunteers. This model included such as; recruitment to fill defined job responsibilities; assessment; screening; and selecting; and retention of emergency volunteers through orientation training, co-ordination, contact, recognition, safety-work, conflict and ample room.

3.3 Evaluation for emergency volunteers. This model evaluates objective achievements which produce new structures. Hence, this paradigm evaluates mind of volunteers and how economic changes naturally.

4. The model volunteering the radical humanist paradigm. One obvious difference from the functionalist paradigm, the interpretive paradigm and the radical structural paradigm is free job volunteering. So, volunteers need to be manage or co-ordinate or make contact with an organization which they want to help. The responsibility that originate themselves is a strong point of the organization. The used of this model is in disaster areas. The services are care during disaster rehabilitation and connecting people who are suffering with their relatives and family. The component of this model are as follows (American Red Cross, 2007: 13; Surichai Wankhaw, et al., 2007: 46):

4.1 Structure and mechanism. Structure is nor obvious in this model. Volunteers worked freely and budget belong to them or some part of their organization Volunteers emphasized the value of work and free time of them. Volunteers are of various ages group. They have competence in their area of responsibilities, so they do not need development for volunteer. However, they require some guidelines to volunteer with an organization.

4.2 Management for emergency volunteers. Recruitment is not part of this model, so volunteers define their job and design their jobs. Later, they co-ordinate and connect with organizations which need them to help based on their skills. Management of volunteers focus on retention including; coordination and contact.

4.3 Evaluation for emergency volunteers. This model evaluate the volunteer’s mind and care for those in need.

Table 2 The management paradigm model for emergency volunteers

	Paradigm	Functionalist								Interpretive		
	Model	**US1 FEMA**	**AUS1 CERT**	**AUS2 FR**	**AUS3 ESCP**	**JP1 FAC-1**	**TH1 LAO**	**TH2 Private**	**TH3 Crop**	**TH4 CPR**	**US2 RC**	**JP2 CPR**
Structure and mechanism	Context	Total area	Rural/ Remote	Total area	Rural/ Remote	Total area	Rural/ Remote	Total area	Special	Special	Total area	Total area
	Services	Injury Disease	Injury Disease	Injury Disease	Injury Disease	Injury Disease	Injury Disease	Injury Disease	Injury Disease	Disease	Injury Disease	Injury Disease
	Organization	State Fire Stat Y,Y F/P	RAV DHS Y,Y P	DES QAS Y,Y P	State Local Y,Y Sudden	Province Fire Stat Y,Y F/P	Nation LAO Y,Y F/P	Nation Local Y,Y F/P	Nation Y,Y Sudden	Nation Hospital N,Y Sudden	N-PO Y,Y Sudden	FDMA N,Y Sudden
	Regulation	FLSA1985	ASA1986	ASA1991	ASA1991	FOA1964 ELST1991	AEM2008	AEM2008	Policy	Policy	Human right	ELST1991 IMPFA 1993
	Budgets	State	DHS Community	State	State	State/ Local	State/ Local	State/ N-PO	State/ Local	MOD	NGO	RC/ Local
	Man	People>18 FR,EMT-B	People>18	People>18	Youth 14-16yrs	People>18	People>18	People andYouth	Crops	People School	People/Youth	Youth/ cousins
	Vehicles and communication	✓	✓	✓	NR	✓	✓	✓	NR	NR	NR	✓
	Developed EVs	48hrs-FR 136-EMT-B	50hrs	FA>18hrs +CPR>4hrs.	2 /years Integrated	17hrs (135hrs)	FR20 hrs	FR20 hrs 50-MTB	5 days Integrated	CPR 3 hrs.	Guideline	CPR Curriculum
	Planning	Y	Y	Y	Y	Y	Y	Y	Y	NR	NR	NR
Recruitment	Define Job	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Assessment	✓		✓	✓	✓	✓	✓				
	Matching											
	Screening	✓		✓	✓	✓	✓	✓	✓			
	Selecting			✓	✓		✓	✓	✓	✓	✓	✓
Retention	Orientation	✓		✓		✓						
	Training	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Supervisor	✓	✓		✓	✓	✓	✓	✓	✓		
	Consensus										✓	✓
	Coordination	✓				✓	✓	✓	✓		✓	✓
	Contact	✓	✓		✓	✓	✓	✓				
	Motivation	✓	✓	✓		✓	✓	✓			✓	✓
	Intensives	✓		✓	✓							
	Safety work	✓		✓								
	Recognition	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Evaluation	Method	Qual. & Quan	Qual. & Quan	Qual. & Quan	Qual. & Quan	Qual & Quan	Qual & Quan	Qual. & Quan	NR	NR	Qual	Qual. & Quan
	Evaluator	Org.	Org.	Org.	Org.	Org.	Org.	Org.	NR	NR	Org.	Org.

Remark: source see list of acronyms

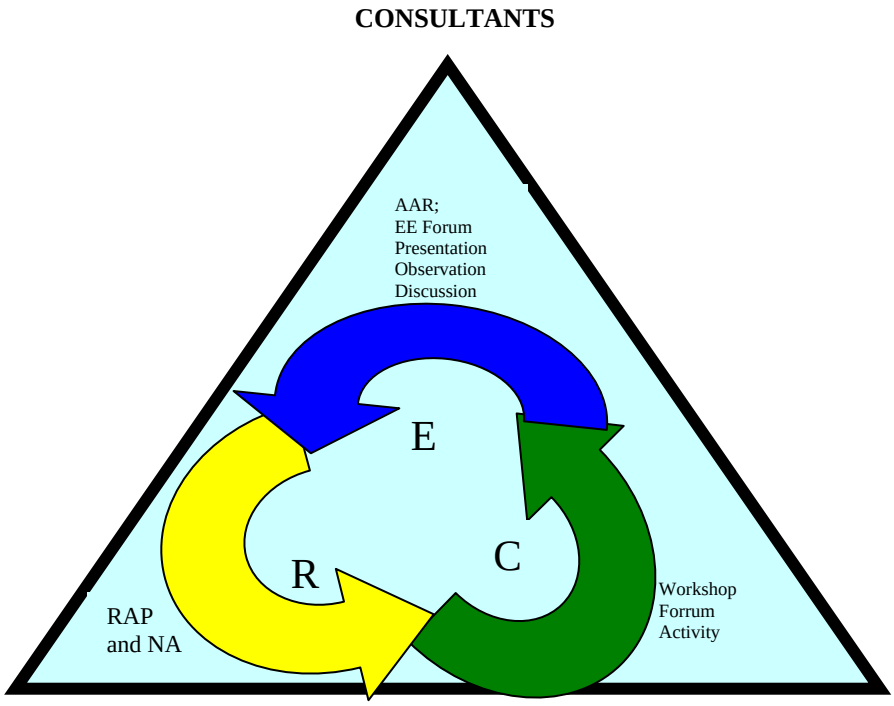
Table 3 The management paradigm model for volunteers.

	Paradigm	Functionalist				Interpretive		Radical Structural	Radical Humanist	
	Model	UK1 Vitalise	TH5 HV	TH6 TVS	CND1 Heartwood	TH7 Spirit	US4 Disaster	TH8 Greenpeace	US5 RC	TH9 Tsunami
Structure and mechanism	Context	Total	Rural	Specific	Total area	Specific	Specific	Total area	Specific	Specific
	Services	Disable care	Health	Social Del	Youth Del	Social Del	Disaster	Environment	Com munication	Relief
	Organization	Enterprise	N-PO	N-PO	N-PO	N-PO	N-PO	International Regional	Individual	Individual
		N,Y P	N,N F	N,Y F 2yrs	N,Y P	NR,Y Sudden	N,Y F	N,Y P	Y,Y P	N,Y P
	Legislation /Regulation	CSA	Regulation	Regulation	NR	NR	Regulation	Regulation	NR	NR
	Budgets	Company Fund Government	Individual Fund	Govern ment Individual	Same as UK1	NR	Individual Fund	Individual Fund	Individual Red Cross	Individual
	Man	Youth >16	People>18	NR	Youth13-18	NR	People>18	People>18	People	People
	Vehicles and communication	NR	NR	✓	NR	✓	✓	✓	✓	NR
	Developed EVs	Train course	Train course	Guideline	Train course	Guideline	Train course		N	N
	Planning	Y	Y	Y	Y	Y	Y	Y	NR	NR
Recruitment	Define Job	✓	✓	✓	✓	✓	✓	✓		
	Assessment				✓		✓			
	Screening	✓	✓	✓			✓	✓		
	Matching	✓					✓			
	Selecting	✓	✓	✓				✓		
Retention	Orientation		✓	✓				✓		
	Training	✓	✓	✓	✓	✓	✓	✓		
	Supervisor	✓	✓	✓						
	Consensus				✓	✓	✓			
	Coordination		✓	✓	✓		✓	✓	✓	✓
	Contact	✓				✓			✓	✓
	Motivation	✓			✓		✓			
	Conflict							✓		
	Ample room							✓		
	Intensives	✓	✓	✓				✓		
	Safety work	✓		✓				✓		
	Recognition	✓	✓	✓				✓		
	Free Job								✓	✓
Evaluation	Method	Qual. & Quan	Qual. & Quan	Qual. & Quan	Qual	Qual. & Quan	NR	Qual. & Quan	Qual	Qual
	evaluator	Org.	Org.	Org.	Org.	Org.	NR	Org.	Org.	Org.

Remark: source see list of acronyms

From the explanation above are summarized on the conceptual framework of development of a community- based prehospital care management model for emergency volunteers as in Figure 8

Figure 8 Conceptual framework of development of a community- based prehospital care management model for emergency volunteers



R = Research Phase

C = Capacity-building Phase

E = Evaluation Phase

RAP = Rapid Assessment Procedures

NA = Needs Assessment of a community-based management for emergency volunteers

Workshop = Workshop of management for emergency volunteers

Forum = Community forum

Activity = Training of emergency volunteers

AAR = After Action Review

EE forum = Empowerment evaluation forum

CHAPTER III
RESEARCH METHODOLOGY

This research was applied concepts of CAR. The objective is to develop model of a community-based prehospital care management. Components of the development of models are:

1. Study area: specifications of study area and reason for select it.
2. Background of this research: position, experience and responsibilities and present status and reason for doing.
3. Research methodology: there are three phases, research, capacity building and evaluation.
4. Quality of research and ethics of CAR.
5. Conclusions of concerning the development process of a community-based prehospital care management model for emergency volunteers.

3.1 Study area

Criteria for choosing any area as a study area.

1. It is community which had not receives from training of Emergency Medical Institute of Thailand.
2. It had to be a rural area. The reason of selecting its particular area is that emergency illnesses more than in urban and rural areas in general. (Phetcabun Provincial Dispatch Center, 2007: 1-10).
3. It is a disaster area with associated effects on the lives and illness of local people caused by for example flooding, landslide and similar events.
4. It is a community that is ready to cooperate with this researcher.

Kangtone Village, Moo 2 Sub-district Nasum, District Lomkao, Phetchabun Province was selected to be the study area. The first reason is that the

community has not received training from the EMIT (Phetchabun EMS Office, 2007: 1-3). The second reason why Kangtone Village was selected is most of local people are farmers. Moreover, they live with their families. Their cousins immigrated from Luang Prabang, (Lao People's Democratic Repulic). They use a local language named Thai-Lom. Their traditions included Boon-BangFai, Boon-Kaopradabdin, Boon-Pravet. Intellectual of loom sewing (Phetchabun Elementary Education Office, 1999: 97-98) according to definition of Pramoth Prasatkul (2000: 277, 297). It states that the community is mostly composed of farmer. Most of them live in extended family and family are related to each other. They are traditional in outlook. They locate live the outside district municipality or sub-district municipality.

The third reason is that there are Nasum Health Center and Nasum Local Administrative Office which organize First Responder Unit at Baan Nasum, Moo3 Sub-district Nasum. Moreover, there are other organizations related to the management of emergency volunteers such as Health Volunteer Group, Money Saving Group, Kangtone School, Chomchang Temple (Nasum Heath Center, 2008: 1-10).

The forth reason is that study area is located near Namphung canal to the west of village near Phetchabun mountain. In September 10, 2008, the Namphung canal flood and four people died from this disaster (Royal Irrigation Department, 2008: 1). Households were destroyed. Some people lost everything and thirty houses were damaged (Nasum Health Center, 2007a 1). The last reason based on interviews with Village Health Volunteer (VHV) header and village header of study area. They gave opinions that this research should be done because the area is rural and far from a health center. Furthermore, the village is without bus transportation. When there are emergency patients, many problems arise. Consequently, this research can be useful for local people.

3.2 Background of this research

To understand the background of the researcher so that reader are able to understand the analysis and interpretation.

At present, I am a technical health officer (Specialist) of the Provincial Public Health Center at the North of Thailand. My responsibilities is academic matters such as intellectual skills and knowledge, analysis, interpretation, monitoring and evaluation. My works is related to district and sub-district public health concerns.

Since I was a second to fourth year student at Nursing College, I have worked with local communities by being a volunteer organizing rural development camps (the "on-the-ground" camp). I joined this project with colleagues from other colleges. Moreover, I have organized Camp for studying people's health with my colleagues. During my study, Community Health was the favorite subject. After graduation, I decided to work with Health Promotion Division of the community hospital in my home town. Because I wants to work with local people. Four years working with health promotion made me realize that it was not enough for learning. According to this I changed my life and my mind to be technical health officer (Specialist) and have been so far the last.

Apart from background and experience, I understands and recognize of illnesses of many kinds. Disease are not only caused by bio-medical reasons, but belief of local people, culture and communities being in remote as well. As a technical health officer (Specialist), I intended to motivate local people to learn about self-health care but it was still not as successful as much as I had expected. It might be my image of researcher being provincial supervisor, so it become to power relationship that obstruct to work or to do a research.

Therefore, I mostly spent my life in study areas and lived as a researcher from an institute, not as a technical health officer (Specialist). However, as being identity of research, local people are able to perceive who does researches is. This research I expect people in study area can learn and contribute their community systematically as much as possible.

3.3 Research methodology

This research used CAR based on three important activities: research done continuously so that new theories and new concepts may be disclosed; capacity-building emphasizing improving the ability and cooperation of stakeholders more

than other research types; and practices that must be applied to get new concepts, theories, and knowledge (Senge & Schamer, 2001: 238-248). From the CAR concept, this research methodology included three phases as outlines in the following paragraphs.

Research phase: I, community researchers and Stakeholders discussed and exchange opinions and knowledge in order to create tacit knowledge and explicit knowledge which analyzed and interpreted to create new knowledge and concept under context of study area (Senge & Schamer, 2000: 238, 240, 248). The created new knowledge and concepts could be applied to the next phase which is capacity Building.

Capacity building phase: In this phase emphasizes working with other researchers, practitioner and consultants. Data analysis is done in this phase based on interpreting the research, consensus from discussion, activities and reflection of process of the activities.

Evaluation phase: This a phase of learning and development of an evaluation between researchers, practitioner and consultants. The evaluation phase included after the end of the activities in this research and the end of the study carried out.

The details of each phase will be demonstrated respectively as follows:

1. Unit of analysis,
2. Sampling and sample selection,
3. Data collection,
4. Instruments,
5. Step of research,
6. Quality of tool, and
7. Data analysis.

3.3.1 Research phase

This phase, researchers need to survey the community with co-researchers. Criteria and commitment are determined. Research is designed; data collection, verification and reflection are done accordingly. The details of this phase are below.

3.3.3.1 Research preparation

1) Documentary review. This requires the collection and study of official records of the country, province, district, sub-district and others sources are also studied in order to build data base of the community being. They are as follows:

(1) Information and history of the study area from Phetchabun Provincial Cultural Museum.

(2) General information about Phetchabun province: health statistics, training of First Responder, study area from the public health office, the district public health office and health center.

(3) Study from research, term papers and dissertations relating to emergency research in libraries, meetings and websites.
Study from training reports of Emergency Medical Institute of Thailand.

2) Pre-survey of study area. This was done by discussing with government organizations: the assistant director of provincial public health office; the director of district health office; the director of Crown Prince hospital; chief of health center; health officer in the health center; VHVs; people and the Local Administrator Office (LAO) office. The researcher also observed to evaluate the community context. Data of pre-survey was analyzed together with section 1.1 to plan pre-research.

3.3.3.2 Research

This step is composed of rapid assessment procedures (RAP) and needs assessment of a community-based management for emergency volunteers.

1) Rapid assessment procedures (RAP) This is based on the method used for ethnographic studies and social perspective. It could help to know the situation issues causing condition and factors in the context of the study site and its culture. Using RAP I could study the area context, socio-cultural context, emergency illness context and emergency volunteering paradigm, including conditions and cultures relating to local people. Keys parts of RAP are active collaboration and multi-methodology. Research methodology needs the cooperation of community researchers, practitioners and consultants. There are qualitative and quantitative approaches and many kinds of instruments that can be used.

(1) Unit of analysis. It is a community.

(2) Sampling and sample selection.

Sampling:

- Researchers. In this study these included the community researchers and researcher. Community researchers intentionally participated in this research as coordinators, moderators, to generate ideas to discuss systematically. Researchers are technician health, nurse at the community hospital, one local person, and five VHVs. Total researchers were ten people.

- Practitioners. There were two groups of practitioners.

● Co-researchers: the abbot at the village, traditional healer, Village Header, VHVs Header, the secretary of civil society, the head of chili paste producers, the head of youth, head of Ruamkatunyu volunteer in the community, seven elderly people, nineteen VHCs, two rescue volunteers, two teachers, two the LAO members two assistants of village headers. The total number of co-researchers were forty two people.

● People: representatives of households. These were older than eighteen years of age. The total number of people ninety-seven people.

- Consultants: the director of LAO, the deputy chief of LAO; the head of Ruamkatunyu volunteer in the sub-district, the chief of health center; the director of sub-district school; the director of district health office; the director of Crown Prince hospital; the director of provincial public health office; a total of eight people.

Sample selection:

- For the researchers, this research was based on participation by focusing on CAR. A voluntary sampling method was applied (Pragai Jirojanakul, Ed., 2000: 100-101). At least ten people were sampled.

- For the practitioners, purposive sampling was applied. The abbot, village header, VHCs header, the secretary of civil society, the head of chili paste producers, the head of youth, the LAO members were selected. The reason for selecting these people was the assumption that selected co-researchers were

community leaders. When there were emergency illnesses, these co-researchers would help deal with the emergency. They were able to provide information of about the context of the area, socio-cultural context, emergency illness context and paradigm including conditions and cultures relating of the local people. These could be related to management of emergency volunteers of the study area. However. When researchers had collected data, the co-researchers suggested to acquire additional data from other groups such as elderly people who are mental leaders of the villagers and teachers who could give additional information about community history. Moreover, there are traditional healer who can help with emergency patients' health care, VHVs and rescue volunteers who are able to provide in-depth information about emergency illness context and paradigm of emergency volunteering in the study area, including conditions and culture of local people. This sampling is called "Snowball sampling" (Nawarat Phlainoi, Chaiyon Praditseen, Juthamad Chairob, Eds., 2000: 151-152).

- Consultants used purposive sampling (Pragai Jirojanakul, Eds., 2005: 100-101). At least seven people were selected. The reasons for selection were special characteristics of each person. They have academic knowledge, power over decisions affecting the research consultation, including academics, and resources. Hence, understanding paradigm of emergency voluntary of consultation would lead to management of emergency volunteers.

- Practitioners are people who are representatives of households. Sample size determination can be calculated by Cochran is formula (Cochran, 1977: 75-76) as follow.

$$\text{Formula} = \frac{Z^2\ \alpha/2\ Npq}{Z^2\ \alpha/2\ pq_{+}Nd^2}$$

N = Sample

N = Total of samples of 235 households

Z = Standard score when $\alpha = 0.05$; $Z^2\ \alpha/2 = 1.96$

Proportion of people in study area (injury) is percentages of 52.94

P = Proportion of people in study area (injury) = 0.529

$$Q = 1-P = 0.471$$

$$\text{Therefore, } n = \frac{(1.96)^2 (235) (0.529) (0.471)}{1.96^2 (0.529) (0.471)+235(0.05)^2}$$

$$= \frac{3.8416 (235) (.2491)}{3.8416 (.2491) + 235(0.0025)}$$

$$= \frac{224.881}{0.9569+ 0.5875}$$

$$= 145.63 = 146 \text{ samples}$$

Samples were selected from representatives of households by voluntary sampling. The reason why samples were significantly selected is this research was studied based on a trust of collaboration of knowledge building. This voluntary sampling also based on stakeholders volunteer to participate in this study.

(3) Data Collection

- Literature review. Literatures are collected included official records of district government organization in order to obtain a community baseline data. Research data were also studied and used to RAP and sample selection.

- There were three kinds of interviews: informal interview, in-depth interview and Group interview.

● Informal interviews. Basic-line information and data were collected. For example, geography of study area was obtained from chief of health Center; an officer of health center, and an officer of the district public health office.

● In-depth interviews. Participants and consultants were interviewed in order to obtain socio-cultural data, emergency context of community and paradigm of emergency voluntary. It took about one to two hours for the interviews.

● Group interviews. This is a popular method (Cohen, Manion & Morrison, 2007: 373). This method was applied to interview co-researchers and participants in order to obtain information of emergency

illness and management of community emergency volunteers. It was also used with small groups in the community classified by type of each household. It was suitable and related to the norms of the community members. Members participating in this activity would be available in the evening after their work was finished. The activity was organized when people were available. For this kind of interview, I would provide any conveniences while community researchers would indicate date, time and place of the interview.

- Participatory observation. This was done to do community ground mapping. Characteristics of interviewees were observed during doing village ground mapping, and while interviews and group interviews were proceeding. Verification was also done. I and community researchers were the observers.

- Field note taking. All data collected were kept as field notes. Though, analysis and interpretation and practice were collected. First of all observations were made by jotting notes which were then expanded into longer notes. Finally field note for about one to two hours was done everyday as well (Luechai Sringernyuang, 2007: 3).

(4) Instruments: Instruments used to evaluate RAP consist of the following (see appendices).

- Observation guidelines of RAP (A1) in the community. It was used for doing ground mapping by myself and community researchers. There were details of the appearance of the community, transportation, public utilities, distances from a place to health facilities, places unutilized by the community, community health services, households, environment, community demography and activities found during the surveys (Gittelsohn, et al., 1998: 11-22).

- Socio-cultural questionnaire and emergency context in community (A2). This was used for co-researchers and consisted of community norm which was opinion questionnaire. This questionnaire indicated factors an economics, social dimensions, culture and politics. It was following the concept of RAP of Gittelsohn, et al. together with concept of ground mapping suggested by Dr. Komart Chungsatheanhsab, et al. (2002: 26, 34).

- Guidelines for group interviews (A3) Co-researchers and participants who were representatives of ordinary people were interviewed. Emergency health of community and management of a community-based prehospital care for emergency volunteers were discussed. Time of interview was around one hour.

- Guidelines for in-depth interview (A4). Co-researchers and participants who were consultants were interviewed for one hour. Definitions, volunteering, emergency volunteers and paradigm of emergency volunteering were discussed.

- Cameras, recorders or MP3 and activities notebooks.

(5) Steps of research

- Exploring community researchers. Firstly, informal conversation fact-to-face were carried out by researchers. Meeting with volunteers of the public health center and informal cooperation with the head officers of each organizations were arranged. Chief officers were from the health center; the district public health office; and the Crown Prince hospital. They was generated various issues which were: history, objectives, concepts and theories applied to this research. Final step was for me to coordinate with community researchers face-to-face informally. Calling via telephone and meeting at homes of community researchers in the early morning and evening were carried out when community researchers were unavailable, information would be passed through their cousins or neighbors in order that I was able to plan and cooperate with participants. Collecting, verifying and gathering date were planned.

- Public Relation was also used including broadcasting by community researchers.

- Meeting was organized to inform villagers. Details of research project were propounded by coordinating between the researcher and community researchers.

- Walked ground mapping. First of all, my self and community researchers planed and arranged to do ground mapping and started the survey. Whenever, community researchers were not available, I would

survey by myself. I would use the map of the village obtained from the of Health Center and additional details would be indicated such as activity areas, houses of villagers who were at risk of emergency illness and disease causing emergency illnesses. During the survey, the observation followed the observation guidelines (A1) and were taken with a photo with digital camera until all around the village was recorded. Field notes were taken everyday after finishing all activities. For the final step, myself and community researchers would verify data to ensure if it was correct. Ground map were drawn incorporating information from meetings and discussions. Some data were lacking ground mapping, more data collection was planned and carried out. The next step of data collection studies of socio-cultural and emergency community contexts, were prepared.

- Exploration of socio-cultural and emergency health contexts of community. Firstly, I would coordinate with community researchers by following the plan of data collecting arranged by co-researchers. Secondly, I would interview participants by following the socio-cultural questionnaire and that about the emergency context of the community (A2). During that time, myself and community researchers would observe participants. Interviews were done until a data baseline was obtained for group interview. Thirdly, acquired data would then be indicated as guidelines of group interviews. Group interview was continued with five to six participants in a group. Participants were local people village from households. When enough data were obtained the interview were stopped. Fourthly, data were verified. If data were lacking or unclear, myself and community researchers would interview other participants until satisfactory data were obtained. Field note taking was required everyday after the end of activities. Finally, content analysis of group interviews was required and free listing would be analyzed as well.

- Exploration of paradigm of a community-based prehospital care. The first step was plans for exploring the emergency volunteering paradigm of the community. Second step was as follows.

● In-depth interviews of participants groups. Group interviews were organized when sample groups were free from their work. This researcher was interviewer and observer as well following paradigm guidelines for in-depth interview (A4). During this period, sound and photo were

recorded by MP3 recorder and camera. Community researchers would indicate date, time and place of interview. Observation of the group interviews was also the role of community researchers. In-depth interviews took about one to one a half hours. Field note taking was always done.

● In-depth interviews of consultants. I would make appointment with consultants and be interviewer and recorder also. It was based on paradigm guidelines of a community-based prehospital care (A4). It took totally 1 hour. During this period, sound and photo were recorded. Field note taking was always done. However, if there are still some lacks of data, I and community researchers will return to interview again until enough data is obtained.

(6) Quality of this research. Instruments was verify content validity by four experts content. Collected data was verified by gathering data from more than two sources, i.e. "Triangulation method" (Cohen, Manion & Morrison, 2007: 141-142). Triangulation method was applied as describe in the following sections.

- Methodological triangulation. This mean gathering the same data using different method. Methodological triangulation was applied in this research in the step of exploration of socio-cultural context and emergency community health context, and also in exploration of the paradigm a community-based prehospital care.

- Investigator triangulation. This is investigation of how different data for each research was obtained. This kind of triangulation was used for community ground mapping, exploration of socio-cultural context, and emergency community health context.

(7) Data analysis.

- Qualitative data analysis. That was used for the analysis of the socio-cultural community context, emergency illness context, management method for emergency illness and paradigm of emergency community voluntary. Steps of content analysis are; (Neuman, 2006: 322-321; Chai Phothisita, 2002: 370-388) read of data recorded from several times of reading; data content, coding and grouping were done and entered in the tables; and data was analyzed by the deductive method and relations were tabulated and presented.

- Freelists analysis. This was an analysis of emergency illnesses and their method of management. Steps of freelist analysis are (Grbich, 2007: 41-43): Data from interviews about the kinds of illness and management methods for emergency illness were ordered respectively; Frequency and percentage were calculated from the amount of interviewees; and analyzed data were displayed as tables.

- Concurrent data analysis. This include both qualitative and quantitative analysis of data of emergency illnesses and management method of emergency illnesses. Steps of analysis were (Creswell & Clark, 2007: 136-142) to convert qualitative data to quantitative data. Data were entered into matrix table, then qualitative data were analyzed generated to quantitative data. Results were coded and displayed in tables explaining the similarity and differences of data.

2) Needs Assessment: This concept emphasizes means and ends of solutions in reality context. Therefore, this research took needs concept to achieve a community-based prehospital care management for emergency volunteers. The details are as below.

(1) Unit of data analysis. It is a community.

(2) Sampling and sample selection.

Samples in this study were stakeholders who were researchers, practitioners and consultants.

- Researchers included myself and community researchers such as academic public health special officer of health center, five local people and VHVs. There was a total of seven people.

- Practitioners are include service providers, community co-researchers and services receivers. There are twenty-two service providers who comprised of twenty VHVs and two rescue volunteers. There are eight community co-researchers consisted of abbot, village header, VHVs header, head of chili paste producers, head of youth, head of Ruamkatunyu volunteer in the community, and two committees of LAO. There are seventeen service receivers.

- Consultants were composed of Director of LAO, the deputy chief of the LAO, head of Ruamkatunyu volunteer in sub-district, th

the chief of health center, the director of district health office, the director of community crown prince Hospital, Director of Provincial Public Health Office, for a total of seven people.

Sample selection: Reasons for selecting researchers and consultants were the same as for RAP. But practitioners were selected as follows.

● Services providers used purposive sampling because I assumed basically that being experienced person of emergency illness care was more comprehensive about needs management for emergency volunteers more than non-experienced person. After interviewing both groups, the data supported assumption. Services providers were interviewed by using group interview because if different groups such as head of villagers were included in the interview, power relationships might affect the outcome. Some services providers were interviewed by using in-depth interview because of the limitation of time activities.

● Community co-researchers were: the abbot of village; Village Header; VHVs Header; representative of civil society; head of chili paste producer; head of youth; head of Ruamkatunyu volunteers in the community; two the LAO members. Total co-researchers numbered eight people. Those of total were selected by using purposive sampling since this groups was assumed to be thinking leaders and had power as policy maker to determine concepts and policies of the management of emergency volunteers. Also in-depth interviews was used in order to avoid power relationship in group interviews.

(3) Data collection: Methods of need assessment were as in the sentence follow.

- Group interview. It was the same method as RAP. Need assessment was used with service providers and service receivers together with group interview. Data were collected along with data of the emergency illness context. I was interviewer and coordinator with community researchers who assisted recording, taking photos and also observation the whole process.

- In-depth interview. These used the same method as RAP. They were used interviewing the co-researcher groups made up of policy makers and consultants. This in-depth interview was done along with RAP.

(4) Instruments of needs assessment consisted of the following (see appendices).

- Question guidelines for need assessment of service receivers of a community-based prehospital care management (A7). Guidelines were composed of issues, components, causes of needs and essential components of a community-based prehospital care management.

- Question guidelines for needs assessment of service providers of a community-based prehospital care management (A8). Guidelines were composed of necessity and important things of community-based prehospital care management.

- Question guidelines for needs assessment of policy makers of a group/organization-based prehospital care management (A9). Guidelines were composed of essential components and proposals of a community-based prehospital care management.

(5) Steps of research: Following the assessment of Atshuld and Witkin (2000: 18-43), there were three steps to needs assessments. However, during this research study, there were two steps were needed.

- Pre-assessment. I would firstly coordinate with community researchers participating in the activities by informal conversion. Next, I would educate the principles underlying of need assessment to the community researchers. Thirdly, I indicated and considered the policies and scopes of need assessment. Scopes means definitions, relating groups, limitations, identified objectives and goals of need assessment, literature review, sources, data application and indication of means of pre-assessment and post-assessment. These policies and scopes were studied from the data obtained by RAP and documentation at Health Center. The last step was gathering policies and scopes of assessment. Plan and flow sheets were prepared leading to the assessment step.

- Assessment. It is gathering data by two The first step was held to explain need assessment. This step was done before RAP. The second step was gathering data, I and community researchers gathered data from data providers. Steps of gathering data are as follows.

● Participants, volunteer who had been service provider of emergency illnesses. About one to two hours were used. First and second steps were called “Need Identifications”. Firstly, myself and assessment team hold a group interview by using the first question of the guidelines of instruments (A7). It was used with Card Sort Technique (Suwimol Wongwanich, 2005: 272-273). Participants would select the card indicating essential components of emergency volunteer management, and then staff of the team would write the details on paper. Secondly, I asked the second question. Data provider would score current status and expected status by using color stickers (yellow = 1, green = 2, orange =3, red = 4). Scoring was ordered from high to low which were one to four, respectively. Assessment team would calculate means and order needs assessment and inform thus to each participants. It led to the analysis of needs assessment accordingly.

● Co-researchers, as representatives of households and service receivers of emergency illness, would take one to two hours doing activities like such as service providers being volunteers of emergency illness. Only step two was excluded. Scoring (1-4 scores) was used instead of color stickers.

● Co-researchers, as policy makers, would provide question guidelines for needs assessment of service providers of community-based prehospital care management (A8) to target group. Then, I made appointments for additional interview by following the question guidelines of the research.

● Participants, as consultants would make policies. Question guidelines for need assessment by policy makers of a group/organization-based prehospital care management (A9) would be sent to the target group. I would take one to one and a half hours to interview and record data and sound and also to observe. This step was similar to RAP.

(6) Verification of research. The instruments applied were used to the verify validity of experts. Collected data would be verified by methodological triangulation like RAP. This is related to a methodological triangulation of gathering data in the in-depth interview and an investigator triangulation of group interview.

(7) Data analysis. Both qualitative and quantitative data analyses were used. Qualitative data was analyzed by content

analysis of policy makers. On the other hand, quantitative data analysis was used for service providers and receivers by using amount, means, standard deviations and analysis of mean difference method called “MDF” (Suwimol Wongwanich, 2003: 275-276).

3.3.2 Capacity building phase

This phase require thinking and analysis. Researchers would verify knowledge collected from the research phase, then they would interpret it to achieve a consensus. The issues of and consensus were the commitment and public relation. After receiving the consensus, it would be acted in the capacity building phase. This phase was continued from the third phase of needs assessment known as “Postassessment”. Postassessment was gathered data before analyze needs and solve solution accordingly.

Cause analysis resulted in needs and determined the solutions which led to action. Researchers and their colleagues did experiments together by collecting and verifying data, then they determined the methodology, commitment and consensus based on existing instruments and their resource. Finally, the public relation was acted and before the act.

Phase of capacity building. It was composed of a workshop and a community forum. A workshop was firstly organized in order to obtain action plan leading to community forum which was priority setting for making decisions. Which would be the bases of action activities. Details of this phase are as follows.

3.3.2.1 Research preparation. Conversation dialogue between myself and community researchers took place to establish who would be responsible for the workshop, community forum and action activities.

3.3.2.2 Capacity building. The detail of this step were below:

1) Workshop about community based prehospital care management at the postassessment phase of the needs analysis and needs solution. The objectives of this forum were to increase the capacity of group working and increase the capacity of output. Therefore, FSC was applied as a tool to this research to promote action and group synergy for the planning of changing

commitment and world view. It revealed that all in the universe belong to network. There are many participants who are part of the synergetic group and work collaboratively. The action plan would be based on data from the research methodology phase written the community context. The details of organizing a community forum are as follows.

(1) Unit of analysis**.** It is a community

(2) Sample and sample selecting. This was the same as for the research phase

- Researchers were composed of researchers, community researchers such as academic public health special officer of Health Center, five local people and VHVs. There were a total of total seven people in this group.

- Practitioners were composed of Village Header, VHVs Header, representative of civil society, the head of women, the head of chili paste producers, the head of youth, a teacher, the LAO member, elderly person, four VHVs, two civil defense volunteer, two assistants Village Headers. There were seventeen people in all.

- Consultants were composed of the Director of the LAO, head of the Ruamkatunyu volunteer in sub-district, the chief of health center, the district health office, the director of Crown Prince hospital, for a total of six people.

Researchers and consultants used RAP to sample selection while practitioners used purposive sampling. Since the concept base of FSC is practice and group synergy for changes of commitment, it was necessary that various leader group should be included. These leaders who formulate community policies had to have thinking process and motivation leading to change.

(3) Data collection. This consisted of workshop for the action plan and with the results presented to a community forum.

(4) Instruments. These were composed of: community information from research methodology phase; Issues used for organizing the workshop which were the data from the RAP, and data about of a community-based prehospital care management; and cameras, recorders or MP3 and notebooks.

(5) Steps of research.

- Formal and informal invitation were extended to co-researchers, participants and consultants to join the activities. Community researchers were invited directly.

- Organizing workshop by: 1) Presenting data of research methodology. Co-researchers would together analyze and interpret these to make the action plan; and 2) Brainstorming to achieve an action plan for community-based prehospital care management by using FSC technique. Attendants were co-researchers, participants and consultants. Researchers would be coordinator while community researchers would be assistants during the workshop. Community researchers would take notes; take photos; record and other work as required during workshop as well. FSC techniques were used to organize the workshops. (Theerapong Kaewhawong, 2543: 163-180). FSC steps were as follows.

First step was to issue the procedure of the workshop. Attendants would be asked to do the timeline in order to make understand the past. The timeline would be demonstrated and discussed in the workshop.

Second step was to make understanding in the present. This step depends on the perception of stakeholders' perspective. There were three groups of this step. These were volunteers, leaders and youth groups. Researchers would encourage all groups to know the present about a community-based prehospital care management for emergency volunteers, existing activities, limitations, supporting factors and additional activities.

Third step was future research. Additional activities and supporting factors were considered for a future research together with a community-based prehospital care management for emergency volunteers by making an action plan of each group. Groups presented their action plans to the forum. They and other people at the meeting discussed and exchanged information to fulfill the issues more completely. Last step was collecting data and drawing conclusions. Data then were verified by attendants. Action plans were made and were presented to the community forum.

(6) Quality of this research. Methodological triangulation was used during data collection.

(7) Data analysis. Data from the observations, recordings, group discussion were analyzed by content analysis. In addition, data from the workshop was analyzed by descriptive analysis.

2) Community forum. This step was still postassessment. It was used to determine choices of need solution for making plan. This plan would be used for defining important activities and order their of importance. Public deliberation was adopted for making an issue book. Advantages, disadvantages and tradeoffs of each choice were a concern such as tension of choices of the solution, activity determination of each choice and reflection of learning.

Even though, the objective of the issue book was that it be used as public Instruments to stimulate issue of public policies, but goal achievement was individual change to be active citizen. Goal achievement seemed like a goal of this forum. It was to motivate practitioners, who were community co-researchers and local people, to learn being active citizens of community-based prehospital care management for emergency volunteers. The details of the community forum are described below.

(1) Unit of analysis. It is the community.

(2) Sample and sample selection. Nineteen local people were selected as representatives of households. They were used for sample calculation and sample selection which were similar to RAP.

(3) Data collection from community forum

(4) Instruments. These consisted of setting up outlines: action plan of a community-based prehospital care management for emergency volunteer; issue map of community-based prehospital care management for emergency volunteers (Doble, Bosk & Dupont, 2009: 38); and cameras, recorders, MP3 and notebooks.

(5) Steps of research.

- Public relations. Community researchers would make contact face-to-face and use broadcasting.

- Community forum. Representatives were local people from each household. Researchers and community researchers would give

suggestions. Moreover, community researchers took photos and observed the forum and supplied conveniences for this community forum. There were five steps in this forum. First step, researchers would provide conclusion about the research, RAP, needs assessment and results of forum the workshop. The conclusions were presented to all attendants. Second step. Researchers and community researchers would demonstrate issue map to make decision to suggest doing priority activity.

Third step, Researchers stimulated attendants to consider issue map and debate about selected activities such as advantages, disadvantages and tradeoffs. Forth step was voting to prioritize activities. Community researchers counted the vote and told the results. Attendants could ask questions to be clearer about any matters that they want to rise. Last step is verification. Researchers announce conclusions and co-researchers would verify them before issued activities could be applied.

(6) Verification of research. Data were verified by methodological triangulation.

(7) Data analysis. Data from community forum were analyzed by content analysis.

3) Activity of community forum. This step was done to seek emergency volunteers. Training of emergency volunteers was reviewed as follows:

(1) Unit of analysis was the community.

(2) Sample and sample selection

- Researcher group were myself and community researchers. The later included an academic public health special officer of the Health Center, a nurse and seven of community researchers, for a total of ten people.

- Participants were composed of Local people and consultants. Local people who had the required qualifications for needs assessment of volunteering. There were than thirty people. Consultants were the chief of health center, the district health officer, the director of Crown Prince hospital, total

were three people. Sample selection was done by same method as RAP. Emergency volunteers would use voluntary sampling method.

(3) Data collection. Data were collected by using observing, recording by MP3 and taking photos.

(4) Instruments. These were composed of: 1) determination of activity of a community-based prehospital care management for emergency volunteer; 2) cameras, recorders (MP3) and notebooks; 3) training manual and VCD; 4) material for First Aid demonstration; for example human model for Basic Life Support, gauze, bandage and triangular bandage; 5) and immobilize action and transportation form consist of eleven items. Treatment simulation form contain forty three items. It was applied from Basic Life Support form and Immobilize and transportation. (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 118-121). Those were five criterions.

(5) Implementation step was as follows;

- This step were prepared by myself and community researchers to develop a curriculum based on the needs assessment, arranged a manual, a VCD, and a place for training.

- Community researchers carried out public relations to people and practitioners by individual and publicly.

- Researchers recruited volunteer people for training based on the needs assessment by instance, selecting, matching and matching volunteering people to become emergency volunteers.

- Researchers coordinated volunteers who had been recruited already by formal methods such as by formal documents and informal method such as the telephone.

- Researchers coordinated chief of health center and director of the school to ask to use their facilities for training place. After that, researchers arranged to train volunteers. Finally, researchers make a consensus to recognize for the trainees then produced certificate for them.

(6) Data analysis. Data from observation, recording, and group discussion was analyzed using content analysis. In addition, data from training was analyzed by descriptive analysis

3.3.3 Evaluation phase.

The evaluation phase is a learning and development process. It is learning and development through the evaluation by stakeholders which overlaps the first phase and the second phase as follow:

3.3.3.1 The evaluation during the research process. There are many phases and activity instruments, depending on the characteristics of activity context of the community and the time of activity. Hence, the researcher used many instruments. They included discussion, observation, report presentation and AAR. Discussion is a method which asked stakeholders about the expectation from activities. Observation is a tool which used during and finishing the research. Report presentation was used in the forum for reflection and sending formal documents to stakeholders. AAR was used in the evaluation phase ,because it enhanced learning during the research process, stimulated action and finally got the specific action recommendations (Praphaphan Un-Ob, 2006: 111). The details of evaluation process are follows:

1) Unit of analysis: It is a community composed of individual level.

2) Sample and sample selection. stakeholders are practitioners , consultants and community researchers who were invited in the research phase, capacity-building phase and evaluation phase.

3) Instruments. It composed as follows (see appendices);

(1) AAR guideline (A5) It has four questions; 1) What was supposed to happen?; 2) What actually happened?; 3) Why was there a difference?; and 4) What have we learned? (Collison & Parcell, 2002: 85).

(2) Observation guideline (A6) This consisted of three parts; observation note: note taking during a real situation; Theoretical note: an interpretation from the real situation based on research theories; and Methodology note: explains sense of achievement deflection and loss of data (Supank Jantawanich, 2005: 64-65).

4) Steps of research.

(1) Discussion. I discussed with participants what you expected, what you had gain and how to process improve the process. This step asked we finished exploring the emergency context and needs assessment.

(2) Report presentation. First, I summarized the report. Second, myself and community researchers sent report to the stakeholders for reflection. Third, the researcher presented the report in a workshop and last, community researchers and stakeholders reflected again. During the process, community researchers recorded and observed data in the field.

(3) Observation. Researcher and community researchers as observers gathered data on physical setting, human setting, interaction setting and program setting (Cohen, Manion & Merrison, 2007: 396-397)

(4) AAR. I was a facilitator, when the community researchers gave data to researcher. The first step, I planned to appoint community researchers to setting the time and prepare for the AAR issue. The second step, I proceeded obtain lessons learned by AAR guideline, then I determined three matters (i) what matters are the best (ii) what matters are bad. The last step, I summarized AAR results to the Specific Active Recommendations (SARs)

5) Verification of research Data were verified by methodological triangulation.

6) Data analysis. Data from were analyzed by content analysis and descriptive analysis.

3.3.3.2 The evaluation after finished research. This activity was carried out by empowerment evaluation forum. This activity used the concept of Fetterman. This concept viewed about democratic participation which stakeholders evaluate the activities by themselves. Stakeholders also plan to determine their life and plan to enhance for the future. This forum require stakeholders participation for planning, acting, reflecting and designing research. The step are follows:

1) Unit of analysis. It is a community.

2) Sampling and sample selection.

Samples of this research were: 1) Researchers. It was composed of myself, one community researcher, and one academic health officer. Total researchers were three persons; 2) Practitioners. There were two groups of practitioners including; co-researchers consisted of the village header, the VHVs header, representative of civil society, the head of chili paste producers, the head of woman, the head of youth, head of the Ruamkatunyu volunteers in the community; three VHVs, one of rescue volunteer, and two the LAO member. Total co-researchers were thirteen people; and consultants were consisted of representatives of the LAO, head of the Ruamkatunyu volunteer sub-district, the Chief of Health Center, assistant director of the sub-district School; representatives of the Director of Crown Prince Hospital. Total consultants were five people.

Sample selection: Practitioners and consultants were selected by purposive sample, because they are strong representatives in this research.

3) Data collection: Community researchers coordinated participants to join and gathered data in EE forum by recording, note taking and observing. Whereas, I was a facilitator.

4) Instruments. It were composed of three instruments.

(1) Empowerment evaluation (EE) guideline. It contain issue questions (Teeradej Chai-Aroon, 2008: 5-10): (i) What expectation of achievements were there for the project; (ii) What are achievements of the project ; (iii) What were priorities activity of the project and the reason ; and (iv) What were the priority activities and the reasons, and strengths and weakness of activity; and How strategies should be build in the future .

(2) Schedule of EE forum

(3) Cameras, recorders (MP3) and notebooks

5) Step of proceed EE forum. Based on the Fetterman's concept, the forum led to self-evaluation and reflection by democratic participation which based on the community context. The step to achieve thus were as follows:

(1) Preparing. Researchers held a group meeting to prepare locations, instruments and baseline data.

(2) Proceeding. I discussed about EE concept, then took a rule of EE known as "The Three Steps Approach" as below (Teeradej Chai-Aroon, 2006: 72-84):

Step 1: Specify Mission. In this step, I gave chances to participants to explain about their duties in the project. I used EE guideline (A10, the first item) and proceeded to step 2 later.

Step 2: Taking Stock. This step dealt with self-evaluation based on the mission or target which was set by members. This step also used meetings as the main method by dividing step 2 into sub-step:

- Giving priority to each activity. I let members to current activities which were about ten activities (A10). After specifying activities, a priority would be given to each activity by attaching colored labels then members gave their opinions to other members. Finally, I summarized the priority of each activity to members again. This sub-step took time approximately twenty minutes.
- Self-evaluation. After arranging the priority order of each activity, I gave chances for members to evaluate how good each activity was done. They could discuss the reasons how the results arose. Average scores would be considered. Therefore, everybody was able to see strengths and weaknesses of each activity as well as the whole picture (A10). This sub-step took time approximately one hour.

Step 3: Planning for The Future. I discussed with members in order to give opinions for future plan. The focusing was on what objectives would be, how activities could be done, what would be strategies and methods be, what tools would be used, and when they could be done. This sub-step took about as long as evaluation.

6) Verification of research. Data were verified by methodological triangulation.

7) Data analysis. Data were analyzed by content analysis and descriptive analysis

3.4 Quality of CAR and ethics of this research.

3.4.1 Quality of CAR

CAR is based on AR, so I used Anderson and Herr's goals of AR and validity criteria (Herr & Anderson, 2005: 55). This concept has five validity criteria which linked to the goals of action research on following: 1) dialogic and process validity linked the generation of new knowledge, 2) outcome validity linked the achievement of action-oriented outcomes, 3) catalytic validity linked the education of both researcher and participants, 4) catalytic validity linked results that are relevant to the local setting, and 5) process validity linked a sound and appropriate research methodology.

3.4.2 Ethics of this research

An ethical approach was important for this research and was concerns at all times with the following matters.

3.4.2.1 Consent process. This process research creat collaboration between researchers, practitioners and consultants. Certainly, this research aimed to create new knowledge of prehospital care management based on local settings. Besides, the appropriate research methodology should be dependable and competent and stimulate participants to taken apart in democratic learning for the generation of new knowledge. This research emphasized the consent process based on respect and reciprocity of participants.

3.4.2.2 Protection of the Right of participants. This research following the approach of the Mahidol University Institutional Review Board (MU-IRB). It gained recognition from MU-IRB on 21 November, 2008. The steps of to protect the rights of participants were as follows; I explained MU-IRB's consent form to participants so the could the understand objective, research methodology, time of research participation, reasons of research participation, benefit and risk from research. Participants could reject or accept to participate in this research. They answered questions freely and could withdraw at any time without it reflecting on the participants. I took data from participants to use in this research only and confirmed that I would keep the data secret.

3.5 Conclusion of the development process of community-based prehospital care management model for emergency volunteers

The development model included three phases as follows:

First phase: Research: This phase participants learned to think and learn about RAP and Needs Assessment. First, RAP was used an exploration of the community context, socio-culture context and paradigm of emergency volunteering and last, needs assessment which means investigation of community-based management for emergency volunteers. As a consequence of the first phase, the researchers drafted a frame of management for emergency volunteers to act in the second phase.

Second phase: Capacity Building: The second phase was the capacity building phase. This phase built the capacity of stakeholders by using workshops, a community forum and training of emergency volunteers. A Future Search Conference (FSC) was used in the workshop on management for emergency volunteers. The results of the workshop were an action plan for the management emergency volunteers. This action plan was used to make decisions in the community forum which were entered in an Issue Book for future action. The result of the decisions in the community forum was to train emergency volunteers.

Third phase: Evaluation. The third phase was evaluation. This phase consisted of evaluation during the research process and evaluation after finishing the research. The evaluation during the research process included discussions, observation and After Action Review (AAR). The evaluation after finishing the research was taken for consider at the empowerment evaluation Forum.

Table 4 The conclusion of research process

Steps of Research /Objectives	Participants	Activity and Data collection	Instruments	Data analysis	Results
Phase1. Research					
1.1 Rapid Assessment Procedures					
To build relationship and understand the community	10reserchers 97 practitioners (people) 8 consultants	To review documentary To survey To find out community researchers	Baseline data Official records Articles, Research, Report	Content analysis Descriptive analysis	To gather data for preparing Participants participated in the research
To understand community, sericulture, Emergency illness context, To explore paradigm of emergency volunteering the community	10reserchers 42 practitioners (people) 8 consultants	To survey walked rally mapping To survey community, sociocultural, and Emergency illness context by in-depth interview and group interview To paradigm of emergency volunteering in the community	Observation guideline(A1) Sociocultural guideline(A2) Group interview guideline(A3) In-dept interview guideline(A4) Field note taking Camera MP3 recorder	Content analysis Freelist analysis Descriptive analysis Concurrent analysis	-walked rally mapping -Participants learn to look and think context To identified paradigm of emergency volunteering
1.2 Needs assessment of a community-based prehospital care management for emergency volunteers					
To identified needs assessment To meet people. To coordinate	7reserchers 22 practitioners (volunteers) 8 practitioners	-Researchers and set draft framing. -Group interview and card sort in	Needs assessment guideline in service receivers (A7) Needs	Content analysis Descriptive analysis Freelist analysis	Participants learn to understand and identified needs assessment in

Table 4 The conclusion of research process (cont.)

Steps of Research /Objectives	**Participants**	**Activity and Data collection**	**Instruments**	**Data analysis**	**Results**
Community.		service receivers and service providers. In-depth interview in service providers group.	assessment guideline in service providers (A8) Needs assessment guideline in service providers (A9)	Concurrent analysis	service receivers service providers and resource solution group
Phase 2 Capacity-building					
2.1 Work shop of management for emergency volunteers					
To build capacity of think, analysis and define problem of management for EVs in participants	10reserchers 42 practitioners (people) 8 consultants	-presentation -Group meeting by applied FSC	FSC guideline Report	Content analysis Descriptive analysis	Participants learn to think, act planning for management -To get action plan
2.2 Community forum					
To build capacity of priority setting for management EVs	97 Practitioners 1 consultants 2 researchers	Public relation Community forum	Action Plan Framing of issue map	Content analysis Descriptive analysis	Participants learn to decision management for EVs To get priority activity for action

Table 4 The conclusion of research process (cont.)

Steps of Research /Objectives	**Participants**	**Activity and Data collection**	**Instruments**	**Data analysis**	**Results**
2.3 Training of emergency volunteers					
To enhance management learning for in practitioners	7 researchers 30 practitioners (people) 3 consultants	Coordinate with community researchers and voluntary people Public relation in the community	Training schedule Material for training Form of Practice and simulation	Content analysis Descriptive analysis	Numbers of trainee Participants learn to management for EVs
Phase 3. Evaluation					
3.1 The evaluation during process research					
To enhance learning in participants during process research	7 researchers Practitioners and consultants who join in activity research	Lesson learn by AAR Discussion Observation Formal report presentation	AAR guideline(A5) Observation guideline(A6)	Content analysis Descriptive analysis	Participants learn to cause of weakness and strength activity To achieve lesson learn To get SARs
3.2 The evaluation after finished research					
To enable and enhance of evaluation for management EVs in participants	3 researchers 13 practitioners 6 consultants	-EE forum	EE guideline (A10)	Content analysis Descriptive analysis	Participants learn to evaluate research To achieve model and learning process

CHAPTER IV
RESULTS

The research is based on beliefs, values, attitudes and methods which determine management for emergency volunteers. The goals of this research not only enhance the capacity of human life, but also recognize human life. Besides, it concentrates on the "community" more than the public sector. This research was used CAR as a tool for developing the model. The results are four parts as follows:

4.1 Research phase. The detail of research phase were as follows:

4.1.1 Data analysis of RAP. It included community context; emergency illness context; and emergency volunteering in the community.

4.1.2 Data analysis of needs of a community-based management for emergency volunteers. including:

4.1.2.1 Needs of structure and mechanism;

4.1.2.2 Needs of management of emergency volunteers; and

4.1.2.3 Needs of evaluation of management for emergency volunteers.

4.2 Capacity building phase. This phase brought research phase to build capacity in participants. The details of this phase were as follows:

4.2.1 Structure and mechanism;

4.2.2 Management of emergency volunteers; and

4.2.3 Evaluation of management for emergency volunteers.

4.3 Evaluation phase. This phase were reflected this research thesis. The details were as follows:

4.3.1 Reflection of this research thesis; and

4.3.2 Reflection of model a community-based prehospital care management for emergency volunteers.

4.4 The result of research thesis. The details of research thesis were as follows:

4.4.1 The conclusion concerning a model of a community-based prehospital care management for emergency volunteers

4.4.2 The conclusion of the research

4.1 Research phase

This phase is based on CAR concept, emphasizing community and paradigm of emergency volunteering. These led to RAP and needs of a community-based management for emergency volunteers as follows:

4.1.1 RAP I would to explore deeply community context which is collaboration and multi methodology. So, RAP were used in this step. Result of RAP would take to build capacity in participants in the next phase. Data analysis of RAP revealed community context; emergency illness context; and emergency volunteering in the community. The details of RAP were as follows:

4.1.1.1 Community context. This contained community history, ecological context, sociocultural context, economic system, social groups and politics, population transition and the emergence of sub district responder team. I collected data from RAP. The results showed total of participants were nineteen participants. There were male more than female. Participants groups were working group and aging group. Data analysis were as follows:

1) Community history: Migration of genealogical group. The first of the genealogical group was “Thongma KaewKhem” who cause of the war in Laos came to settle in this community approximately one hundred and eighty years ago. Today, everybody knows “Kaew” mean they are the same genealogical group. As a practitioner said:

> " To settle down here. He was my father "Thongma KaewKhem", he came here with my mother…came here alone then the genealogical group came later…planted rice and had farm" (male 95 years)

The first location was enclosed by mountains and streams twisted through many rocks. The streams flowed around many islets , so people call this community "Bann Kangton" As a practitioner said:

> "It is islets. The canal is located on the south of this community. 'Kang' is 'Tone'…..It is loud "Houm.. Houm"..the canal jump, we call it waterfall. (male 85 years)

2) Ecological Context. The location of the study area. It is a remote area enclosed by mountains and winding streams all of terrain is hilly. Study area is separated from other communities. There are asphalt road which connect places outside the community Bann Kangton. Inside community, there are concrete roads. People travel by motorcycles and pick-up trunks. As a volunteer said:

> "In the past time, it was very far, no asphalt streets and the streets from Leuy Province and Lomsak District had not constructed. In the present, I have enough public utility. Now I guest, every household has a motorcycles.. estimate one hundred motorcycles" (male 46 years)

There are many weirs which people built by themselves. People in Bann Kangtone drink rain water from running water system which was built ten years ago. People can connect to some place by mobile telephone, but they could not connect by a fixed line system. In the present people have set up satellites approximately four to five years ago. As participants said:

> " The cost of cultivation is low, because they irrigate canals to their field." (male 48 years)

> " I cannot connect at 'Mae Phan' home, but another area is good. There were satellites previous 4-5 years." (male 46 years)

The study area is four kilometers from Nasum health center, twenty two kilometers from the Crown Prince hospital and eighteen kilometers from the district of government office near the market. As a village header said:

> " We lived a small group, no street for us to walk ..fifty years ago. We had walked on laterite way. Now it became concrete street.. Turn left on asphalt streets is Lomkao district and turn left is Lauey province." (male 54 years)

Transportation is better than in the past, so there are many markets. A mobile market located beside this community and markets located on tree blocks of the community. An informal club is located at a community house in each block. There is a Children Development Center, the responsibility of the LAO which is located in the block of the VHVs header. As participants said:

> "This block has not call a phone, The block of head VHVs and the block of Bann Kog which affect from flood last year. The government allocate land and house for them in the order to stay at the mountain." (female 72 years)
>
> " Mobile market…once or twice a week." (male 45 years)

The geography of community means people located on hills, beside streams and the mountains. Crowded houses locate on twisting roads which pass intersect streams. Almost all of houses are constructed of wood on the first floor is cement or tile, and second floor is made of wood. The roof of the houses are of tile and corrugated iron. Because of the strong wind, the least of pillars houses were constructed on big rocks. Granaries are located beside the houses and most of the pillars granaries are constructed on big rocks. The reason of this

because of the geography, so people did not bury house pillars which also protected them from insects such as ants and termites. As participants said:

> " No have..still have granaries. Granaries were constructed on big rocks, it protect termites and ants. (male 84 years)
> "If I bury pillar houses, I found many rocks. I cannot dig holes to bury, but granaries can set on big rocks. Many houses were set on big rocks in the former time, but the strong wind made people take big rocks off." (male 84 years)

After effects of last years floods, people have made kitchen gardens and a small aquaculture projects. I saw some wrecked houses that were being rebuilt with support by Princess-Pa Foundation. As participants said:

> "We emphasized to supported small aquacultures and a kitchen gardens. This village was supported by non profit organization. The initial project was difficult, people said that doing is better than nothing" (male 57 years)
> "This new house were support by the government. It' s deepened on the wreckage. Some people rebuilt from old house and their money." (male 54 years)

The flood caused environmental changes especially many beautiful rocks in the streams. When I visited the community, I could see the wreckage beside the canal, is a risk to buried homes which located beside the canal. As a practitioner said:

> " The former time, we could walk across the stream. When I saw the stream, there were beautiful rocks. Today I could not see, but I see many trees in the steam. The stream been shallow, because the mud was flowed from faraway land and people built the irrigation. When the canal flowed, the flood was effect on this village." (male 34 years)

3) Sociocultural context. This contained people in the community, social tradition and rite, socialization and gratefulness, strong relation with Buddhist religion and lost of rites. Data analysis showed as follows:

People in the community: Kinship and reciprocity. This community was formed by kin groups from a faraway land in a located that is a remote area. Despite, the social changes in the community strong kinship ties and reciprocity still exist in this community. For instance, people in this community help kin member and neighbors to care for emergency patients; work in the fields; and make merit. Moreover people are friendly, even though I am a stranger. As practitioners said:

> "Ten year ago, people in the community were not rich, but they lived as a kinship. They would not go out the community, but few people went out. They have not made contact with people outside community. I founded a kinship be relate with together, now it be better. This community is a big village. I visit many times and I founded people are as kinship , friendly people and plentiful food. I fell impressive." (male 57 years)
>
> " They normally help as kinship. If there are emergency patients , they will call on to care emergency patients." (female 42 years)

Frugality. The reciprocity , friendly people are not only characteristics of people in this community, but they also are frugal people. Because of the ecological context. As a teacher said:

> "I stay here twenty six years. I appreciate that people are frugal people. Self-sufficiency agriculture is suitable for this community. People made kitchen gardens such as garlic, red onion and plum tomato. If some people don't have vegetables, they borrow vegetables from their neighbors or kin groups." (male 48 years)

Social, Tradition and Rite: Who is visitor, we welcome" This term is fact which I experienced in the field. Every time I visit participants at their homes, I given water to drink and their smile. As a practitioner said:

> "Our tradition…. If we have a guest, my mom will prepare food for guest, drinking water. Last week, I had guests from foundation, she took banana for them." (male 46 year)

Socialization and gratefulness. Society and families carry out the socialization process which socializes youth to be grateful people. Youths value gratefulness to their parent , grandfather and grandmother. As teachers said:

> "Most of their sons and daughters sent money back to their parent. Almost of people have pick-up cars to carry crops. Some student have good careers, they rebuilt new house for their parents. Some family left their kids with grandmother or grandfather, it mean kids must believe in grandmother and grandfather. (female 48 years)
>
> "Here, the primary school student must crop corn, wash dishes and cooking. If they don't do it, their neighbors said why you didn't do. Many people said like that ….They feel what right does it is. If they don't do it, it is not right. If ask me I will answer I think it socialize from the nature of life experience in everyday. For youth in here. Especially, some youth who are civil government ,they are role model of conscious. They take care their parent, built new house and buy new pick-up car for them. For example, some youth who they study pass grade six, they work as blue- collar. When they came back ,they built new house then buy new car for their parent." (male 48 years)

Strong relation with Buddha religion. The strong ties with the Buddhist religion is a foundation for people in the community. They emphasize religious activities such as 'Boon PraWeth' It is a big ceremony. Everybody inside and outside this community join together as I saw. As participants said:

> " This community, people like to act at the temple. They faith religion abundantly. Everybody come to join this activity especially 'Boon PraWeth' I was born in LomKao district ,I had seen big ceremony here. Some people work outside this community ,they must come back to join this ceremony." (male 58 years)
>
> "Boon PraWeth" is big ceremony. You will see collaboration, sacrifice and everything. People stop working and dress white clothes." (male 48 years)

Lost of rites. In the present, religious activity had decreased. For instance, "Su Khun Kaow", "Tob Takrao" "Hae Nang Maew". The cause of this were people migrating, out of the community. Another cause is the absence of leaders in the community. As practitioners said:

> "The former time, people didn't have debts, didn't borrow money from Bank of agriculture and agricultural cooperative. Now, people have much more debts and pay extravagantly such as children must have telephones and motorcycles. So, everybody must work for their family, some family must work at Bangkok. Tradition is to take apart at the temple, it lost. Everybody is busy, they must grow chili and vegetables." (abbot 61 years)
>
> "To made a merit at home then no one go outside his home. Now they didn't respect it. The past, they sprinkle water, played rattan ball and played "SaBaa" at day and at night played "Mae Nang Kauk" and "Mae Nang Kane" in Songkran festival. Its lost, because of disrespect." (male 84 years)

4) Economic system: self-sufficiency and intensive agriculture. From the formation of this community people can earn a living. With government support of the economic system, self-sufficiency agriculture changed to intensive agriculture. Intensive agriculture made people; work in fields all the year; borrow money from governmental bank; and use machine instruments for agriculture. As practitioners said:

> "Few houses have debts. My house…..This [point to tractor] I pay by installments from Bank of agriculture and agricultural cooperative . The cost about six thousands, I earn form work in fields, Now, I have no money, In rainy season, I seek for bamboo shoots and mushroom to eat. I will not buy food in the market, if I have food in my home." (female 30 years)
>
> "Motorcycles more than one hundred, some house have three motorcycles. Sons and daughters brought pick-up trucks for their parents in order to transfer them to hospitals." (male 45 years)
>
> "During 1981..I move to work in Bangkok. I planted in fields, ploughed field by buffaloes. A carpenter is my temporary career. I cultivate the land, I do farming, it is my land. I have a pick-up car, I have brought it seven years ago and my tractor have brought two year ago. I pay by installments for Bank for agriculture and agricultural cooperatives already." (male 54 years)

The existent of reciprocity and commercial exchange. The topography, community resource and kinship led to generalized reciprocity and balanced reciprocity in the community. Generalized reciprocity means caring and giving money or other thing to parents. Balanced reciprocity means the exchange of fish or vegetables. Nowadays, the way of the reciprocity still exist. Today, commercial exchange is the major form of exchange. As practitioners said:

> " The past, I found wild yam in the forest. If I had rice not enough to eat, I took it to reciprocate with other community. The present, If someone need much more rice, they must grow the rice by himself." (male 76 years)
>
> " To do corn farming…to grow chili farming. to grow rice field… to plant vegetable ..If someone made much more rice, they take to his kinship or neighbors. Then they return rice. We will not buy rice to eat." (male 84 years)
>
> "I fed cat fishes beside my home. I didn't eat it. I gave to my daughter or my cousins. I didn't plant vegetables here, but I have plant it at my field

long time ago. There are gourds, green onions and garlic. My neighbors and I are alike plant." (female 72 years)

Social groups formed by government. In the past, social groups depended on kinship and promoted religious activities. This was because of the strong relationship with Buddhist religion. When people had debts , youth grew up and some youth migrated to work in Bangkok. So social group changed to sending money back for religion activities. The government later set up groups. For instance, savings group and housewives group. Some group were set up by Princess-Pa Foundation. As practitioners said:

" Ten years ago, after people borrowed money from the bank. The first, youth joined to work such as cement and built pavilion at a temple. Now they have debts, so everybody must work for family….I begged disciples who work at Bangkok to do 'PhaPa'." (abbot 61 years)

"Social groups in kinship were rare activity. The past, we don't have public utility. The present, people will join to talk about saving group, VHVs group and million group." (male 45 years)

"There are housewife group. Informal group is chili paste producer group. It is my group." (male 46 years)

No money no vote. People now vote for politicians for money, starting approximately five years ago. The cause are ; people get frequent information from televisions, satellites and radios . Moreover they have vehicles, so they connect with people outside their community. As practitioners said:

"The former, I was selected two terms. I didn't pay money, but it has started to pay people around three years. It might be money power or people get information from media. People may think " get money before vote" (male 46 years)

> " The past, it is rare. They gave public food for groups, but now they pay money five hundred baths per head. Some family got one thousand five hundred bahts. The characteristic is "no vote no money." (abbot 61 years)

5) Population transition. In the past, growth rate of population increased fast, but today it decreased. Some people migrate to work in others provinces such as Bangkok. As practitioner said:

> The past, they didn't access public health. People go outside community rarely. One family had approximately eight to ten children. They were scanty. Later, family planning policy restrict children" (male 57 years)
>
> "They migrated to work in Bangkok because they need to save money. I invest to do farming, but I get few profit. I don't know what does I do. These youths graduate from grade nine, they migrated to work in others provices." (female 30 years)

Expanded education policy and migration. Not only increased education, commercial exchange and socialization pushes youths toward commoditisation, but education policy also pushes them as well. It mean the youth only work when they get wages as practitioners said:

> "In 1986-1988, there was not secondary school. Most of student left school on grade six then they married two or three years later. It seem that parent need students work for family. In 1989, some students left grad nine then they studied in the university. Now they are lieutenant and civil officer. Most of them stay another province. So I tried to talk with parent's children in order to understand profit of high education." (female 49 years)
>
> "My father died when I was sixteen years old. I took care five brothers we cultivated a rice field and I worked in Bangkok as a construction labour." (male 45 years)

6) The emergence of Sub-district responder emergency unit. Documentary Information from EMIT showed that the Sub-district emergency responder unit set up in 2003. Since, that time, there have been some

problems related to services for people in the area and lack of First Responders. EMIT has trained ten people per sub district. The president of the LAO is interested in EMSS policy as consultant said:

> "For saving people's life. It's focus in my heart. During I studied on Bachelor degree major physical education, we have first aid and save people's life. My organization, we have instrument, materials and ambulance care, but I luck personal for using instruments." (male 57 years)

The conclusion of the community history shows a genealogical group from a far away land who migrated to form this community to farm. The ecological context found that the location of the community is in a remote area enclosed by mountains and winding streams. All of the terrain is hilly. The community is isolated from other communities. Transportation for people which of motorcycles and pick-up trunks. Today people can connect to places outside their community by mobile telephone and communication radio. They can get information by satellites as well. Almost all of the houses are constructed by wood are located on hills and beside the stream and the mountains; Households have kitchen gardens and small aquaculture project; and beside the stream in the community there are wrecked houses.

The sociocultural survey that revealed people in the community are relate through kinship. They value reciprocity, gratefulness, frugality, and strong relationships with Buddhist religion. The rites disappear from this community. The economic livelihood relies on self-sufficiency and intensive agriculture. Groups in the community were set up by the government and people vote politicians for money. The demographic transition and expanded education pushes some people toward commoditisation. The establishment of the Sub-district Emergency Responder Team came from effect by EMIT and the LAO.

The community context was analyzed by using the paradigm of emergency volunteers in the community and the next capacity building phase.

4.1.1.2 Emergency illness context in the community. The context is comprised of emergency illness, the first people who care for emergency patients, and process of managing emergency patient in the community. Data were collected from fifty four participants who were service receivers, service providers, practitioners and consultants in the community. Male were slightly more than female. Participants groups were youth, working people and aging group. Minimum age and Maximum age were fourteen to eighty four years. The detail were as follows:

Emergency illness were classified by ICD-10. Data analysis showed emergency illness were divided into two groups. Emergency disease were threefold , whereas injury founded one fold of emergency illness. The details were as follows:

1) Injury in the community. Data analysis showed that services receivers, service providers, practitioners and consultants identified injury that there were all other external cause of injury and transportation accidents. The cause of all other external cause of injury were falls such as fall from chair, fall from house , fall from agricultural car and cut wound. As participants said:

> "A student got accident yesterday, but I don't know how do I do." (male 48 years)
>
> "My grandmother fell from a chair, she got a dislocated shoulder. My grandfather fell from his house, he fractured his hand." (female 14 years)
>
> "It's me. My agricultural car torn then I fell from my car suddenly." (female 27 years)
>
> "During the flood flow strongly, I saw my neighbor injured in flood." (male 54 years)

The cause of transportation accidents were motorcycle accident and tractor accident as participant said:

> "The cause of accident were tractor and motorcycle. Most of accident were youth." (male 46 years)

2) Emergency disease in the community. Data analysis of all groups were divided into four groups as follows.

Firstly, service receivers, service providers, and consultants identified four systems of emergency diseases: symptom and sign and abnormal clinical finding; digestive system; respiratory system; and nervous system. Sign and abnormal clinical finding showed almost of people were sick with high fever, faint with diabetes mellitus and shock after the flood in the community. As participants said:

> "I had a high fever. I felt chill and unconscious." (male 76 years)
> 'I founded fever, heart disease and hypertension." (male 54 years)
> "There was an aging woman who had shocked after flood last year." (male 45 years)

The digestive system showed examples abdominal pain and appendicitis. As practitioners said.

> "I was the first person who was sick with appendicitis and was operated on appendix." (female 65 years)
> "There were many cases of abdominal pain and appendicitis. Almost of men in this block were sick with appendicitis" (male 39 years)

The respiratory system produce care of asthma. As practitioner said:

> 'My wife was sick with asthma. I took care her by myself." (male 48 years)

The nervous system provides cause of convulsion. As practitioner said:

> 'My nephew was sick with convulsion. I saw salvia in his mouth." (female 30 years)

Secondly, service receivers and service providers identified emergency diseases that there were due to like obstetric system, such as labour pains. As service provider said:

‘I had seen a pregnancy who pain from labour.” (male 30 years)

Thirdly, service receivers identified emergency diseases of the genitourinary system, such as dysurine. As service receiver said:

“My father was sick with dysurine and fever. He just came back at home yesterday” (female 48 years)

Lastly, service providers identified emergency diseases of circulation system, such as heart disease. As service provider said:

‘I saw patient similar to convulsion, but he took physical examination, I knew he was sick with heart disease. He died at here.” (female 30 years)

In summary emergency illness were injuries and emergency diseases. The causes of injuries were falls which were more than accidents transportation. Emergency diseases occurred in seven system that there were symptom and sign and abnormal clinical finding, the digestive system, the respiratory system and the nervous system, the obstetric system, the genitourinary system and circulation system.

4.1.2.2 The first people who care for emergency patients. Data analysis showed that first people who care emergency patient are family, cousins, volunteers, leaders, health officers, teachers and janitors. As participants said:

My mother-in-law was sick with diabetes mellitus. I took few sugar for her, she was better after a few minutes. Then I transferred her to hospital…If I’m sick, I will take care myself. But it is worse, I will go to hospital.” (male 39 years)

> " After the flood, there was an aging woman. She was sick with faint." (male 29 years)
>
> "If students had accidents, teacher and nurse teacher is the first person who take care students. Then they were transfer by teacher or janitor." (male 57 years)
>
> "I held emergency patient in my arm then I left her to my car. There was her cousin who took care emergency patient during transferring to hospital." (male 45 years)

4.1.2.3 Management process of prehospital care. Data analysis showed that the management process of prehospital care comprised of the first people to care for emergency patient, vehicles, reciprocal prehospital care, gasoline expense, communication radio, telephone and external organizations. The management process of prehospital care be summarized into five patterns. As a practitioner said:

The first pattern was self-reliance. It is managed by the family. The first people who care for an emergency patient are family. Family paid for gasoline expense and transfer emergency patient to health facilities. As practitioner said:

> "I was sick with abdominal pain. My son took me to hospital at midnight. He drove my car. I bought this car to transfer hospitals only." (male 54 years)

The second pattern was composed cousins or neighbors in an emergency patient's block managed by any in emergency patient's block. The family paid gasoline expense. Cousins or neighbors reciprocated by transferring the emergency patient to health facilities. Sometimes. they get pocket money for gasoline expense. As a practitioner said:

> "My nephew who stayed closed to my home was sick with convulsion. His mother and cousins take care him. She hired her neighbor transferring her son to hospital. .sometimes he didn't get money or he got gasoline expense

approximately one hundred." (female 30 years)

The third pattern was relied on family. The emergency patient's family hired people in the community to drive to car to transfer to patient to hospital, but the family cared for the emergency patient. As an aging man said:

> "People hired car for transferring to hospital. Nobody help them. They would not wait for ambulance, It's take time too much. Price of transferring to hospital approximately three hundred." (male 84 years)

The fourth pattern, is related to the school. This pattern were managed like the first pattern except the caring people were teachers and janitors. As a director of a school said:

> "The problem of accident were falls. Playground are unsuitable for students. Last year, very young children fell very much. Caring person were class teacher, teacher, or first aid teacher. Transferring person were teacher or janitor. Place for transferring were sub-district health center and hospital. If their injuries were quite severe, they were transfer to hospital." (male 58 years)

The fifth pattern, depend on co-management. This pattern was managed by any external organization and internal organizations in the community. External organizations provided communication radio, ambulance car and emergency volunteers. Internal organizations supported emergency volunteers who were people in the community. As participants said:

> "I worked at LAO, but I didn't know what happen situation did. At intersection of sub-district, I saw the street was destroyed from flood. I saw the bridge began dropping in the canal and so many emergency volunteers. I opened my private communication radio and I know that it was serious situation more than I had seen. I was very rush in order to go to KangTone

Village." (male 44 years)

"I turn off my telephone, because it was heavy rainy. Everybody turned off telephone too. Nobody got serious information. But the sheriff got fast serious situation. I think the leader of village report him." (female 44 years)

"I and others volunteers searched for dead people and injury people. When we saw injury people, we gave first aid at the scene in the community. This community affected by flood, it is the first time. During, I was an assistant of LAO, my responsibility was coordination between VHVs group, foundation and hospital." (male 44 years)

Moreover, the analysis of data showed people dislike to access prehospital care services of the LAO and responder team inside the community, sub-district health center and hospital. The reasons given were; it was not fast as fast as they needed: people don't know how do deal with a emergency patient; and people feel afraid giving offence. As practitioners said:

"Ambulance car of LAO was not fast as fast as people need. When people called emergency volunteers for transferring, they didn't get a call or they were busy. It's waste time." (male 84 years)

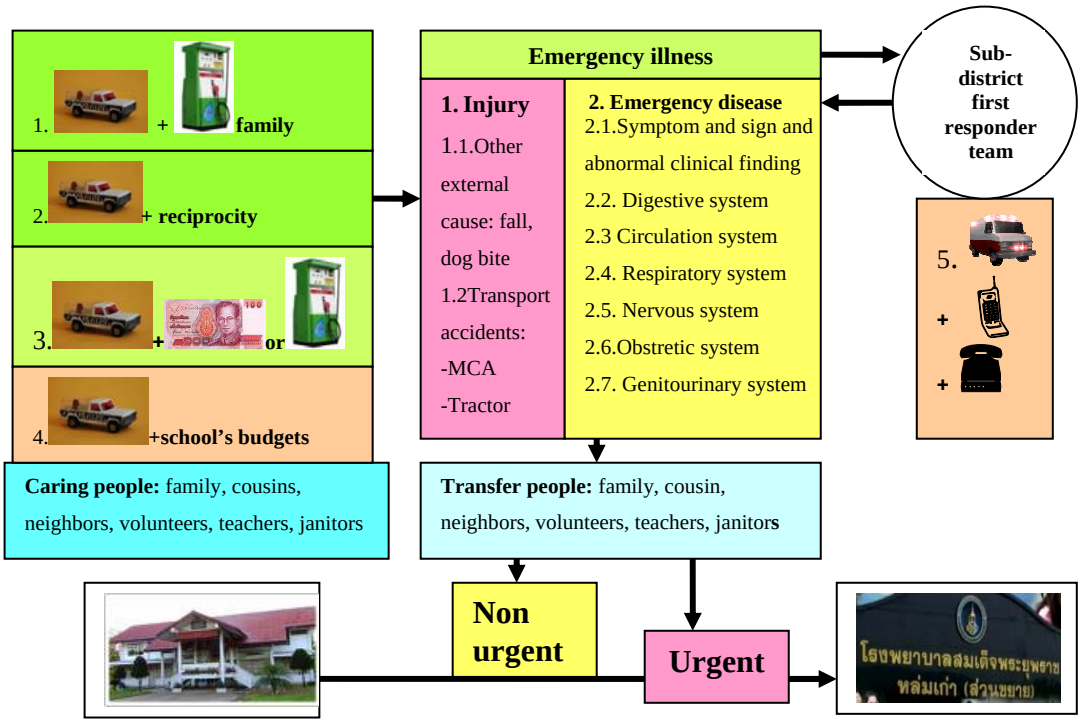
"We have ambulance car of LAO. It was not fast as fast as I need. It waste time to coordinate. Cases were not serious." (male 58 years)

"There were responder team in this community. People feel afraid of offending. They told their neighbors help them." (male 54 years)

"I don't know how to report emergency situation….. how to save people's life. No driver at sub-district health center transferred us." (male 46 years)

From the management process of prehospital care in the community is summarized as Figure 9

Figure 9 Management process of prehospital care in the community.



4.1.1.3 The paradigm of emergency volunteering in the community. I gathered data from twenty participants. Most of them were men. Participants groups were youth, working people and senior citizens. Minimum age and Maximum age were fourteen and sixty one years. Moreover, twofold of participants were mostly experienced on emergency illness. There were two paradigms for this analysis.

1) The functionalist paradigm of emergency volunteering. Community assumption is to the belief in universal truths, controlling and ordering. The community also belief collective, productive and beneficial in emergency volunteering as found in the interviews.

Universal truths: Participants believed in the reality of emergency illness care with modern medicine. They had to find out this reality which was normally unavailable in the community as statement of participats below.

> "Saving life of people living in rural area needs to have knowledge people to assist." (practitioner, male 45 years)

> "Volunteers have to have right and correct knowledge. It also has to be modern medicine. Helping people must save people's life. It is not hurt people." (consultant, male 44 years)

Controlling: Regarding universal truths, reality needed to be controlled in order to be acceptable. participants should be controlled by advice and supervision from service providers such as LAO, and health officers in sub district health care center and hospitals. They showed give financial support as well as participants statements.

> "There might be unexpected matters so that officers should come to advise every time even though they sometimes might forget." (practitioner, male 54 years)
> "It must be supervising inside and outside community. Hospital supervise academic. Director of LAO support budgets and sub-district health center support working and coordinating….I need stakeholders organization monitor mightily." (consultant, male 44 years)

Orderness: Based on universal truths, there should be order and responsibility. It would force emergency volunteering to work in thus sample information which as follows.

> "We should have order. If not, there will not be order. I prefer something like civil defense volunteer working in LAO by setting schedule of each matter." (practitioner, male 44 years)
> "There have to be order of group because working in group needs to be order" (practitioner, male 45 years)

Collective: People in the community thought that people gather for emergency volunteering group could be save emergency patients. This thinking is call collectivism. As participants said:

"I like taking care within group because there are many blocks. We are able to give opinions to take care emergency illness person." (practitioner, male 54 years)

"Nowadays, I think it is already changed. Mutuality is less so groups are needed because we have to work, taking care is also less. In the past, we might think that we could take care each other when get sick. However, if groups are set, they can help immediately." (consultant, male 44 years)

Product of emergency volunteering: People in the community believed that measurements of productivity of emergency volunteering were time devote to emergency volunteering, quantity of volunteering, product, effectiveness and efficiency of emergency volunteering. As practitioners said:

"We have to consider the performance…….will we go if there is one matter happened? And if there are three or four matters, we have to consider" (practitioner, male 27 years)

"Villagers should evaluate whether they satisfied volunteers….they have to collect data how much satisfaction is. Is it safe for people? If people are safe, are they disable? Can they help? If they are not workable, so they should not be available…especially, we should know how much efficiency of working of emergency volunteers in order to find the ways to encounter the problems." (consultant, male 44 years)

Benefits of emergency volunteering: The following people in the community quotes that emergency volunteering should receive to retain volunteer benefits such as certificates, rewards, welfares, gas budget, and money. As practitioners said:

"There should be organizations supporting like money." (practitioner, male 44 years)

"Should have the motivation such as welfares from some organizations" practitioner, male 45 years)

> "There should be certificates to praise them like important person in the community…at present, people working mostly expected the intensive. Only few people works without intensive expectation." (consultant, male 57 years)
>
> "Motivation is foods, gas budget." (consultant, male 44 years)
>
> "Money is not only needed but others are also." (consultant, male 58 years)

2) The interpretive paradigm of emergency volunteering Community assumptions are to believe multiple truths, understanding, extracted cues, individual, process and retrospection as we could found in the interviews.

Multiple truths: people in the community thought that the knowledge of emergency illness care was varied called "Multiple truths". It depended on individual experiences, sense, and intuition of different situations as shown a large amount of shown in research relating to service receivers and service providers such as civil defense volunteers, the LAO member, head of RaumkhaThunyu volunteers and the abbot. People in the community mostly used personal experiences during emergency illness care. The civil defense volunteer and abbot used existing experiences for helping emergency illness person as stated below.

> "Tell them…Seems his cousin raised him but if he does like this, he may die." (practitioner, male 44 years)
>
> "Traditional healer treated fallen people by "Ya kae lound" Sometime, founded possessed persons. They cropped their farming at mountains, the ghost taken them to stay three days. I treated them by holy water then they fallen on ground." (abbot 61 years.)
>
> "I founded motorcycle accident fallen down, the driver got fracture leg. I didn't have material for first aid, so I taken wood beside street and thorn wood to splint injury patient." (practitioner, male 22 years)

Understanding: Multiple truths brought about understanding for participants. So, they used discussion and consensus for

volunteering collaboration and working time. As practitioners said:

> "To meet for asking , they are ready or not. We must talk about profit of sacrifice how do they think about caring for emergency patients. We must select voluntary people it not the problems will occur." (male 45 years.)
>
> "If I have no job, I will be volunteer. Organization must call on free time. We laid down regulation in our organization. There are leader and member." (male 24 years)
>
> "I said that I didn't want money. If I am free, I will be volunteer." (male 45 years)
>
> "I would to help, but sometimes I'm busy. I can be volunteer at morning, noon and evening." (male 48 years)

Extracted Cues: Multiples truths not only make practitioners understand the sociocutural context, restrict of resources but also made practitioners de-emphasize regulations. The reason is, they have regular job, they don't have regular jobs. They don't have a good materials, and volunteer is philanthropy. As practitioners said:

> "If organization order strong regulation. I cannot be volunteer. The supervision is good, but I don't like organization supervise frequently. Vehicle and communications are understand such as ambulance car, splint." (male, 27 years)
>
> "It's fixable regulation. Because everybody know what does their rules, and volunteer is charitable person." (male 45 years)

Individual: Emergency volunteers care for their related and neighbors. Because of traditions of reciprocity emergency care in the community, as participants said:

> "They help their kinship." (female 44 years)
>
> "Most of people are kinship. If someone help their neighbors to work. Their neighbor return to work later." (male 45 years)
>
> "I transferred emergency patients to hospital myself. Sometimes my nephew

called me transferred emergency patients to hospital. He gave gasoline expense for me, sometimes I didn't get it." (male 54 years)

Self – sufficiency agriculture changed to intensive agriculture, so people do not have no time to be volunteers at the LAO as practitioners said:

"Volunteer care people in his block. It is good, because volunteer know hour dose they do." (male 45 years)
"I like volunteer care people in his block. Because it is easy. I take care people in my block as well. It is impossible, if I will be volunteer at the LAO. I am busy, because I must work my agricultural career." (male 54 years)

Process: People in the community thought that result of volunteering is simple and easy. They could agree on the consensus process in the community as consultants said:

"If evaluation is individual, it is unnecessary. Due to, people look after volunteer how does he do. Volunteers intend on volunteering sacrificially. Collaboration should be natural." (male 44 years)
"Self – evaluation how does volunteer do well or not. People report emergency information how does volunteer do enthusiastically, or not. How do people wait for volunteer. Evaluation should be evaluate by self – community." (female 42 years)

Retrospection: All of the emergency volunteers had experienced with emergency situations. Data showed emergency volunteers had experienced injury from accidents. They volunteer without intensives. Sometimes, they might give money for emergency patient as well. Result of volunteering brought about contented feeling, proud feeling, merit feeling and money unsolicited. As practitioners said:

"I had experienced accident, when I was seventeen years old. I was unconscious. Volunteer must help people without money return." (male 24 years)

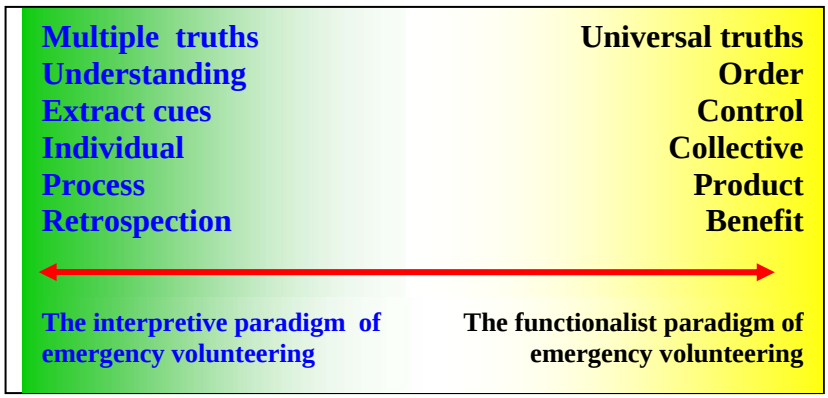
"My grand father got accident, but I didn't have ambulance care for transferring to hospital. I ever got accident, but bystander help me transferring to hospital. I save people's life. I feel I make a merit. Like save life. I recover trees." (male 27 years)

The cause of emergency volunteering are, perception of accidents, and belief in spiritual forces. As a practitioner said:

"There are many cars. First, I think volunteer is so proud. He has communicated radio. I think that it's sin and merit. "Sinsa" said that you didn't afraid ghosts. They will protect you." (male 44 years)

From all the above, I concluded the two paradigm are in Figure 10.

Figure 10 Paradigm of emergency volunteers



4.1.2 Needs of a community-based management for emergency volunteers

Needs assessment and RAP were alike in participants groups. I collected data from fifty four participants. Males were more than females. Minimum age was fourteen years and maximum age was sixty five years. Data analysis showed needs assessment included three components. These were structure and mechanism,

management of emergency volunteers and evaluation of emergency volunteers. The details are showed in the following sections.

4.1.2.1 Needs of structure and mechanism. The details of this component were as follows:

1) Man. In term of needs assessment “man” mean stakeholders in this research. All participants group identified stakeholders were the most important need for community-based management for emergency volunteers. as they said:

> “Man is an important person. I think man certainly develop. I mean both people and organization.” (male 44 years)
> “That is a man, because people could call man help them.” (female 30 years)

Moreover, analysis of data showed that man were volunteers, VHVs , civil defense volunteer, merit people and voluntarily volunteer who are willing to make a sacrifice. The volunteers are approximately fifteen to fifty five years old. As participants said:

> “Just civil defense volunteer and VHVs are enough. Their age were eighteen years above.” (male 44 years)
> “Youth are fifteen or sixteen years old. It is good.” (female 30 years)
> “Must be man..they are people in our community who are benevolent people and kind people.” (male 58 years)
> “Volunteers are above twenty five years and below fifty five years. Men could help aging people who stay alone at their home when they have emergency illness.” (male 45 years)

The conclusion, man were stakeholders who were the most important of management of emergency volunteers. They volunteered are VHVs, defense civil volunteers, and voluntary people. They are people of merit and

those who are willing to make sacrifices.

2) Organization. This comprised of organization, cultural organization and value of organization. Data analysis showed there were two characteristics of organization as follows:

(1) Informal organization. These organization emerged from people in the community. I call these community groups which depend function as self-help groups for kinship group or neighbors in their block. These groups value depend on reciprocity about prehospital care and social work. As participants said:

> " Yes. I go to hospital by myself. Sometimes, my grandchild called me. I transfer them to hospital then t gave gasoline oil for me or I wouldn't get money. I bought my pick-up car to transferred me to hospital only." (male 54 years)
>
> "They help normally their kinship. If someone was sick with emergency illness, they called their cousin to help." (female 42 years)
>
> "If someone died in my community, I will help my neighbors to cook at the funeral house. Sometimes I help my neighbor to cook at the merit house." (female 30 years)

The Ruamkatunyu volunteer group is one of the informal organization that rarely provided prehospital care for people in the community, but frequency provide emergency care for people outside this community. Because people in the community feel it was not as fast as they needed and the characteristic of group is as a self-help group, the head of the Ruamkatunyu volunteers said:

> "Most of people take care themselves unless I get report from hospital or people called me....I missed emergency patient transferring to hospital [laugh] Most of cases I help emergency patients outside community." (male 24 years)

Data analysis showed that cultural organization arose from needs that were identified by practitioners. They identified that included were; physical organization with member cards, uniforms and communication radio; value of work commitment. As participants said:

> "Yes..after finished training, I got member card. I drank swear water then I sworn in rite." (male 24 years)
> "If someone volunteered a lot, they got a member card. Uniform of organization were check by organization what does volunteer wear be cool or not. I sworn in rite that if I steal emergency patient's asset, I must died and our family must died too. I feel fearful." (male 27 years)

On the other hand, another consultant said uniforms were unimportant, because people don't have enough time to wear uniform As she said:

> "It is the least essential. I think no one wear uniform in emergency situation." (female 44 years)

(2) Formal organization. Data analysis of community context revealed the Sub-district Responder Team was established by the LAO and EMIT. It related to the needs of the community to provided prehospital care for people in the community. But people3 in the community prefer not to access the services, because they feel it is not as fast as they need. As a practitioner said:

> "the LAO Ambulance is not fast enough. I take pick-up car in this community. Sometimes, I called them transfer emergency patient, but they are busy." (male 84 years)

Moreover, service receivers, services providers, and consultants identified needs of organization in the community is important because of self decreasing, social changing and identified job responsibility of

volunteers's block. As participants said:

> "I need concrete organization to response for prehospital care in our community." (male 45 years)
> "Community could take self-care, but I think everything change and self decreasing. So needs were groups." (male 44 years)
> "I think taking care emergency patients in our blocks. It's very comfortable. I have responsibility with my block as well." (male 54 years)

In conclusion, the organizations were divided into informal and formal organizations. Informal organizations emerged naturally in the community. They place value on reciprocity for prerhospital care, disaster and social work in their community. However, cultural organization such as the Ruamkatunyu volunteer group placed physical symbolic of the organization such as member card, and the commitment of organization. Formal organizations emerged from the governmental sector and place value on prehospital care as the responsibilities of their organization.

3) Regulation. Data analysis showed services receivers service providers and consultants identified regulation is an important needs. The regulation must be rigid. Due to, regulation benefit form groups. While practitioner identified regulation should be flexible as well. As participants said:

> "I need regulations. We work as group , we must have regulation such as everybody must help together." (male 45 years)
> "Regulation must be flexible. Everybody know what does they do, and volunteers are benevolent." (male 45 years)
> "We will appoint by ourselves. If regulation are rigid. I cannot to volunteer, because I must earn a living." (male 24 years)

4) Budgets Similar to the data analysis of the community context , services receivers, service providers and consultants identified budgets were needs for management of emergency volunteers. Expressly the needs were; money or hire drivers, gasoline expenses; communication radios; travel

expense; and for a vehicle to transfer emergency patient. As participants said:

> “If I am volunteer another district, I get travel expense. It’ s OK. And organizations support gasoline expense for volunteering.” (male 44 years)
> “Director of LAO must support budgets.” (male 44 years)
> “Needs of LAO were ambulance, communication radio or travel expense.” (male 58 years)

5) Development of emergency volunteers. Data analysis showed that service providers and consultants identified there were needs of develop emergency volunteers related to prehospital care , group of trainees, and time for training. The details of prehospital care curriculum showed related to emergency patients in the community such as emergency illness , injury , emergency reporting and stakeholders coordination. Groups of trainees should be volunteer adults. The amount of time of training volunteer adults is approximate one week whereas for students approximately three hours. The suitable time for training was late January later. As participants said:

> “I need people train how to leave and carry emergency patients transferring to hospital. For students who study in grade nine must train about first aid.” (male 44 years)
> “I need knowledge about how to care for hypertension and asthma patients.” (male 54 years)
> “I think the detail of curriculum were taken from RAP data what do the emergency data we find out. Two group were students and volunteers. During January is the suitable time for training. Time for training student is approximately three hours, it’s about emergency reporting. Emergency volunteers train approximately one week. For emergency volunteers, I think it’s strong training, because it is dangerous for emergency patients , if emergency volunteer help incorrectly emergency patients.” (male 45years)
> “Prehospital care curriculum must have detail relate emergency data in community and how to coordinate men for management.” (male 45 years)

6) Vehicle and communications. Data analysis showed services receivers, service providers and consultants identified that such materials were important needs. This was because communication equipment such as communication radio could connect everywhere in the community even though there wasn't any telephone signals. These data were linked with the community context that showed there were many pick-up trucks, telephones and communication radios. As participants said:

> "Radio is an important, because it was using for emergency report." (female 30 years)
> "I bought radio by myself. It's cool. The first important vehicle and communication was communication radio and the second was a car for transferring." (male 44 years)
> "The communication and technology were important. But people used telephones, it's good. However, I think local intellectual benefit community such as bamboo as a signal." (male 44 years)

7) Planning Data analysis showed consultants and service provider identified the planning was need for management of emergency volunteers. The community needed to plan for the management of emergency volunteers such as work, budgets, vehicle and communication and incentives as participants said:

> "We need to plan how to do and work together." (male 45 years)
> "How to gather people in community. Then We need to talk…Select voluntary people to join planning." (male 57 years)
> " We need to discuss and plan about budgets, vehicle and communications, expense in multi sector such as the LAO, village header, VHVs, and health officers." (male 44 years)

8) Information Data analysis showed consultants and practitioner identified information as need for management emergency

volunteers. Because information results in problem solving. The community needs to know more about emergency illnesses as participants said:

> "It need survey in the community what emergency data we found." (male 45 years)
> "I think it need information, because it take solve problems and take plan next time." (male 45 years)

As mention above, data analysis that the structure and machism of management for emergency volunteers included the following.

1. Man in term of this research were stakeholders for management of emergency volunteers. They were VHVs, civil defense volunteers, and volunteers who were people who exhibited merit and were willing to make sacrifices for their community.

2. Organization were divided into informal and formal affiliations. Informal organizations emerged naturally in the community. They value a reciprocity for prehospital care, disaster and social work in their community. However, cultural organizations of the Ruamkatunyu volunteer group placed important physical organization such as membership card and commitment of organization. Formal organization emerged from the governmental sector that valued on prehospital care as a responsibilities of the organization.

3. The regulation were working regulation group rather be rigid.

4. Budgets included money to hire drivers, for gasoline expense, communication radios, travel expense, and vehicles to transfer emergency patient to hospitals.

5. Development of emergency volunteers required a prehospital care curriculum, and time for training. The details of the prehospital care curriculum must be related to the emergency illness context. Training of emergency volunteers takes approximately one week for adults volunteers, but three hours for students.

6. Vehicle and communications contained pick-up trucks, telephones, radios.

7. Planning was need in term of work plans, vehicle, communications and incentives plan of management for emergency volunteers.

8. Information is needed to concerning the context of illnesses.

4.1.2.2 Needs of management for emergency volunteers. Data analysis showed that this management for emergency volunteers contained recruitment and retention. The details are as follows:

1) Needs of recruitment for emergency volunteers. Service providers, service receivers and consultants identified that the needs of volunteer recruitment could be synthesized and divided to three groups as described in the following sections.

(1) First group. Service providers, service receivers and consultants identified that needs assessment of emergency volunteer recruitment were selection, assessment and defined job description.

- Selection is necessary and had to be done voluntarily who are selected should also have experiences of emergency illnesses. Method of selecting should be with the participation of community as consultants said:

> "Selecting should be done by matching with job characteristics. They should be skilful and sacrificial. Sacrifice is first priority, then it should be considered whether people were suitable for the job. For example, people were not suitable for taking old person to work. I would bring the most sacrificial person to emergency volunteering. If it is possible, the effect will be decreased." (male 45 years)
>
> "The questions were who were ill and got the assistances. How to get the assistance? And will they participate with community volunteering? I believe that they would like to join because they also got the assistance." (male 44 years)
>
> "Recruiting affected to participation of community." (male 57 years)

- Assessment is a pre-function of emergency illness assistance. However, consultants identified that volunteers had to be evaluated before becoming emergency volunteers in the organization. As participants said:

> “There are someone who were trained come and ask me whether I feel scared in blood. After that, I was promoted to stretcher person. Trained person will suggest and advise me to prescribe. When I could remember drugs’ name as much as possible, I would be able to first aid.” (male 24 years)
>
> “Head of each section will evaluate the behavior. Should they join the first matter? And if the second, third and fourth happen, should they still? It is a must to evaluate.” (male 27 years)

- Defined job description define the roles and limitations of volunteering. As consultants said:

> “Have to follow the limitation, we could not do out of limitation.” (male 45 years)
>
> “Clearly indicate the functions” (male 58 years)

(2) Second group, Both service providers and consultants found that a necessity for the management of emergency volunteer recruitment was the screening of potential volunteers. Screening was from documents, however, consultants suggest it also included an interview about capability of working. All were as participants stated below.

> “I would like to be. He then asked me to submit the documents tomorrow. I submitted accordingly.” (male 44 years)
>
> “Personal information is needed because we do not know which field he related” (male 45 years)

(3) Third group. Both service receivers and consultants identified matching was a necessity of the management of emergency volunteer recruitment. The job with the right person. The matching, required a capability assessment so there could be matching right job of the management of emergency volunteer with the right person. As a consultant stated below.

"We will assign job by following what ability he has." (male 45 years)

The conclusion, service receivers, service providers and consultants identified that recruitment included selection, defined job description, assessment and matching emergency volunteers to a particular job.

2) Needs of retention for emergency volunteers. Service providers, service receivers and consultants identified that the needs assessment services of volunteer retentions could be synthesized and divided to three groups as described in the following paragraphs.

(1) First group. Service providers, service receivers and consultants identified that needs of retentions of emergency volunteers relied on motivation, incentive, training, recognitions, coordination and supervision.

- Motivation includes life insurance for when receivers have severe accidents and die. For participants, motivation came with food and gas budgets and other welfare during works. As participants said:

"There should be gifts such as shirts….there should be motivation such as other welfares from the organizations." (male 45 years)

"Motivation was food, traveling…gas expenses." (male 45 years)

"We paid 50 baht when subscribing life insurance. When we died, we will receive 200,000 baht insurance but if we get a little injured, we will get nothing." (male 24 years)

- Incentives are a privileges which might be money or not. As participants said:

"As much as I knew, there should be a privilege. Incentive might not be money but be others." (male 45 years)

"Government organization should give an opportunity and welfares. It could be bonus, not salary." (male 57 years)

"It needed to be money, food and etc. as incentive." (male 58 years)

- Training were identified by service receivers, service providers and consultants as significant needs. Training was the most important especially such as this study location closed to the mountains. Training meant modern medical knowledge. Knowledge was not only want for itself but because it gave to emergency volunteers when caring for confidence of emergency illnesses. As participants said:

> "I wanted some organizations manage training. We need to find relating organizations to get real knowledge. Helping people living in a remote rural area needed someone to assist…Our community located in the forest and mountains. We needed to help old person staying alone in home." (male 45 years)
>
> "If we teach medical knowledge, we may get more useful for live saving." (male 57 years)
>
> "Training could assist two kinds. At least, it could set more consciousness and enthusiasm. It could motivate. Another kind was basic helping knowledge, medical knowledge. It made more confident that we would receive life useful." (male 58 years)

Service providers identified that training should be training depend on volunteering for it and could be described as "on the job training" and training with coach called "Coaching" As a practitioner said:

> "Keep teaching! First, he was stretcher person, then drug giver and first aider. Before doing first aid, training is a must." (male 24 years)

- Recognition is a significant need. It could be mean praise, work acceptance, public relations and certificates. As practitioners below.

> "We should give certificate to someone who was good as continuous working volunteers. We should give in the end of semester and should also organize the farewell for grade 3 students." (female 14 years)

"Announcing their reputation was a public relation to other and motivated them to join." (male 58 years)

"Volunteers should be accepted from community, well-known from helping and they should get useful with these matters." (male 57 years)

- Coordination for management should be with all levels and stakeholders. As practitioners said:

"Volunteering as a team by coordinating with team of Sub-district. Head will coordinate with assistant LAO officer and about what and how we should do." (male 24 years)

"Not only do representatives coordinate but all organizations have to be concerned." (male 57 years)

- Supervision for emergency volunteer, it was identified need to be from the Sub-district health center, the LAO, community hospital, and Foundation office. As consultants said:

"Officers from Head office observed. Sometimes officers from EMIT observed as well." (male 24 years)

"They should supervise inside and outside area. Academic supervision could be done by hospitals. The director of the LAO should provide financial supports and the health center should support the coordination." (male 45 years)

(2) Second group. Service providers and consultants identified the management needed for emergency volunteer retention was consensus, orientation and safety at works.

- Consensus means working consensus and limitations of work. As consultants said:

"It is a consensus declared what we should do and who would do." (male 45 years)

"We should have consensus of limitation. We could not do over-limitation as well." (male 45 years)

- Orientations means orientation relating to the community context. As a consultant said:

"We should take our team together…If he goes alone, he may not know and realize cultures and traditions. We should take him." (male 45 years)

- Safety works meant considering working risk for volunteer. As participants said:

"There were many risks. For instance, during driving a car, firstly we are aware of crashing and secondly we have to beware of other cars falling down. We have to go faster." (male 44 years)

"My wife objects that it is risk." (male 27 years)

(3) Third group. Service receivers and consultants pointed that needs of emergency volunteer retention found were a contact. It revealed that contact was important for emergency volunteer management.

"Person living nearby can help together. They can contact and decide how to continue without waiting for the organizations." (male 57 years)

As mentioned above, we could conclude that service receivers, service providers and consultants identified needs for retentions included supervision, coordination, training, recognition, incentives, motivation, orientation, consensus, safety at work and contact.

4.1.2.3. Needs of evaluation management for emergency volunteers. Service providers, service receivers and consultants identified that needs assessment of evaluation management for evaluation emergency volunteers could be synthesized and divided to three groups as described in the following paragraphs.

1) First group. Service providers, service receivers and consultants identified that needs of evaluation management for emergency volunteers should be evaluated by an organization. According to the opinions of participants, they identified that the needs were divided into two groups. First, external organizations working in the community should be evaluated by the LAO and District Public Heath Office. Internal organization from the community should be evaluated by committee of the community, leaders of the community and informal organization such as group of people. As participants said:

> "I need external organization evaluate now." (female 30 years)
> "I think it need external organization evaluate us." (male 45 years)
> "Group were organization such as committee of community, leader of community, LAO and district public heath." (male 44 years)

2) Second group. Service providers, service receivers and consultants identified that needs of evaluation management for emergency volunteers should be self-evaluation. The participants identified that needs were at into two levels. Firstly, individual were evaluated by a potential organization knowledge about items such as food and drinking water during volunteer. As consultants said:

> "Self evaluation how good emergency volunteer do. How action emergency volunteer do." (female 44 years)
> "Volunteer should evaluated himself how good he does. At the beginning, volunteers must evaluate himself then they helped people. Volunteer must know how to save people's life. How to help suffered people. I need organization evaluated, because of my experience. Organization evaluate potential of organization, it is irresponsible for effected area." (male 44 years)

3) Third group. Service providers, and consultants identified that evaluation management for emergency volunteers should be by community. Participants identified that needs evaluation should consider it needs. As a consultant said:

"People must evaluate volunteer how satisfied they are." (female 44 years)

As part of the needs of evaluation of management for emergency volunteers, I summarized that should be evaluated by organizations, people and self-evaluation. The evaluation of emergency volunteer comprised of quantitative and qualitative approach. The quantitative approach evaluate output from volunteering while qualitative approach evaluate feeling of stakeholders from emergency volunteering.

4.2 Capacity building phase

Based on the CAR concept, I took the results of the research phase to be a part of the capacity building phase which is the phase to build the capacity of participants to manage emergency volunteers. The details of the analysis are as follows.

4.2.1 Structure and mechanism The analysis of the RAP showed that management of prehospital care is comprised of five patterns. There are self-reliance, cousins or neighbors in the emergency patient's block, the family the school, and co-management. But the needs of community-based management for emergency volunteers revealed that there were needs more than identified by the analysis of the RAP, i.e. development of emergency volunteers, planning of management for emergency volunteers, information for planning and consensus of regulation for pre-hospital care.

Therefore, the capacity building phase was the time to build the capacity of participants and construct a model based on the results of the research phase. This

phase were managed by a workshop on the management of emergency volunteers, community forums, and the training of emergency volunteers. After these activities were completed the results showed that the structure and mechanism were as follows:

4.2.1.1 Man: There were twenty nine participants in this workshop. Males were more than females. Participant groups were youth, working people and older people. The result of this activity revealed that people who were responsible for the management of emergency volunteers were three groups. The first group were practitioners, such as VHVs, civil defense volunteer, village heads, community leaders, members of the LAO and volunteers. The second group were consultants, such as the chief of health center, representatives of the director of the LAO, representatives of the director of the school, a representative of the director of district health office, and representatives of the director of the Crown Prince hospital.

I took the result of the workshop to produce an action plan to carry out in the community forum. Participants made decision to prioritize activities from the action plan. Then they took the first activity to include in the next activity. Sixty-five people participated in this forum with participants including; volunteers; VHVs; community leaders; and the chief of health center.

The first priority is training of emergency volunteers. There are forty two voluntary trainees. This activity included forty- two voluntary trainees, and five community researches. Males were slightly more than females. Trainees were VHVs, community leaders, volunteers youth, and teachers. Seven trainers were one nurse, three Emergency Medical Technician-Intermediate; and three facilitators consisting of three academic health officers. Moreover, training of emergency volunteers showed three consultants supported this activity including: the chief of health center; director of school; and, director Crown princes hospital.

Analysis of the data from the research and capacity-building phase included three groups of people as indicated in the following paragraphs.

The first group had two sub-groups: a practitioner sub-group which was a caring group for prehospital care composed of family, cousins, volunteer, leaders, and teachers; and a management sub-group for prehospital care composed of VHCs, village header, members of the LAO and volunteers.

The second group was consultants. There were two levels: a community level composed of the Chief of the Sub-district Health Center, director of the school, the LAO; at the district level were the Director of the District Health Office and director Crown Prince Hospital.

The last group was researchers. There were community researchers and me. The community researchers were as follows: in the community there were volunteers ; and from outside the community there were academic health offices from the health center and district public health office, professional nurses and EMT-I from the Crown Prince hospital.

4.2.1.2 Organization The analysis from the workshop showed that organizations two groups. The first group; governmental organizations are LAO, sub-district health center, community hospital, district public health office and MoPH. The second group: community organizations are VHVs groups, civil defense volunteer groups, and leader groups. Later, I took the results of workshop to use in the community forum. The analysis of the data showed that the organizations were sub-district health center and natural groups that formed to act in community forum. Last, the first priority action which were decide by people in the community forum was training for emergency volunteers. Analysis of training founded that organizations such as sub-district health center, crown princes hospital, school in area setting support this training.

The analysis the data of research and capacity-building phase I summarized that there were two types of organization:

Firstly, informal organizations were natural groups and the Ruamkatunyu volunteer group. Natural groups value reciprocal care of emergency patients in the community. The Ruamkatunyu volunteer group values care of emergency patients from diseases and disaster. Cultural organization of the Ruamkatunyu volunteer group was physical such as member card, uniform, communication radio and the commitment of volunteers.

Secondly, the formal organization was the LAO that placed value on his responsibility for prehospital care, but people in the research site disliked to access emergency services. Like the LAO, other organizations such as the school, sub-district health center, district public health office and Crown Prince hospital were

organizations that value their responsibility to provide prehospital care. In the capacity-building phase the Sub-district Health Center and District public health office strongly supported the workshop and community forum while the Crown hospital and school strongly supported the training organization.

4.2.1.3 Regulation. The analysis of training for emergency volunteers showed that trainees agreed on take care of emergency patients in their block more than being an emergency volunteer in the LAO. As trainees said:

> "I think I help student who has accident." (female 14 years)
> "I take new knowledge to generate for people in community than I will have a plan to generate in the LAO." (male 46 years)

From the analysis of the data from the research and capacity-building phase, I summarize that regulations are flexible. The regulation are formed from a consensus to take care of emergency patients in their community.

4.2.1.4 Budgets. The analysis of the workshop indicated that the source of budgets in the action plans were people in the community, VHVs group, LAO, sub-district health center, hospital and MoPH. Another source of budgets was money grants which I got from foundations. Moreover I found that a characteristic of budgets was implicit costs such as location and media expense from school sub-district health center, trainer expenses from crown prince hospital and district public health office; and materials for training from Crown Prince hospital and the general hospital.

From the analysis data from the research and capacity-building phase, I summarized budgets consisted of money and implicit costs. The money came from the community and foundations. The implicit costs were location expenses, media expenses, materials expenses and trainer expenses. These were supported by health facilities in Lomkao district.

4.2.1.5 Development of emergency volunteers. The analysis of training of emergency volunteers showed that the first aid curriculum for prehospital care was formed from form talks between trainers and community researchers.

The prominent features of the curriculum it was revealed were from the RAP and needs assessment of the community. Besides, this curriculum

was designed by various methods such as group learning, demonstrating, and practicing caring for emergency patients.

This curriculum was adapted from the first aid curriculum of Phetchabun hospital (2003: 1-30). The detail of this curriculum included EMS system, reporting, emergency medicine in the community, care on screen, and care for transit, group and network building for emergency illnesses in the community.

Trainees group were male more than female and trainees were volunteer approximately two portion of trainees. Time for training were January and February. Evaluation during training showed that trainees got scores from practicing caring for emergency patients of over fifty percent. The numbers of trainees equaled forty two people which was more than I expected.

Material for training was comprised of medical material and media material. Medical materials were a human model for demonstrations, first aids kits. Media material were training documents and VCDs showing prehospital care.

From the analysis of data from the research and capacity-building phase, I summarized that the development of emergency volunteers included the curriculum bases on a foundation provided by the research phase, and training materials.

4.2.1.6 Vehicles and communication. The analysis of this phase showed that cars and telephones are management equipment for emergency volunteers.

4.2.1.7 Planning. The analysis of this phase showed planning is the important formula in management for emergency volunteers. The workshop of management for emergency volunteers take to act in multi-sector. The result of the workshop was an action plan. The action plan showed two features. The first was that the development of people needed public relations, training for people in general and training for emergency volunteers in particular. The second was that services for prehospital care required setting up community responder teams. The conclusion of this research showed that the planning of management for emergency volunteers included people development and provision of services in the community.

4.2.1.8 Information. The analysis of this phase showed that the community context, the socio-cultural context, services, and needs of a community

based management system for emergency volunteers were taken to plan into the workshop of management for emergency volunteers workshop and to determine the prehospital curriculum. The analysis of data from the research and capacity-building phase, I summarized to show that the needs information included community context, services, and needs of a community based management system for emergency volunteers.

4.2.2 Management of emergency volunteers The volunteering paradigm determined the practice for the management of volunteers. The management of emergency volunteering is related to the paradigm of emergency volunteering in the community. So, the management of emergency volunteers also link to the functional paradigm and the interpretive paradigm. Analysis of management for emergency volunteers were as follows in the next sub-sections:

4.2.2.1 Recruitment of emergency volunteers. The community forum showed that recruitment meant selecting, matching, and the assessment of emergency volunteers. VHC are the first priority of emergency volunteers that were recruited by the community because they are responsible for the care of the health of people in their block. The second priority is voluntary people with property related with the needs of a community based management system for emergency volunteers.

4.2.2.2 Retention of emergency volunteers. The workshop analysis showed that participants in the workshop were consultants, practitioners, and community researchers. They contacted and coordinated with researchers to participate in the workshop of emergency volunteer management.

Regarding the activity analysis from the community forum, it was found that management needed the coordination and public relations by community researchers. Decision making depended on discussion and consensus, ans then taking a vote to choose the first priority of activity. The analysis of training of emergency volunteers revealed that retention management required contact, coordination and motives of the trainees. As trainees said:

"Trained to be volunteers in sub-district municipality office." (male 18 years)

"Would like to get knowledge for taking care my family." (female 35 years)

Analysis of training of emergency volunteers revealed that there was consensus about recognition for emergency volunteers. They agreed they liked to receive certificates of training. Trainees agreed about their role after they finished training; they wanted to care for people in their residential blocks and to be emergency volunteers in the Sub-district emergency responder unit in the LAO.

4.2.2.3 Integrated management for emergency volunteers. The analysis of activities in the capacity building phase revealed that the management of emergency volunteers could integrate the functionalist paradigm and the interpretive paradigm. The integrated management for emergency volunteers comprised recruitment and retention as shown in Table 5. Recruitment included selecting, assessment, matching and defined job description whereas retention included consensus, training, coordination, contact, motives and recognition.

Table 5 The integrated management of the functionalist paradigm and the interpretive paradigm

Management	The functionalist paradigm	The interpretive paradigm.	The integrated activities	The integrated functionalist and the interpretive paradigms
-Recruitment	-Selecting -Assessment -Matching -Defined job description	-Selecting -Assessment -Matching	Community forum	-Selecting -Assessment -Matching -Defined job description
-Retention	-Training -Coordination -Contact -Motives -recognition	-Consensus -Training -Coordination -Contact -Motives -Recognition	-Workshop -Community forum -Training of emergency volunteers	-Consensus -Training -Coordination -Contact -Motives -Recognition

4.2.3 Evaluation of management for emergency volunteer The basis for the evaluation of emergency volunteers is similar to that for the management of emergency volunteers in that the paradigm determines practices. So, the practices of evaluation come from the functionalist and the interpretive paradigm as well. The details of the analysis shown in the following sub-sections.

4.2.3.1 Evaluation of the functionalist paradigm. The basic assumption of the functionalist paradigm is that ere are universal truths. It means that everything in this world can be measured accurately. So, the methods of evaluation are quantitative data which are evaluated by organizations, people and volunteers. This method of evaluation need the participation of multiple sectors.

The empowerment evaluation forum gathered organizations, people and volunteers to do this evaluate together. There were nineteen participants in this forum including: organizations such as health center, the LAO, the school and the

hospital; volunteers such as emergency volunteers, and non-affiliated people.

The analysis of this forum showed the mean scores and the rank of activities in this research as evaluated by participants. For instance, participants identified the survey of the community and the emergency paradigm asc the first priority but self-evaluation showed they could obtain 8.75 scores. Training of emergency volunteers was identified as the third priority but self-evaluation showed they obtained 9.60 score.

Apart from the evaluation of the functionalist paradigm, I summarize that the evaluators of management for emergency volunteers were organization, people and volunteer. Method of evaluation used natural science methods which are frequency distribution and the mean of activities.

4.2.3.2 Evaluation of the interpretive paradigm. The basic assumption of the interpretive paradigm is that there are multiple truths. It means everything in this world could emerge from various situations. Various situation are processes which emerge from individual people's experiences and is linked with their experiences. So, the methodology of evaluation was qualitative data which is evaluate by organizations, people and volunteer. The process of evaluation comprised conversations, and observation, AAR, and empowerment evaluation forums. The conclusion of the analysis is shown below.

Discussion showed that evaluators who are volunteer leaders and community researchers reflected their experience of having participated in activities. While observation showed manner of acting in participants who joined in every phases of this research. AAR evaluators were participants who are community researchers, practitioners and consultants. They reflected their perception in activities and identified the reason of their perceptions. The results of AAR stimulated the researcher to adjust planning and the steps in this research for the future.

The empowerment evaluation forum revealed that evaluators were similar to the functionalist paradigm. In contrast, the result of the interpretive paradigm showed experienced participants what they had practiced in their life. Evaluators identified that meeting people in the community is important because it made people understand and be willing to participate in this research.

Apart from evaluation of the interpretive paradigm, I summarized that evaluators of management for emergency volunteers were organizations, people and volunteer. The method of evaluation was process, so the results of evaluation are quality data.

Both paradigms of evaluation, I summarize as Table 6.

Table 6 Conclusion of the functionalist and the interpretive paradigm of evaluation

Paradigm	Method of evaluation	Evaluator	Activities
The functionalist	-Quantitative approach i.e. frequency and mean	-Organization - People - Volunteer	- Empowerment evaluation forum
The interpretive	-Qualitative approach i.e. process evaluation and quality data	-Organization - People - Volunteer	- AAR - Observation - Discussion - Empowerment evaluation forum

4.3 Evaluation phase

Practice is one of the concepts of CAR which means that group practices work together. It leads to new knowledge, new instruments and new concepts. Evaluation of emergency volunteers are group practices so it is the way that brings new knowledge as well. This phase included reflection on the research thesis and reflection on the model as shown below.

4.3.1 Reflection on research thesis: I showed three phases of this research: 1) research phase comprising RAP and needs assessment of a community-based management system for emergency volunteers; 2) capacity building phase comprising workshop on a community-based management for emergency volunteers and community forum; and 3) evaluation phase using an empowerment evaluation forum.

4.3.1.1 Research phase

1) Reflection on RAP. The observation is a tool for reflection RAP. It showed enhancement of photographic recording skill. At the beginning of RAP, pictures were incomplete. Most community researchers do not want to take photographs, because they never had taken photographs. Some community researchers volunteered to take photographs. During the research, I coached them to take photographs. Observation showed that they were enthusiastic and interested in these activities. At the end of the RAP, pictures were more that at the beginning of RAP.

2) Reflection on needs assessment of a community-based management system for emergency volunteers. My planning incorporated AAR to reflect on needs assessment activity, but I could use it. So I changed to discussion.

(1) The failure was a lesson learned about AAR. I found that the failure of AAR in this study was determined by four conditions. The first is having group activity in the evening that needs a long time to complete. The second is that it was the rice cultivation season. The third was the weak relationships between the participants and the researcher. The fourth was that the researcher lost self-confidence to participate in AAR and so she spoke too fast in the AAR. All these conditions made me change the reflective method to discussion. This is discussed further in the paragraphs that follow.

(2) Reflection of discussion showed that participants knew and practitioners perceived the thinking of participants in this activity. Moreover they suggested how the card sorting technique could be improved. The details are as follows:

> “I knew how people think ..using writing is better than using color stickers. If I use color stickers, I feel confuse.” (practitioner, male 49 years)
>
> “It is good. If you did fast than this, I will not understand. Take scores to another side this paper.” (community researcher, male 39 years).
>
> “Replace card to the central of paper and take scores to another side this paper. Take it is easy.” (community researcher, female 46 years)

(3) Results of discussion led to the specific action recommendations (SARs) of card sorting technique. I summarized that SARs of needs assessment could be generated under two conditions. The first condition was about technique design which should be place item score of “the real situation” and “the way it should be”. The second condition was about color sticker which should be change from paste on flipchart into record score of needs. SARs were used in the next group interview, it showed participants could be assessed faster than in the first group interview.

4.3.1.2 Capacity building phase

1) Reflection workshop of a community-based management system for emergency volunteers.

(1) The complete details of AAR. From the failure of the first AAR, I learn to took steps to improve this activity. There are two conditions. First, researcher as a facilitator should be understand time of cultivation. Second, facilitator should be build strong relationships with participants.

(2) The participation of participants in the action plan. I found that participation in the action plan by participants depended on two conditions. The first was the capability of the facilitator and the second was that the facilitator needed to communicate using “ThaiLom” language.

(3) Learning of participants reflection workshop. Participants reflected that they perceived benefit from the concepts and principle of caring for emergency patients which they had learned. Furthermore, they knew more about health care and prehospital care. They understood this workshop was a lecture, but they still got group experience. So, the results of this workshop were considered as good. They expected that they would take these concepts to practice in their community.

(4) SARs from AAR workshop. Reflection on AAR led to SARs, that is the researcher as a facilitator. Facilitator should exhibit the following: : familiarize themselves with participants; be self-confident to use AAR, speak skillfully, understand the socio-cultural character of the community.

2) Reflection on community forum. For this I used observation and field note taking. The reasons were that the community forum

was set up at night and it took less time than the workshop. If I had used AAR, it might have been a failure as in the case of the needs assessment. So, I changed to use observation and field note taking.

The reflection of this forum showed that participants thought and decided how to manage emergency volunteers. Sixty five participants produced surprising reflections and more than I had expected. The reflections showed that participants in this forum managed by using selecting, matching and assessment of volunteers be trainees to be emergency volunteers. When this forum finished, there was a sudden surge of people volunteering to be trainees as emergency volunteers. Furthermore, participants in this forum helped to coordinate and connect volunteer people to train to be emergency volunteers. At the last, there were forty-two trainees which is more than I had expected. I had expected approximately thirty trainees.

3) Reflection on training for emergency volunteers.

(1) The completed issues and details of AAR. I took SARs of AAR from the workshop to inform myself about the technique of AAR after finished the training. I received lessons learned from the completed issues and details. There were five conditions of lessons learned. The first was a researcher should heve wide and deep knowledge of AAR and he/she should be extensively familiarized with participants. The second was that the group of participants need to have the necessary backgrounds to join in AAR. The third was to have an activity not less than two days before using AAR. This helps to create familiarity between participants and researcher as facilitator. The fourth was location which should not be far from the community and t was a comfortable place. The last was to use local language.

(2) The achievable target group for training. I learned from the training for emergency volunteers that there are four conditions of achievable target group of training. The first was look for community context. The second is to understand the community. The method of understanding to be based on the community context and community participation such as thinking and analyzing. The third is perception and decisions of the community based on their

context. The last is flexible management especially in dealing with voluntary trainees.

(3) Achievement of the excellent training of emergency volunteers. I learned from the training of emergency volunteers that there were four conditions for the achievement of an excellent training of emergency volunteers. The first, was learning process which takes at a minimum of two days. Training sessions were designed by group learning, from information from the media and demonstrations, and practicing for prehospital care. Then small groups presented activities in their large group setting. The second, was materials for training such as documents, human models and prehospital care VCDs. The third, was location which should not be far from the community and be a comfortable places. The fourth was a flexible schedule. From my experience, I had obstructions because trainers who were busy so they could not train at the time of the training session.

(4) Participants learning from the training. The reflection revealed that trainees felt glad and perceived the unity of trainees during they practiced about prehospital care. Moreover, they gained benefits from the training such as e knowledge about prehospital care which they had not had before. This included for instance, reporting, on screen care, and care in transit. They were excited during practicing about prehospital care in this training.

They said that this training differed from other training session because it included theory and practice which they can apply to care for emergency patients. Some trainees said they have never been trained in their life. Trainees expected that they should be take knowledge to use with people in their community; they should be push the action plan of a management system for emergency volunteers to the LAO; and they needed to be trained continuously and at least approximately one time per years.

(5) SARs of generated AAR. As I mention above I used AAR three times in of this research. I summarized that SARs of AAR could be generated under three conditions. The first condition was about a researcher as a facilitator. The facilitator needs to have various properties including: know clearly about explicit knowledge of AAR; skillful about AAR process; self-confidence; speaking must be clear and easy to listen to; and skills to familiarize themselves skill with the group of participants.

The second condition was a facilitator should understand the socio-cultural context including: speaking the local language; understand the timing of cultivation; and finding a convenient and comfortable location for participants. The last condition included activities such as : need skill to build good relationship between facilitator and participants; and need time to allow activities to last around one to two days.

4.3.1.3 Evaluation phase.

This Phase composed of the reflection on Empowerment Evaluation forum as described in the following sections.

1) The preparation and adaptation. The reflection on this forum was a lesson learned that there was a need for preparation and adaptation. The first condition was preparation i.e. DVD player and participants. My experience found that I while I coordinated with community researchers to prepare DVD player to show the concepts involved in empowerment evaluation, but it didn't work so the researcher changed to speaking by herself. I clearly confirmed the attendance of participants, but they still did not join this forum. I needed to adapted the technique of empowerment evaluation by using color stickers and wrote evaluator's name on color stickers.

2) SARs of EE forum. I summarized that SARs of EE forum could be generated under two conditions. First, the preparation of the forum is important especially the involvement of media. Organizers need to have a reserve plan to solve obstructions. Second, techniques of evaluation need to incorporate color sticker on which are written the participants' names.

3) Benefit for the community. Reflection from discussion showed people in the community gained abundant knowledge especially VHVs, health officers and stakeholders. As participants said:

> "Thanks for choosing us to participate in this research. It made people in this community get benefit abundantly." (consultant, male 42 years)
>
> "I was so glad to participate in this research. It made people get much more knowledge of emergency medicine. I and VHVs felt so sorry that you left us because of the termination of research." (community researcher, male 45 years)

"I got abundantly knowledge." (practitioner, male 54 years)

4) Development of public speaking skills and self-confidence. Observation and discussion among community researchers and practitioners showed that they enhanced their public skills. At the first time, community researchers and practitioners rejected doing public presentation during group learning. Some of them spoke quivering with excitement, and their hands were shaking like a leaf. When this research was nearly finished, they showed self-confidence in order to care for emergency patients. Moreover, they spoke clearly and without signs of excitement. As participants said:

> " From you researched in our community. I gain knowledge abundantly. I know how to carry emergency patients correctly. I feel more confidence." (practitioner, male 54 years)
>
> "If you researched in our community be longer six months. I can speak in public could be confidence more than I did." (community researcher, male 37 years)

5) SARs of development of participants: make an assertion in the public. At the beginning of the last phase of this research, I learned that developing participants to make an assertion in public included five conditions. The first condition should be the use of RAP to build strong relationships with people in the community. It is the basis for the development of participants in order to make an assertion in public. The second condition should be the holding of a forum for participants. I realized that participants fought to speak in every forums as I observed their action.

The third condition is the facilitator. I realized that the facilitator is an important person. A facilitator need to speak the local language "ThaiLom", in order to catalyze participants to think and analyze. The proportion of facilitator and participants should be 1:10. The fourth condition is encouragement including: body language; gentle touch at participants' hand; and standing beside participants. These conditions decreased the excitement and anxiety of participants.

The last condition concerns contexts including: context of working life must not be cultivation season; and context of location must be located in the community or not far from the community.

4.3.2 Reflection of model of a community-based prehospital care management system for emergency volunteers Analysis of the reflections was based on those from the empowerment evaluation forum. Due to, this forum based on empower participations who join to evaluate in this forum. Results of it revealed quantitative and quality data as well. Empowerment evaluation could be linked to the functionalist and the interpretive paradigm of management for emergency volunteers.

Participants in this forum included leaders, organizations and individuals. Leaders were village header, VHVs headers, representative of civil society, the heads of groups, and the head of the Ruamkatunyu volunteers in the community. Organizations that participated were from the sub-district and district level. Sub-district representatives were the chief of health center and representative of the director of sub-district school. The district level representative was the director of the district health officer.

There were seven activities which participants evaluated in this model. Activities included face to face with leaders inside and outside the community, meeting with people in the community, RAP, needs assessments for the management of emergency volunteers, workshop on management of emergency volunteers, community forum, and training of emergency volunteers.

The analysis of activities showed that the first priority of work was training emergency volunteers. The second to last priorities of working were workshop on management of emergency volunteers, meeting with people in the community, face to face with leaders inside and outside the community and RAP.

The scores of working through this thesis research showed 8.13 to 9.60. Besides, participants also capture tacit knowledge from their experience into explicit knowledge. The explicit knowledge are new knowledge which should be done for generation in another area of research. The details are as follow:

4.3.2.1 The details of activities. There were four activities which should be more detailed. Face to face meetings with leaders is not enough. Such meetings should also include meeting leaders inside and outside the community as well. Needs assessment should have questionnaires of needs, meetings should be at night and should be monitored continuously. Community forum and training should be adapted to the time of other activities.

4.3.2.2 Stakeholders. There were six activities which should be adapted to the roles of stakeholders. Face to face with leaders inside and outside the community should be an added role. Meeting with people in the community, RAP, needs assessments and community forum should use credible coordinators to join these activities. Needs assessment should be done by a researcher who build understanding for participants in order to assess needs. Community forum should have the participation of the LAO. Training of emergency volunteers should be supported by the LAO, the health center and hospital.

Table 7 Adaptation of activities and role of stakeholders

Process research thesis	Details of activities				Stakeholders			
	Meeting	Construct instrument	Adapt time	Continuous Monitor	The LAO	Health Center& Hospital	Researcher	Credible coordinator
Face to face with leaders	✓				✓	✓	✓	✓
meeting with people								✓
RAP								✓
Needs assessment		✓		✓			✓	
Workshop			✓					
Community forum			✓		✓			✓
Training of EVs			✓		✓	✓		

4.4 The results of the research

4.4.1 The conclusion concerning a model of a community-based prehospital care management for emergency volunteers

This model put the CAR concept into practice in this research. There were there three approaches in the CAR concept. The first approach was research that was done continuously so that new theories and new concepts may be disclosed. The second approach was capacity-building that emphasized improving ability and cooperation from participants more than other research types. The third approach was that applied to get new concepts, theories, and knowledge. The basic belief of this research led to the methodology of this research that there were three phases.

First phase: Research. In this phase participants learned to think and look into RAP and needs assessment. First, RAP was use to explore the community context, socio-cultural context and paradigms of emergency volunteering and lastly, needs assessment was used to investigate a community-based management system for emergency volunteers. As a consequence of the first phase, the researchers drafted a framework for a system of management for emergency volunteers to use in the second phase.

Second phase: Capacity building: This phase built the capacity of stakeholders by using workshops, a community forum and training of emergency volunteers. The workshop on management for emergency volunteers was taken by FSC. The workshop sought to make a decision in the community forum for priority setting of action plan activities. Last, the first priority is training of emergency volunteers. Consequently, the second phase led to draft new framework for the management of emergency volunteers.

Third phase: Evaluation. This phase consisted of evaluation during the research process and evaluation after finishing the research. The evaluation during the research process included discussions, observation and after action review. The evaluation after finishing the research was taken for consider at the empowerment evaluation forum.

As a result the three phases of this research led to the management model for a community-based prehospital care system for emergency volunteers as in Figure 11The components of this models are as follows:

4.4.1.1 Structure and mechanism. There were ten considerations in order to manage a community based prehospital care system for emergency volunteers as follows:

1) Community context: This model is located a remote rural area. It is a risk area for emergency illnesses and there is a sub-district responder team of LAO which responds to provide services for people in the setting of the area. Most of people are related and have strong religious faith. They hold values of reciprocity, gratefulness and frugality. Those values emerge from socialization. The economic system and especially production favor self-sufficiency and intensive agriculture. Some workers migrate to work outside the community. Social groups are based on kinship and governmental groups.

2) Services: The need was for emergency diseases more than for injuries. Seven types of emergency disease most commonly occurred: digestive system; circulation system; respiratory system; nervous system; obstetric system; and genitourinary system. The most frequency of emergency diseases were symptom and signs and abnormal clinical finding related to high fever. Injuries consisted of two groups those that were due to external causes and a group related to transport accidents. Falls were the most frequent causes of injury in the first group. Transport accidents were related to motorcycle accident and agricultural vehicle accidents.

Services process of the management of emergency volunteers revealed five patterns. The first pattern was self-reliance which relied on the efforts of the immediate family. The second pattern was reciprocity, relied on cousins or neighbors in the emergency patient’s block. The third pattern was on car hire which relied on care hire from people in the community. The fourth pattern was the school management which relied on the initiatives of the school. The fifth pattern was depending on co-management which relied on involving external organization and internal organization in the community.

Almost all of the people disliked using the prehospital care services of the LAO and responder team inside the community, sub-district health center and hospital. The reason were; it was not fast or as fast as they needed; people don't know how do deal with a emergency; and people feel afraid of offending.

3) Man: There are tree groups of people involved: practitioners, consultants and researchers. Firstly, practitioners including; leader groups were the village header, assistant head of the village header; volunteer groups were VHVs, civil defense volunteers and Ruamkatunyu volunteers; and individual volunteers. Secondly, consultants came from two levels: sub-district level and district level. Lastly, researchers were community researchers who live inside and outside the community.

4) Organization: The characteristics of organization were informal organization and formal organization. First, informal organizations were natural groups and Ruamkatunyu volunteer group. Natural groups value reciprocal care emergency patients in community. Ruamkatunyu volunteer group value care for emergency patients from diseases and disasters. Cultural organization such as Ruamkatunyu volunteer group value physical items such as membership cards, uniforms, communication radios and the commitment of the volunteers.

The last group, formal organization was the LAO that places value on responsibility for prehospital care, but people in the research location disliked to access emergency services. The school, sub-district health center, district public health office and Crown Princes hospital valued their responsibility for prehospital care. The capacity-building phase was supported by those organizations. The sub-district health center and district public health office strongly supported the workshop and community forum. While, the Crown Princes Hospital and school strongly supported training organizations.

5) Regulations: Regulations were flexible and consensual concerning taking care emergency of patients in the future.

6) Budgets: Budgets were money and implicit cost such as location expense, media expense, materials expense and trainer expense.

7) Development of emergency volunteers: It included: curriculum which laid the foundation for the research phase; time of training related community context; materials for training; and recognition.

8) Vehicles and communication were cars and telephones for the management of emergency volunteers.

9) Planning: Planning was planning of management for emergency volunteers.

10) Information: Information needed were community context, services, and needs.

4.4.1.2 Management of emergency volunteers. Due to, the belief that the management of emergency volunteers was based on the emergency volunteering paradigm, at the beginning, in the research phase I explored volunteering paradigms and needs of management for emergency volunteers in the community. The analysis of data showed there were the functionalist paradigm and the interpretive paradigm. I took concept of two paradigms to practice in the capacity-building phase at a later time. Practiced in the capacity building phase were management of emergency volunteer which laid the foundation of an emergency volunteering paradigm. The details of this are as follows:

1) The functionalist paradigm. There were two factors which were commercial change and modern community and EMSS policy. Those factors caused people in the community to believe in universal truths about modern medicine. The people in the community also belief universal truths are free from their mind, individual find out by natural science. So, the product of emergency volunteering could be measured accurately. Order is the best method to manage emergency volunteers by control. Control means to define job description and supervise emergency volunteers. Moreover, people in community thought deeply group gathering could be help emergency patients in the community. In addition, they belief that emergency volunteering should get benefits such as gasoline expenses, travel expenses and welfare.

The analysis of the functionalist paradigm, I brought results of analysis to practice in capacity–building. It revealed that management should be by recruitment and retention. The recruitment of emergency

volunteers included selecting, assessment, matching and defined job descriptions. The retention of emergency volunteer depended on training, coordination, connection, motives and recognition.

2) The interpretive paradigm. The sociocultural context was a significant factor that had an effect on socialization in this community. Socialization built of reciprocal values of people in the community in order to take care of emergency patients together. The significant factor caused people in the community to believe in multiple truths about caring for emergency patients in their community. Caring for emergency patients depended on memories of various experiences in everyday life. Besides, caring for emergency patients emerged from individual perceptions and intuition in difference situations. So, emergency volunteers emphasized extract cues and emergency volunteering were process of helping emergency patients.

Sometimes, emergency volunteers pay their own money in order to save people's lives. Result of emergency volunteering also include feeling of pleasure feeling and making merit. In addition, people in the community thought that the management of emergency volunteers needed understanding which should be managed by consensus, conversation and work coordination such as time for volunteering.

The analysis of the interpretive paradigm, I brought results of analysis to practice in capacity building. It revealed that management should be by recruitment and retention. The recruitment of emergency volunteers included selecting, assessment and matching. The retention of emergency volunteer included consensus, training, coordination, connection, motives and recognition.

3) The integrated management of emergency volunteers. Apart from the functionalist and the interpretive paradigm, I integrated both the functionalist and the interpretive paradigm. The underpinning of management of emergency volunteers are the integration of the functionalist and the interpretive paradigm which brought about the integrated management of emergency volunteers. This management model is called Hybrid'.

Hybrid of management model comprised of recruitment and retention of emergency volunteer. Recruitment of emergency volunteers is similar to emergency volunteer management of functionalist paradigm. Recruitment of emergency volunteers, people in the community selected, assessed, matched and defined job description from people in their community by themselves. On the other hand, retention is similar to emergency volunteer management of the interpretive paradigm. Retention of emergency volunteers, people in the community and governmental sector collaborated: to trained emergency volunteers; to encouraged motives for trainees; to recognize emergency volunteers by using certificates; and to coordinate and connect with stakeholders in order to manage emergency volunteers in the community.

4.4.1.3 Evaluation of management for emergency volunteer. According to the management of emergency volunteers, evaluation was based on the emergency volunteering paradigm. Therefore, evaluation was determine from the emergency volunteering paradigm. Method of evaluation followed two paradigms: the functionalist and the interpretive paradigm.

1) Evaluation method of the functionalist paradigm. The evaluation method used natural science methods for the evaluation of emergency volunteers. It evaluated by organizations, people and self-evaluation using frequency distribution and the statistical mean.

2) Evaluation method of the interpretive paradigm. The evaluation method used for the evaluation of emergency volunteers was by organizations, people and self-evaluation using qualitative data.

In conclusion, I summarized the model of a community-based prehospital care management for emergency volunteers as Figure 11.

4.4.2 The Conclusion of the research The model of this research was influenced participants such as practitioners, consultants and researchers. Result of reflections on the model created participants learning to achieve SARs and adjust model of the research. The details are shown in the following sub-sections:

4.4.2.1 Process research thesis. The reflection of process research comprised of three phases. Firstly, reflection on the research phase showed

enhancement of community researcher's skill about taking photographs, lessons learned from the failure of AAR, and SARs card sort techniques.

Secondary, reflection on the capacity building phase showed that there were AAR, participants and researcher. The completed issues and details of AAR could be obtained from AAR reflection.. Participants learned to plan and decide on the management of emergency volunteers. Researchers learned through reflection in the workshop, community forum and training for emergency volunteers. For instance, this is shown in the participation of participants in the action plan, the recommended target size of a group for training and the excellent achievement of training for emergency volunteers.

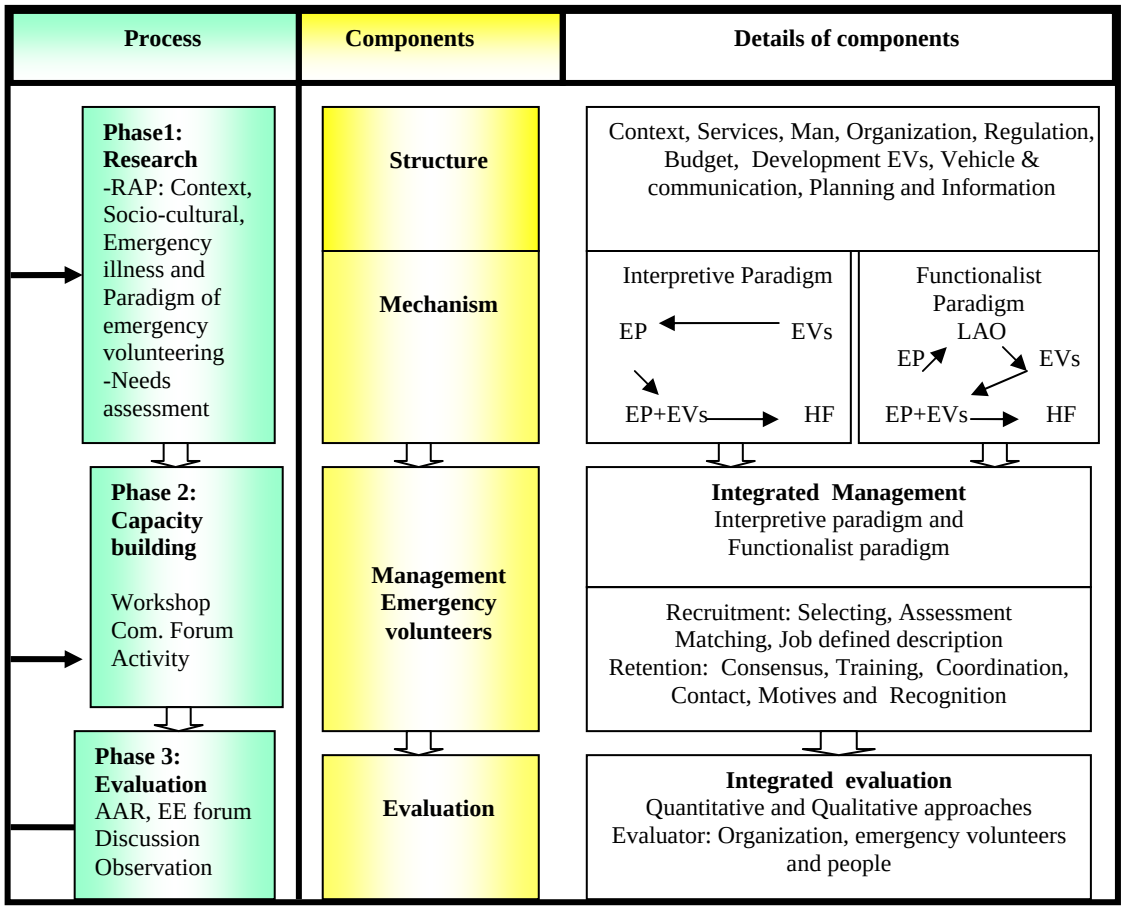
Thirdly, reflection on evaluation showed preparation and adaptation which brought about SARs of EE forum. Moreover, this research brought benefits to the community and the development of public speaking skill and the self-confidence of participants to make an assertion in public. It led SARs of development of participants to generate in others areas.

4.4.2.2 The Conclusion of model research. There were two issues from this reflection. The details were as follows:

1) Activities. They should be adjusted to include: meeting leaders who are inside and outside the community; creating questionnaires; adjustment in timing of activities; and monitoring activities.

2) Stakeholders. There are two groups. The first group are the LAO, Sub-district Health Center, hospital and related organization. They should join in the meetings and support budgets. The LAO should be forced to include the action plan of this research into the action plan of the LAO. The last group is researchers who should develop skill for working with and finding trusted coordinators to contact participants for research.

Figure 11 Model of a community-based prehospital care management for emergency volunteers



RAP = Rapid Assessment Procedures

Com. forum = Community forum

Activity = Training of emergency volunteers

AAR = After Action Review

EE forum = Empowerment evaluation

EP = Emergency patient

EVs = Emergency volunteers

LAO = Local Administrative Organization

HF = Health facility

CHAPTER V
DISCUSSION

The discussion is divided into three parts.

5.1 Model of a community-based prehospital care management for emergency volunteers; including:

5.1.1 Structure and mechanism of management for emergency volunteers;

5.1.2 Management for emergency volunteers; and

5.1.3 Evaluation of management for emergency volunteers.

5.2 Reflection on evaluation; including; thesis research; activities on the research; and model of a community-based prehospital care management for emergency volunteers.

5.3 Methodology: including; CAR; RAP; needs assessment; empowerment evaluation; future search conference; AAR ; and issue book.

5.1 Model of a community-based prehospital care management for emergency volunteers

This model were developed from CAR concepts of which there were three components as follow:

5.1.1 Structure and mechanism of management for emergency volunteers

5.1.1.1 Community context. It contained community history, ecological history, socio-cultural context, economic system, political system, population transition, and the emergence of the sub-district responder emergency unit.

The results showed that there were male more than female participants. Because female rejected to gave information for researcher. So, data

analysis showed male were more than female. The mean age of the participants was 56.83 years. Because the older people have lived in the community since the formation of the community, so they knew about community history more than others group in the community.

In the former time, people in the community were a kin group who escaped from the war in Laos. They settled down at remote rural area about one hundred years ago. This community was at risk to disaster. There were plentiful natural resources. People in the community lived in wooden houses which were pillar houses placed on big rocks. They believe strongly in Buddhism and maintained reciprocal relations with people in their community. Groups emerged from their kin. They did not move out of their community to earn a living. Most of people finished their studies at the primary school level. The flood last year caused the most suffering that these people had ever experienced.

In the present time, this community is in a remote rural area which is exposed to the potential disasters. People in the community still maintain reciprocal relationships and they are friendly. They still believe in Buddhism and value gratefulness and frugality which emerges from socialization in the community.

The change of the community is shown by decreasing water resources. The occupation of the people is intensive agriculture and self-sufficiency agriculture. The governmental policy promotes commercial markets and comfortable transportation. Besides, the increasing number of people the youth study to a higher level than in the past so some people migrant to earn outside the community. Some groups and organization have been set up by the government and some have been set up naturally by kinship of groups people. The modern communication and comfortable transportation push materialism such as extravagant values and voting based on monetary payments. The youth of the village are required to rebuild their parent's house and buy them a pickup truck.

Above, I have shown that the people have adapted from earning their living by self-sufficiency agriculture in the past, to intensive agriculture today. Some people also migrated from the community to another community. This situation conforms to the opinion of Staward (1972: 36-39) who said that culture and ecology are strongly related and affect each other. When technology is low, people

need to adapt to ecology and ecology determines culture. On other hand, when technology is high, people can have the capacity to change the ecology. It has caused changes to culture in the present as well.

5.1.1.2 Services. These include those intended for dealing with emergency illnesses, caring for emergency patients and the process of management of emergency patients in the community. Characteristics of participants showed that males were more than females. It is similar to the data of the community context, but the mean age is lower than for the community context.

Emergency illnesses in the community were emergency disease more than injuries. As the research in revealed the project of treatment service in emergency people: a case of service receivers, service providers at ER in Thailand that there were emergency disease more than a half of emergency patients (HSRI, 2000: 7).

Injuries in the community caused by a number of events were more than those related to transportation accidents. The cause of all other external injuries were e falls such as fall from a chair, fall from the house, fall from an agricultural vehicle and wound caused by sharp edges. Injuries happened because of accidents in the school and around the houses in the community. The reason for these were as follow: the first reason is crowded houses located on the twisting and uneven cement streets. The cement streets pass across the stream through hills. The location is dangerous so it contributes to people getting injured; another reason is the flood last year. It made people rebuild their houses, so people got injured because they fell from their houses; and the last reason is intensive agriculture. It has made people use machines and small tractors so people get injuries from their occupation.

The cause of transportation accidents is less than all other external cause of injury so that it differ from the MoPH report that showed an increase in the number of transportation accidents (Suwit Wibulpolprasert, Ed., 2005: 210). Even though, RAP showed a great number of pick-up trucks and motorcycles, and the landscape increases the risk to have accidents, people cannot drive their vehicles fast, so transportation accidents rarely happen.

Emergency diseases according to all the groups of participants i.e. service receivers, service providers and consultants identified that these were symptoms and signs and abnormal clinical finding in the digestive system, respiratory system and nervous system. This is similar to the report of the Sub-district Health Center that there were disease of the respiratory system, digestive system, and nervous system (Nasum Health Center, 2008b: 11).

The interesting data showed one of emergency patients that she was sick with stress and shock after the flood. She was an aging who lost her properties and her kin. This characteristic of symptoms call in term of modern medicine name "Post Traumatic Stress Disorder" This data relate with another research of Surichai Wankhaw, et al. (2006: 49-50) showed there were many people who were sick with Post Traumatic Stress Disorder. It also similar to report of Sub-district Health Center that there were death people who effect from the flood last year.

Caring for emergency patients it was shown by all three participants groups to be as a first priority dependent on family such as parents, son and son-in-law. The second priority is their kin and VHVs. The reasons included the ecological context, economical context and socio-cultural context. The ecological context of this community is that it is a remote rural area which is isolated from other communities, so people in this community need to care for themselves. The economic context showed that people earn their living by intensive agriculture, so they have to buy many pick-up trucks for their occupation. Those trucks can carry people to hospital as well.

Sociocultural context showed that youths place a value on buying pick-up trucks and rebuilding the houses of their parents. Besides, people are related by kinship and value reciprocity when caring for emergency patients which it is social capital of this community. This relate to what Yod Santasombat (1997: 81-82) mentioned that farmers in Thailand showed reciprocity to their kin and neighbors. It is a pattern of collaboration of basic economics.

For caring in the school, the director of school mention that care for emergency patients is provided by teachers and the janitor. This school set up system of management to take care of students who have accidents. This system determines the persons who is to give care and the level of management which

depend on the severity of the accident.

The process of management for emergency volunteers consisted of five patterns: self-reliance family; cousins or neighbors in the emergency patient's block; family; school; and co-management. All of the patterns showed that there were pick-up trucks, reciprocity in the caring of emergency patients, family budgets, and communication equipment such as radio communication and telephones.

In most patterns there were vehicles for transferring which is different from the characteristics of of EMIT except for the pattern of co-management (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 26-27). Moreover, most of the patterns showed one of example managed by organization from outside the community. Because people don't know how to deal with emergency patients such as caring for emergency volunteers and calling a phone. Some of them also feel ambulance car arrive lately at the screen in the community. Those reason made people manage for themselves based on four patterns: family, cousins or neighbors in emergency patient's block, family and school.

5.1.1.3 Man. The analysis of the data showed three groups in this research: practitioners, consultants and researchers. Firstly, practitioners were people who wanted to be emergency volunteers aged fourteen to fifty- four years old. This is comparable with the synthesis model of emergency volunteers in Australia and the USA. The project involving cadets in Queensland found emergency volunteers were fourteen to sixteen years old (Queensland Government, 2006: 1-3), but the project of the Queensland State which manages by local organizations found that emergency volunteers were above seventeen years of age (Queensland Government, 2008: 62-63). The situation in the research site is similar to the project involving cadets in high school in New Jersey, USA which found emergency volunteers were below eighteen years of age (FEMA, 2007: 128-129).

The former differ from the situation reported in the research of Fahey and Walker (2002: 23). The latter showed emergency volunteers were above eighteen years of age. A report in Thailand (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 117) defined emergency volunteers as being eighteen to sixty years old. Apart from the above, it has been found that ages of the group depended on type of group: i.e. whether they were students or adults.

Second, consultants are those who are leaders in organization supporting prehospital care management for emergency volunteers in this research. Leaders in organizations were divided into two levels. Sub-district leaders were the director of LAO, the deputy chief of the LAO, chief of health center and the director of the sub-district school. District leader were the director of the district health office and the director of Crown Prince Hospital. Third, researchers were community members and this researcher.

The results of this research differ from the model synthesis that man were leader, manager and coordinator as was revealed by research in the USA and England. In the USA a model of management for emergency volunteers revealed the role of leader concerning prehospital care (FEMA, 2007: 15). In England, a model of management for volunteers showed the role of manager and coordinator for community development (The Heartwood Centre for Youth Development, 2006: 1-15). However, the roles of researchers, managers and coordinators are alike.

The difference between this research and the model synthesis were the levels of volunteering and stakeholders. The levels of volunteering were state, province and the community. Stakeholders in this research were village assistant head and village head, head of group and members of the LAO. The cause of difference is that this research is based on the CAR concept which concerns the community, so there were various stakeholders.

5.1.1.4 Organizations. Data analysis showed that there were informal organization and formal organization. This research revealed that informal organization valued reciprocity for prehospital care of their kin and in their block. People like to care themselves, but they don't like to call Ruamkatunyu volunteers in their community. It is similar to the youth model of management for emergency volunteers in Australia. It is set up by youth volunteers in remote rural areas.

Formal organizations that were managed by the government place value on their responsibility for prehospital care. The role of each formal organizations was different. The LAO have responsibility for prehospital care, but the function does not work because people do not like to use the service and they feel the ambulance is not as fast as they need. The health center, school, hospital and

the district health office have distinct responsibilities about support and development of management for emergency volunteers.

The results of this research are similar to those for models in Thailand and Japan. In Thailand, research showed a model of management for emergency volunteers which is a responsibility of the LAO (Wongsa Laohasiriwong, 2006: 15, 36). In Japan, the research showed a model of management for emergency volunteers which was managed by state, province and municipality (JICA, 2006: 228-232).

Moreover, formal organizations showed that physical organization are similar to synthesis of management mode for emergency volunteers. For instance, the model in Japan (FDMA, 2008: 3-9) and the model in Thailand (Wongsa Laohasiriwong, 2006: 34-35, 68). Physical organization included communications radio, membership card, uniform and commitment of the organization. Those were identity of the Ruamkatunyu volunteer which is Weick (1995: 17-24, 30) said that is one of properties of sensemaking theory which indicated reconstruct and easy to understand. He also said that an organization is tied to a person's identity, and the understanding about an organization changes as the person grows and develops.

5.1.1.5 Regulation. Regulation emerged from through the consensus of participants to care for emergency patients. This result differs from the synthesize of both the functionalist and the interpretive paradigm of management models for emergency volunteers. Both paradigms revealed regulation were Acts and policy about prehospital care as in models in Thailand and the USA. In Thailand research showed policy push models of management for emergency volunteers (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 26-27). In the USA the report showed the FESA 1995 push model of management for emergency volunteers (FEMA, 2007: 16).

On other hand, results of thesis research showed regulation must be only by consensus. Social change has made people busy consequently they do not have free time to be volunteers. Being emergency volunteer in the LAO is impossible. So, people in this community must decide by consensus to care for emergency patients as practitioners said in the research phase.

5.1.1.6. Budgets. Research showed that budgets were money and implicit costs. This is similar to the model of management of emergency volunteers in Australia. This model is formed by youth (RAV, 2007: 52). As in Thailand it relates to the model of management for emergency volunteers which have been set up by the LAO and EMIT (Wonsa Laohasiriwong, 2006: 35, 54). This research showed budgets include grants from the government, donations, and the organization's budget.

5.1.1.7 Development of emergency volunteers. The research showed people development included curriculum, time for training, materials for training, and certificate of proof of training. It is similar to the project of First Responder for the LAO in Thailand (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 117). This project showed that time, curriculum, materials and certificates are the same as in this research

The difference between the First Responder project and research were learning process, curriculum details and time for training. Learning process from this research comprised group learning and self-learning by VCD whereas the First Responder project showed only description, demonstration and practice learning. Curriculum details of research were set by the community needs, but those of the First Responder project were set by experts and technical heath officers. Time for training in this research was set up by community needs while in the First Responder project the time chosen depended on the time of support from the government.

As shown above the development of a program for training which is et by the community needs to solve problems in the community. Netting and O'Connor (2003: 10-11) name that program as direct services program. They said direct services programs serve clients directly. Direct services programs can achieve perfectly good training of emergency volunteers as shown in the Evaluation reflection. The Empowerment evaluation revealed that the training of emergency volunteers achieved the highest score of working and AAR of the training of emergency volunteers brought about SARs of perfect achievement of emergency volunteers to generate the next research.

5.1.1.8 Vehicle and communication. Data analysis showed cars and telephones were used in this model. This is similar to the model of management for emergency volunteers in the USA (FEMA, 2007: 30), Thailand (Wongsa Laohasiriwong, 2006: 35, 54) and Japan (FDMA, 2008: 3-9). In the USA and Thailand, models were managed with the functionalist paradigm, but in Japan the model was managed with the interpretive paradigm.

The community context revealed there were many pick-up trucks which people used it carry crops to sell at the markets. They not only transport crops to the markets but pick-up trucks also carry emergency patients to health facilities. So, pick-up trucks are the most important vehicles for people in the community. This is related with community needs that show that pick-up trucks are the most important too. As a practitioner said pick-up trucks are the first priority of transferring emergency patients to health facilities. Due to, ambulance from the LAO have complicated steps for emergency patients transferring.

In addition, community context showed telephones were widely used in the community such as call to health facilities and call to report emergency situations. However, some areas cannot make contact using telephones, because of absence telephone signals. However, telephones cannot be used to report in a disaster situation as research (Surichai Wankhaw, et al., 2006: 40) has shown the problems with network telephones for about ten days after the Tsunami. However, radio did not found in this thesis, because of the limited of timing.

5.1.1.9 Planning. Planning is a structure of management for emergency volunteers. It relates to the theory of volunteer management that indicates that planning is the most important factor for the management of volunteers. Planning for the management of emergency volunteers provided participants with a topic of discussion that included group participation, budgets and incentives. This indicated that the community recognized discussion. This characteristic is in accordance with the perspective of the interpretive paradigm. The interpretive paradigm recognizes discussion, conversation and consensus in order to collaborate in a real life situation (O'Connor & Netting 2009: 217-218).

5.1.1.10. Information. Data analysis showed that information systems are an important structure of management. The system includes: community

context, emergency context and community needs which the community used for planning i.e. work plan, and problem solving. The information system included qualitative and quantitative data. This is in accordance with management in the interpretive paradigm which recognizes qualitative data such as narrative (O'Connor & Netting, 2009: 216-217). In contrast, management in the functionalist paradigm recognizes accurate measurement of data such as effective and efficacy (O'Connor & Netting, 2009: 94-95).

5.2.1 Management for emergency volunteers

The management of emergency volunteers was determined by the paradigm of emergency volunteering. Firstly, I showed the paradigm of emergency volunteering. Lastly, I discussed management for emergency volunteers such as recruitment, retention and integrate management. The details are provided in the following sub-sections:

5.2.1.1 The paradigm of emergency volunteering There were more male participants than female participants who did data analysis of community context. The mean age of the participants is lower than those doing data analysis of the community context. Because almost of the participants were community leaders and emergency volunteers. As research showed volunteers were not older people (Lavinson & Granot, 2002: 175).

The results showed that there were the functionalist paradigm and the interpretive paradigm. This results are accordance with the multi-paradigm model of volunteering (Macduff, et al., 2006: 33; O' Connor & Netting, 2009: 93-95; 216-219). This concepts revealed there are four paradigm including: the factionalist paradigm; the interpretive paradigm; the radical structural paradigm; and the radical humanist paradigm. However this results showed two paradigms , while the multi-paradigm model of volunteering showed four paradigms.

1) The functionalist paradigm of emergency volunteering. People in the community believe in universal truths. They believe that modern medicine is the best way to save people lives. This result is in accordance with a multiparadigmatic paradigm (O'Connor & Netting, 2009: 93-94) and the multi-paradigm model of volunteering (Macduff, 2006: 31-32). Both concepts mention that

the functionalist paradigm has an objective perspective. It believes that reality is independent of the human mind. Everybody could search and test according to the rules of formal logic and based on methods derived from the natural sciences to create reputable scientific knowledge.

Believing the universal truths, people in the community also believe in the best volunteering to save people's life. The best volunteering management to control emergency volunteering is ordering. So, the method of management uses supervision and monitoring as suggested by service providers and consultants. This result agrees with the findings of O'Connor and Netting (2009: 79) who said that organization in the functionalist paradigm seek operations based on a belief that the best work is provided when the organization is ordered and predictable.

People in the community love to gather in groups. They believe that the group is the concrete which hold people together in order to help emergency patients and encourage volunteering for public service. Participants mention that social change make people decrease reciprocity, but groups are the best way to help people in the community. This result agrees with that of O'Connor and Netting (2009: 94-95) who said that one characteristic of the functionalist paradigm is the regulation perspective which believes that social integration, depends on solidarity and the satisfaction of needs.

Furthermore, people in the community believe that the measurement of results from volunteering should be concrete and actual in order to solve problems. The measured results are frequency of volunteering, output, and efficacy and effectiveness. This result agrees with that of O'Connor and Netting (2009: 94-95) who said that volunteers in the functionalist paradigm believe in the objective perspective which is realistic and promotes t accurate measurement such as frequency, efficacy and effectiveness.

In addition, people in the community thought emergency volunteer should be given rewards to retain them. . Rewards for emergency volunteering were certificates, gasoline expenses, travel money and welfare. This result agrees with Macduff (2006: 33) who mention that recognition as a reward is one of management methods for volunteers in the functionalist paradigm.

This result is in accordance with the theory of volunteer management (Volunteer Canada, 2008: 1-3). This theory mentions thanks and meetings for volunteers are recognition which is a step in a cycle of volunteer management.

The belief of people in the functionalist paradigm might be effected modern medicine and policy and regulation of EMS system. In 1960, the emergence of modern medicine is a belief which is the best way to save people's life. This belief still existence and be through people in Thailand. In the present time, it were deeply embedded in people in the community such as VHVs header and president of the LAO in this thesis research.

After the emergence of EMS system, the policy of EMS system was set up by the government such as in the USA (Shah, 2006: 414-416) and Japan (JICA, 2004: 229). In Thailand, the policy of EMS system was set up in 1993 and EMS system policy were declared in 2002. During that time, EMIT was established to take the responsibility about EMS system in Thailand (Somchai Karnchanasut & Phenrung Boonyarak, Eds., 2005: 1-3).

Later on, the government set up the regulation of EMS system such as the USA (Shah, 2006: 414-416) and Japan (JICA, 2004: 229-230). In the USA, the regulation is the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), Emergency Medical Treatment and Active Labor Act (EMTALA) (Adisak Plitponkarnpim, KingKaew Udomchai & Jirawan Klommeak, 2001: 21) and is Fire Fighting Organization Acts of 1948 (Tanigawa & Tanaka, 2006: 365). In Thailand, the Emergency Medical Act were introduced in 2008 (The Government Gazette, 2008: 1-17) when EMIT was abolished.

In addition, increasingly, information about prehospital care made people believe in the universal truths for the analysis of the community context including: comfortable transportation; modern communications i.e. television, and satellites; teaching First Aid in schools.

Data analysis in the research phase showed that the LAO set up the management of emergency volunteers because of governmental policy. The LAO took action by following the regulations as a government organization, so the LAO managed by order and control. At the same time, the Provincial Emergency Medical Office supervised and monitored the LAO based on

regulation and standard set by EMIT.

The result of the above analysis agree with Cameron and Quinn (1999: 63-64) who suggest that organizations are controlled by procedures, protocols, formal rules and policies. Emergency volunteers are regulated and have clear schedules. They call this characteristics Hierarchy culture. It is found in public and private organizations that are based on the functionalist paradigm.

2) The interpretive paradigm of emergency volunteering. People in the community believe in a variety of knowledge for the care of emergency patients. They believe that a variety of knowledge emerge from life experience, perception and intuition in different situations which, as practitioners mentioned, include people, abbots and members of the LAO. This result agrees with O'Connor and Netting (2009: 216) who said that it is the subjective perspective which assumes that social reality exist primarily in the human consciousness. Subjectivity would say knowledge about reality is subjective and soft. So the reality is universal truths.

The result showed emergency volunteering is individualistic so volunteers care for people in their kinship group or neighborhood block. The reasons for this are twofold: people in the community perceive socio-cultural patterns that are reciprocity for prehospital care; and self-sufficiency agriculture change to intensive agriculture that made people busy, so they couldn't volunteer at the LAO. This result is in accordance with the subjective perspective which O'Connor and Netting (2009: 217) said reflects antipositivism. It means the social world exists as an emergent process that is created by individual concerns and is inextricably linked to individual experience. Antipositivism was found in this research when people in the community emphasize emergency volunteering as a process, but they do not emphasize the product of volunteering as being concrete.

The result of this study showed participants who had experienced emergency illnesses, they volunteered without monetary profit. Sometimes emergency volunteers must pay money by themselves in order to volunteer. The payback for of emergency volunteers is pleasure and the merit they accumulate. As mention of service providers i.e. VHVs, civil defense volunteer and Ruamkatunyu volunteer. The results of this study agree with finding of O'Connor and

Netting (2009: 232) that understanding organizations is based on “lived” experience because people make sense of what happened after they have experienced reality. In addition, it is relate with the subjective perspective that assumes that human nature is based on voluntarism and people can be proactive in creating their own reality. (O’Connor & Netting, 2009: 216). So, volunteering is created by “getting inside” the situation of everyday life.

Moreover, the result also showed that people in the community understood the management for emergency volunteers by using consensus and conversation. For instance, in the workshop and the community forum. Using consensus, discussion and conversation are coordination, characteristic and time of emergency volunteering. Due to, people must earn a living. O’Connor and Netting (2009: 217-218) mention it relate regulation perspective that is the characteristics of the interpretive paradigm. This paradigm require consensus, discussion and conversation to collaborate on the current needs.

People in the community make consensus to extract cues by themselves. They gave three reasons to make excuses cues including; they have to earn a living everyday, so they do not have enough time to volunteer as the organization needs; they don’t have standard instruments or ambulance ; and volunteers are altruistic and take the responsibility to help people. Due to, people in this community believing in multiple truths they understand the socio-cultural context in which they live. Thus agrees with Weick (1995: 49-55) who suggests that extracted cues depend on life experience and the existence of context.

The belief of people in the interpretive paradigm above, not only emerges from individual human consciousness, but also depends on life experience in a particular socio-cultural context: for instance, reciprocity of prehospital care, kinship groups, time for earning, and resources in the community.

As a result of the above analysis the research shows as Cameron and Quinn (1999: 63-64) that the interpretive paradigm requires a clan culture. In this research I name it “reciprocal culture” Because this study is based on the community, so it showed community context be distinct reciprocity while Cameron and Quinn named it from business research.

5.1.2.2 Recruitment of emergency volunteers. The result of this study relate to volunteer management theory that mentions that recruitment is the second step in a cycle of volunteer management. Recruitment teams have to brainstorm who should be the volunteers, why would a person fit the job, where and when to get the volunteers, and how to communicate with people to get them to be volunteers (Volunteer Canada, 2008: 4).

Apart from results of the paradigm of volunteering showed that there were the functionalist and the interpretive paradigm. So, management of emergency volunteer must follow the paradigm of volunteering. So, I discussed recruitment of emergency volunteers including; the functionalist paradigm and the interpretive paradigm as follows:

1) The functionalist paradigm. Results of this study showed management of recruitment of emergency volunteers paradigm included selecting, assessment, matching and defined job description. In comparison with the management concept of the multi-paradigm model of volunteering and synthesis models of the functionalist paradigm, neither of them t showed screening. This is due to this research being based on the community. People in this community are extremely familiar and have strong kinship links, so recruitment does not require screening.

In contrast, this research showed that the model required matching. Because emergency volunteers require characteristics and competencies such as technical skills and process skill (Committees for First Aid curriculum, 2004: 1-10). This finding agrees with Lavinson and Granot (2002 :175) that emergency volunteers should be in good health and their age twenty-five to forty-five years old.

2) The interpretive paradigm. Results of this study showed the management of recruitment of emergency volunteers paradigm included selecting, assessment and matching. In comparison with the management concept of the multi-paradigm model of volunteering, it doesn't show screening. Because this research is based in the community as in the functionalist paradigm.

In comparison with the synthesis models of the interpretive paradigm, it showed only selecting and defined job description. This

differs from this research because the synthesis model emerged from governmental policy which is state level. So, the training program is an indirect program (O' Connor & Netting, 2009: 8) which is based on the needs of the state. State organizations require defined job description for community workers. Whereas, this research managed by using needs and based on the community within community context. The community created programs by themselves that is a direct program, so defined job descriptions do not show in this paradigm.

By comparison with management in the functionalist paradigm, it does not show defined job descriptions in the interpretive paradigm. Due to people in this community are practice reciprocity and love to help together in their community, so, defined job descriptions are not required in the interpretive paradigm.

5.1.2.3 Retention of emergency volunteers. Result of this study agree with volunteer management theory that show that orientation, training, supervision and recognition are the steps in a cycle of volunteer management. Those steps are details of retention (Volunteer Canada, 2008: 3). In the recruitment of emergency volunteers, I have discussed the retention of emergency volunteers including; the functionalist paradigm and the interpretive paradigm as follows:

1) The functionalist paradigm. Results of this study show management of the retention of emergency volunteers paradigm included training, coordination, contact, motives and recognition. In comparison with management concepts of the multi-paradigm model of volunteering, it showed only supervisor, contact and recognition. It differs from this results of this research which showed that supervision is not required. Because of the limit of timing in this thesis research.

In comparison with synthesis models in the functionalist paradigm, models of management for emergency volunteers in Japan (Tanigawa & Tanaka, 2006: 227-232) and Thailand (Wongsa Laohasiriwong, 2006: 35, 35, 68) show that retention requires training, coordination, contact, motives, supervision and recognition. This differs from the findings of this research which does not show supervision. Although the community needs supervision, but the limit of this study is short, so emergency volunteers are not yet supervised as the

community needs.

2) The interpretive paradigm. Results of this study showed management of the retention of emergency volunteers paradigm included consensus, training, coordination, contact, motives and recognition. By comparison with the management concept of the multi-paradigm model of volunteering, which showed only consensus, coordination and contact. Because, it might be Macduff (2006: 34) revealed voluntary people who ready help people, but in this thesis research people who believe in the interpretive paradigm require new knowledge about prehospital care as the mention of trainees.

By comparison with the synthesis models of the interpretive paradigm such as the models of management for emergency volunteers in Japan (FDMA, 2008: 1-11) in the USA (American Red Cross, 2007: 13) that retention requires training, coordination, motives and supervision. It differ from this research because it does not show contact and recognition, because of community needs. As a practitioner said volunteers should receive recognition even though they need it or not.

5.2.1.3 Integrated management of emergency volunteers. A model of a community based prehospital care management system for emergency volunteers was built from the research phase then used t in the capacity building phase and evaluation. Those of two phases included a workshop, a community forum , training of emergency volunteers and reflection of evaluation phase could be integrated of management of emergency volunteers that there are the functionalist paradigm and the interpretive paradigm. Both paradigms could be integrated by using recruitment and retention. Recruitment included selecting, assessment, matching and defined job descriptions whereas retention included consensus, training, coordination, contact, motives and recognition.

Integrated recruitment is similar to the functionalist paradigm for the management model for emergency volunteers in Australia (Queensland Government, 2006: 48-54; 2008: 18-21) that showed recruitment included selecting, assessment and defined job descriptions. It differ from the model in this research that doesn’t show matching for people. Due to, model in thesis research was built by community needs. People in the community had experience caring for emergency

patients in their community, so they require matching of people to tasks to find suitable volunteers. This was according to what practitioners said and furthermore they said that volunteers have be at full capacity of saving emergency patient's life.

Integrated retention is similar to the interpretive paradigm of the management model for emergency volunteers in Japan (FDMA, 2008: 3-9) which showed retention included consensus, training, coordination, contact, motives and recognition. It differs from the model in research which does not show recognition. Due to, people volunteered in their home, but people in this research are underpin by the functionalist and the interpretive paradigm. Therefore, some trainees required certificates to work in the sub-district responder unit of the LAO.

In conclusion, the integrated management of emergency volunteers of the research model is a "Hybrid" of the functionalist paradigm and the interpretive paradigm. Recruitment is like the functional paradigm for emergency volunteers while retention is like the interpretive paradigm for emergency volunteers.

However I notice about the management of emergency volunteers that the factionalist paradigm is main stream for management which the government strongly emphasizes. The weakness of the functionalist paradigm is that it uses huge amounts of money for the management of emergency volunteers (Macduff, 2006: 33). Such an organization requires emergency volunteers that can volunteer regularly when needed and follow regulation to save emergency patients. Therefore, the "Hybrid" model should be used for the management of emergency volunteers in remote rural areas. Especially areas at risk of disasters and people practice reciprocity but do not have much more time to be volunteers. In addition, the context of this area means there is an inadequate budget for management.

5.1.3 Evaluation of emergency volunteers

The results of this study are related to volunteer management theory that states that evaluation is a step in the cycle of volunteer management. Evaluation is the step to evaluate volunteer and their work in order to earmark some work for volunteers (Volunteer Canada, 2008: 4). The belief about evaluation is similar to the belief about the management of emergency volunteers. So, discussion included evaluation of the functionalist and the interpretive paradigm as shown in the following

sub-sections.

5.1.3.1 The evaluation of the functionalist paradigm. Results of this study showed the evaluation method is based on that of natural science such as frequency and statistical mean. As people in the community believe in the functionalist paradigm, so they have an objective perspective. Their belief about knowledge is tangible and measured. It relates to the opinion of O'Connor and Netting (2009: 94-95) that functionalism has an objective perspective. Functionalists believe that epistemology is positivist. The view service providers and consultants is concrete, tangible and hard. By comparison with the synthesis models of the functionalist paradigm, of emergency volunteers, it showed model of management for emergency volunteers in Australia that evaluate emergency volunteers by using number of response time (RAV, 2005: 5-9).

Beside, evaluation of the functionalist paradigm showed evaluators are organization, volunteers and people in this research, but synthesis models of the functionalist paradigm showed only organization as evaluators as in the USA (FEMA, 2007: 176-183). Due to this research was build from the community which there were multi sector participation in this research such as people, volunteer, organization and the community. Therefore evaluation require all of sector to evaluate this study.

5.1.3.2 The evaluation of the interpretive paradigm. Results of this study showed the evaluation method is based on that of process of emergency volunteers. This is accordance with refection of AAR and empowerment evaluation forum. Those activity describe cause and guideline to enhance management of emergency volunteers. This result was emphasized volunteer by the community as a process and didn't stress on concreted reality. It relate to O'Connor and Netting (2009: 217) that interpretivism view subjective perspective. This view of it is consensus, but it require refocusing of consensual decision depending on the current need.

The synthesis models of the interpretive paradigm, shows models for the management of volunteers is similar to the model in Thailand that is called "Chalad Tamboon Project". The Chalad Tamboon Project revealed that volunteers who participated in the project (Orasri Ngamwitthayaphong, 2006: 13-23).

Moreover, evaluation of the interpretive paradigm showed that evaluators are the organization, volunteers and ordinary people in this research, but the synthesis models of the interpretive paradigm showed only the organization as evaluator, as in Japan (FDMA, 2008: 3-9). It might be that the model in Japan was created by the government, but, in this research it was created by the community. People in this community must earn a living all the year, so they don't have much time to be volunteers as a practitioner said. Therefore, people in this community perceived the process for saving people's life, the concreted evaluation method is not essential.

5.2 Reflection on evaluation

5.2.1 Reflection on this research

The process of the research was in three phases. Each of them is discussed in the following sub-sections. The results of research came from the research phase, capacity building phase and evaluation phase and showed this research was based on a sound and appropriate research methodology. In other words it was a competent and dependable research methodology.

The competent research methodology revealed that CAR was used as the main concept underlying the research. Besides CAR, various other methodology were used in this research: RAP, needs assessment of a community based management for emergency volunteers, FSC techniques, issue book, empowerment evaluation and AAR. These methodologies capture the thinking of participants as individuals and and as part of a group system. As lessons learned from the reflection showed there are many SARs: SARs of needs assessment improvement, SARs of AAR, and SARs of development of participants.

Moreover, this research showed dependable research methodologies are methodological triangulation and investigator triangulation. For instance: methodological triangulation is an activity of needs assessment which collects data from documents, group interviews and in-depth interviews. Investigator triangulation is an activity while training emergency volunteers that was used by community

researchers and this researcher. As discussed in by another researcher competent and dependable research methodology requires process validity (Mill, 2003: 84-85).

In addition, this research all of activities in the process of research were evaluated by using conversation, discussion and dialog in the empowerment evaluation forum. The result of this forum were new knowledge and lessons learned that could be used as generalizations. This is in accordance with the concept of dialogic validity (Herr & Anderson, 2005: 54-55, 57).

5.2.2 Refection on activities of the research

There were various activities in the three phases of this research. In the research phase, there was RAP, and needs assessment of a community based system for the management of emergency volunteers. In the capacity building phase, there was a workshop on management for emergency volunteers, a community forum, and training of emergency volunteers. In the evaluation phase, there was were an empowerment evaluation forum , discussion, observation, and AAR.

Those activities showed the quality of the research. For example: training of emergency volunteers and empowerment evaluation forum. Those participants behaved in activities that were based on real situations in their community. At the last, training of emergency volunteers and empowerment evaluation forum were extracted to SARs. As described by Herr and Anderson (2005: 53-57) in their work all the concerned parties shared and cooperated in the research equally by using activities that reflected those in their community or local context. This characteristic is called by Herr and Anderson "Democratic validity".

Moreover, this research created a learning process for participants so that they could understand the research results in the community context. This initiated changes and adjustments in activities in the next cycle. For instance: SARs of AAR were capture from three cycle of AAR. Result of each cycle were taken to improve in the next AAR until achieve SARs of AAR. This characteristic is called by Herr and Anderson (2005: 55) "Catalytic validity".

The changes and adaptations created new knowledge, s a model of a community based prehospital care management for emergency volunteers. In addition, it achieved the surprising outputs, that is SARs of participants development led them

to make assertions in the public. Many SARs were created by practitioners, consultants and researchers which based on the community context, the socio-cultural context, suitable environment and smart facilitator. Herr and Anderson (2005: 55) call this “Outcome validity”.

In conclusion, this research has been shown to be quality research. It met five criteria: e process validity, dialogic validity, democratic validity , catalytic validity and outcome validity. Those criteria agree with the definition of quality action research advanced by Herr and Anderson (2005: 55).

5.2.3 Reflection on a model of a community-based prehospital care management for emergency volunteers

Discussion from the empowerment evaluation forum (EE forum) showed that participants who are evaluators are VHVs, emergency volunteers , community people and leaders of organizations. They showed their competence to do evaluation using the reflection model. Furthermore, they captured tacit knowledge from the local area and enhanced explicit knowledge to create new knowledge. In this research, the new knowledge is a model of community-based prehospital care management for emergency volunteers.

For example: During the reflection in the in EE forum, participants suggested to adjust activities in the research such as: add meeting for participants; create new instruments for needs assessment; change the times of activities; monitor activities; and enhance participation of stakeholders.

The reflection of model is similar to that of Supavan Phlanoi (2004: 24) who suggests that it is community action research that brings about the collaborate of participants from diverse sectors such as practitioners, consultants and researchers to manage knowledge. They manage knowledge to extract tacit and explicit knowledge to generate new knowledge which in this research is a model.

5.3 Methodology

The details of methodology are discussed in the following sub-sections.

5.3.1 Community action research

This research is based on two beliefs. The first belief is that the paradigm of emergency volunteering determines the management of emergency volunteers and the second belief is that it is important to emphasize the community and the community needs. These beliefs led to research that consisted of three phases. The beginning phase of this research, was the research phase and included RAP and needs assessment. The objectives of RAP were to explore the community context, emergency context and the paradigm of emergency volunteering in the community whereas the needs assessment objectives were to identify, analyze and solve the needs of the community.

The result of the research phase led to activities in the capacity building phase. This phase built capacity to take action such as the organization of a workshop; community forum; and training of emergency volunteers. Then the evaluation phase took placed after finishing the capacity building phase by holding a EE forum. During the capacity building phase and the EE forum, evaluations were made using observation, discussion and AAR. At the conclusion of the research, a model and new knowledge were obtained as outlined in chapter four.

The process of research showed that it was related with “the tree model” which itself is a process building of CAR (Senge & Scharmer, 2001: 238-239). Senge and Scharmer explain that the root is the theory or concept and is under the ground, therefore, it is invisible, but it make the tree alive. In this research, the beliefs and concepts are the roots. The trunk, branches and leaves of the tree are tools and methods. In this research the three phases are: steps of thesis research; tools; data collection; and data analysis. Fruit from the tree is the result of action as is the case in this research. The fruit in this case are new knowledge that is itself a community-based model of prehospital care management for emergency volunteers and lessons learned.

Moreover, the research agrees ideas of Senge and Scharmer (2001: 238,

240, 248) who believe that CAR focus on trust in arranging three activities: research, capacity building and practice. Research was carried out continuously so that new theories and new concepts could be disclosed. Capacity building emphasized improving the ability and cooperation between participants more than other research types. Practice must be applied to get new concepts, theories, and knowledge.

In conclusion, CAR is a distinctive concept that forced participants, consultants and researcher through three phases of research to build new knowledge. New knowledge were a model and lessons learned. This research is different from previous research because they did not stress the community but this research is community based. Consequently, there were various methodology which were appropriate to use in this thesis research. They are discussed in the following sub-section.

5.3.2 Rapid assessment procedures

In this thesis research, RAP was meant action taken by participants. There were many instruments used in this RAP including: ground map; observation and in-depth interviews. This was related to the ideas of Scrimshaw and Gleason (1992: 1) who suggest that qualitative method and quantitative method be integrated but emphasize the use of quantitative methods. The important concepts of RAP were collaboration and multi methodology.

Furthermore there is a connection with the suggestion of Gittelsohn, et al. (1998: 4-5) who said RAP includes ground map and community surveys in order to explore beliefs, pattern of behavior and interesting situations. There are various instruments of RAP such as freelist analysis and in-depth interviews. Analysis of RAP are qualitative and quantitative analysis.

Therefore, RAP could be used for this research because it is related with the belief of this research which stresses the community. It also profit among participants to take action in research phase.

5.3.3 Needs assessment

It was used for identification, analysis and solution of needs. In this research, there were groups including: practitioners comprising service receivers and

service providers; and consultants as policy makers. This accords with Witkin (1994: 19-20) who said that the needs level of groups included service receivers, service providers and policy makers. This research also took action to identify, analyze and solve the needs of the community. It agreed with Altshuld and Witkin (2000: 18-43) who divided needs into three phases: pre- assessment, assessment and postassessment.

Moreover, the needs assessment described by Altshuld and Witkin's has been used by many researchers. For example: Horne and Costello (2003: 340-352) studied a public health approach to health needs assessment at the interface of primary care and community development. The distinctive research of Horne and Costello is stakeholders who were various instruments; and Patinya Kosolsiritpoj (2004: 4, 106-109) studied on developing activities and techniques to evaluate needs for project design. The distinctive research of Patinya Kosolsiritpoj is that study in teachers and students.

In addition, Suwimol Wongwanich (2005: 28-31, 105-107) suggest that needs assessment should also respond to stakeholders and reflect community needs that produce plans and develop programs out of the real context of the community. This research took the result of the research phase to develop guidelines for the management of emergency volunteers and from this constructed a model as described in chapter four of this thesis.

5.3.4 Empowerment evaluation

This concept was applied in the EE forum. Participants from many sectors were invited to this forum, including practitioners, consultants and community researchers. Participants as evaluators chose project research in order to improve emergency patient's safety. This relates to the principle of empowerment evaluation that stresses the inclusion of a variety of sectors, improvement of people in the community, and social justice for people in the rural areas (Fetterman & Wandersman, 2005: 32-33, 45-47).

This forum stimulated all evaluators to think and to share their real experiences. All participants got one vote to prioritize their evaluative concerns about program activities. All of the evaluators also came to a consensus based on data in

the community and their experiences in order to plan for their community. This plan had strategies which enhanced activities more than previous activities had done.

The result of this forum are accountability of evaluators, community ownership, democratic participation, community knowledge and evidence-based strategies. The evaluation was done by people from various sectors who shared their experiences. This evaluation process also build capacity for the evaluators. As Fetterman and Wandersman (2005: 32-33, 45-47) said that is the principle of empowerment evaluation.

The result of empowerment evaluation created projects for the future. They could also verified the process and model of the research. This is related to what Teeradej Chai-Aroon (2006: 72) suggested that the aim of empowerment evaluation is to enhance the probability of the achievement of a target by providing stakeholders with tools for assessing, planning, implementation and self evaluation of a program. Empowerment evaluation also builds development that run from the present through to the future.

The results of the empowerment evaluation also showed it corresponds to the evaluation of the functionalist paradigm and the interpretive paradigm. The functionalist paradigm require a quantitative paradigm while the interpretive paradigm requires quality data. As mention that empowerment evaluation is a suitable methodology and also relates with the CAR concept that emphasizes capacity building by participants.

5.3.5 Future search conference

The concept of FSC is to search the future. It is an action and synergy of groups for planning and changing. It also believes in a theory that everything in the world is connected together that (Dewey & Carter, 2003: 246). The result of this research were related with the FSC concept because the participants gathered together to make plans for the future based on community data and their desires. Finally the , action plan was e created by the participants. This concept could make participants to collaborate in planning as the CAR concept emphasized the collaboration of participants.

5.3.6 AAR

This is based on the trust and unity of the team. I failed with AAR due to the community researchers distrusted me as facilitator. When they trusted me I could achieve AAR. AAR also created practitioners and consultants who could engage in public speaking.

In addition, Praphaphan Un-Ob (2006: 111) mentions that AAR make SARs in order to plan. AAR is relate with CAR because it make researchers, consultants and practitioners learn from activities based on trust. So, AAR is a suitable tool to make participants learn during action.

5.3.7 Issue book The underpinning of the active civil is changing civil (Uthaithip Rakjunyabun, 2008: 43-46). The aim of an issue book is to drive public policy. This tool was used in the community forum. It showed that it could not drive public policy, but it created concern to trade off in the issue map. People who joined this forum could show they were people who wanted to be emergency volunteers. They also intended train to be emergency volunteers. The Issue book is relate with CAR and can develop people to working together and let people prioritize activities by themselves.

CHAPTER VI
CONCLUSION AND RECOMMENDATIONS

6.1 Thesis research methodology

This study aims to develop process of a community-based prehospital care management model for emergency volunteer. It is based on CAR in order to contribute learning community.

Study site is a rural area where disasters and emergency illness have occurred. There have been any trainings of emergency volunteering from EMIT However, there were mechanisms of emergency illness care and the community was ready to cooperate with this researcher.

Participants were stakeholders who include three groups which are one hundred and twenty six practitioners, consultants and researchers, respectively. The fist group was practitioners which were forty three community co-researcher and sixty five people. The second group were eight consultants which were director of LAO, deputy chief of LAO, head of Ruamkatunyu volunteer in sub-district, chief of health center, director of district health office, director of Crown Prince hospital and director of provincial public health office. The last group is researcher consisting researchers and ten community researchers.

This research are divided into three phases. The first, the research phase consisted of RAP and a needs assessment evaluation of a community-based prehospital care management for emergency volunteer. The results of research phase are continued into the second phase called: the capacity building phase. In this phase consisted of workshop of emergency volunteering management by using FSC and community forums by using issue book. The last phase is evaluation, it consisted a reflection after the end of the activities in this research and the end of the study carried out. The end of end of the activities in this research were done by using interview, observation and implementation. The end of the study carried out was an empowerment evaluation forum.

Research instruments are observation guidelines for the RAP (A1), socio-cultural questionnaire and emergency context of the community (A2), guidelines of group interviews (A3), guidelines for in-depth interview (A4), AAR guidelines (A5), observation guidelines(A6), question guidelines for the needs assessment of service receivers of a community-based prehospital care management (A7), question guidelines for the needs assessment of service providers of a community-based prehospital care management (A8), question guidelines for the need assessment of policy makers of a organization-based prehospital care management (A9), Empowerment evaluation guideline (A10) and other instruments are cameras, recorders (MP3) and activity notebooks.

Quality verification of research instruments is done by to be more accurate by the experts. Data of this search is done to be more accurate by using methodological triangulation and investigator triangulation. Data are analyzed by using qualitative data analysis, freelist analysis, descriptive analysis, mean difference analysis and concurrent analysis.

Using the methodology outlined above, results in a model of a community-based prehospital care management for emergency volunteer which will be described in the next section.

6.2 Conclusion of model of a community-based prehospital care management for emergency volunteers

This community-based prehospital care management model for emergency volunteer was developed from a review of related literature and research review. Later on, it were drafted into frame of the research phase. Results of research phase influenced to the implementation of emergency volunteer in the capacity building and evaluation phase. The output of these phases was a community-based prehospital care management model for emergency volunteer as follows.

6.2.1 Structure and mechanism of emergency volunteer management

6.2.1.1 Community context. This community is in a remote rural area and is at risk for disasters. However, the remoteness is less than in the past

as local people can be go to other places by motorcycles and pickup trucks. They are also able to communicate using radio, telephone and satellites. Every families have used of electricity. Their houses are located cost together very near to and around each of them are small vegetable gardens and small fishing ponds.

In the socio-cultural context, the research that local people are relative value reciprocity, saving, gratefulness, friendliness and faith of Buddhism. At present, the traditional ceremonies are disappearing or have already disappeared. The community economic system the research showed included both self sufficiency and intensive agriculture. There are political groups organized by the government and their relatives and political fraud is present. The increasing population and expansion of educational opportunities have encouraged many people migrate elsewhere to live and work. The Sub-district Responder Team follows the policy of the EMS system.

6.2.1.2 Service in the context of this research refers to service the services of a community-based prehospital care for emergency illness. The analysis of emergency illness, it reveals that include emergency disease and injuries. There are seven systems/groups of emergency diseases which are shown by symptom and sign and abnormal clinical finding; digestive system; circulation system; respiratory system; nervous system; obstetric system; and genitourinary system. Moreover, there are two groups of injuries, that occurred because of external causes: falls and transportation accidents.

The people who take care of the emergency patients are family, cousins, volunteers, leaders, teachers and school janitors. They are responsible for emergency illness care in the community. Moreover, there are five patterns of services process of management for emergency volunteers. They are: self-reliance; the reciprocity; the car hire; school management; and the depending on co-management However, it was found that local people rarely access services of prehospital care provided by of the LAO since it is not as fast as their expectations, they do not know how to contact it when the emergency cases happen and there is a person in charge is not available.

6.2.1.3 Man in term of this research are stakeholders. There are three groups which are practitioners, consultants and researchers. Practitioners are further sub-divided into two groups: emergency illness care groups in the community

and groups involved with process of management of emergency volunteers in the community. There are three groups of consultants: community level; sub-district level and district level. Researchers are of two types: researchers and community researchers who work inside and outside the community.

6.2.1.4 Organization. There are informal and formal groups. informal organizations are natural groups and Ruamkatunyu volunteer groups while formal organizations are official organizations.

6.2.1.5 Regulations are received from the consensus of emergency volunteering groups in the community.

6.2.1.6 Budget is money and implicit cost from local people, private organizations and financial support of official organizations such as health office, schools, district health office, Crown Prince hospital and general hospitals.

6.2.1.7 Development of emergency volunteers is composed of curriculum based on the results of the research phase and needs of the community, period of training relating to community context, materials for training and recognition Materials for training are documents, VCD for learning.

6.2.1.8 Vehicles and communication are cars and telephones.

6.2.1.9 Planning is a working scheme, budget and benefits for volunteers. When it was applied in the capacity building phase, it was found that the planning of emergency volunteer management in the community.

6.2.1.10 Information systems are community context, service information of emergency illness care and needs of emergency volunteering management.

6.2.2 Management of emergency volunteers

The underpinning of emergency volunteer management are the emergency volunteering paradigm. This model comprised of the functionalist paradigm and interpretive paradigm are as follows.

6.2.2.1 The functionalist paradigm is related to commercial exchange, modern communication and EMS system policy. It can motivate people in community to believe in modern medicine and universal truths. The best method of emergency volunteering management is to announce the regulations for emergency

volunteering control. Control are defining job description and supervising emergency volunteers. Moreover, people truly think that collective group is able to help emergency patients as well and the results of this volunteering have to be clear and concrete. Emergency volunteering should receive the benefit such as certificate, welfare, gasoline cost and budget.

6.2.2.2 The interpretative paradigm is the management relating to interpretive paradigm. Sociocultural context is significant factor affecting to socialization in the community. It creates reciprocal value of people in community during emergency illness. This factor also cause people in community believe in multiple truths of emergency patient care in the community. Emergency patient care relies on retrospect of experience of each other. In addition, emergency patient care is from individual perception and intuition of different situations. Regarding mentioned details, emergency volunteering emphasizes on extract cues and is only process. Retrospect of emergency volunteering initiates volunteering without monetary profit. With this non-profit, it makes overwhelmed and pleasure feeling and makes merit. People in the community understand the emergency volunteering management by making consensus, conversation, volunteering coordination and time of emergency volunteering when available.

6.2.2.3 Hybrid of management model: For the analysis of the emergency volunteer management with in the functionalist paradigm and the interpretive paradigm, the researcher organized workshops, community forums and training sessions. These activity brought about the integration of functionalist and the interpretive paradigms. This management model is called Hybrid.

Hybrid of management model comprised of recruitment and retention of emergency volunteer. Recruitment of emergency volunteers is similar to emergency volunteer management of functionalist paradigm. Recruitment of emergency volunteers, people in the community selected, assessed, matched and defined job description from people in their community by themselves. On the other hand, retention is similar to emergency volunteer management of the interpretive paradigm. Retention of emergency volunteers, people in the community and governmental sector collaborated: to trained emergency volunteers; to encouraged motives for trainees; to recognize emergency volunteers by using certificates; and to

coordinate and connect with stakeholders in order to manage emergency volunteers in the community.

6.2.3 Evaluation of emergency volunteer management

The underpinning of evaluation is the same as the management. Hence, evaluations are as follows.

6.2.3.1 Evaluation method of the functionalist paradigm. The evaluators are organizations, people and volunteer. The method used is that of natural science and quantitative approach such as frequency and statistical mean.

6.2.3.2 Evaluation method of the interpretive paradigm. The evaluators are organizations, people and volunteer. The method is process evaluation so qualitative approach are used.

6.3 Conclusion of reflection from evaluation

Relying on the model, reflection on the research occurred in groups of practitioners, community researchers and researchers. The reflection produced learing by participants which had effect on SARs and improvements to the model of this research as follows.

6.3.1 SARs from the reflection

There are six SARs:

6.3.1.1 SARs for improvement of emergency volunteering needs assessment. It is a card sort technique by using score records instead of color sticker.

6.3.3.2 SARs for AAR. Completing mean having: 1) process technology, and 2) understanding of the sociocultural characteristics of group which in turn includes: the langue used to communicate, time of working and time available for meetings and a good meting environments for AAR 3) the characteristics of any activities. If AAR is needed there should be techniques to motivate participants to interact as much as possible. Time for activities is at least one to two days.

6.3.3.3 SARs for emergency volunteer trainings. There are two sets of these: the achievable target group of training and the achievement of excellent training for emergency volunteers. Firstly, the achievable target group for training should have four conditions: establishing community context, understanding the community, perception and decision from the community participation and flexibility of activity management especially when contacting with potential volunteer trainees. Secondly, and the achievement of excellent training for emergency volunteers have four conditions: learning process of training, materials for training, location of training and a flexible schedule.

6.3.3.4 SARs of empowerment evaluation forum. Forum preparations, participants and evaluation techniques should be clearly described and prepared in order to avoid any confusion of analysis.

6.3.3.5 SARs of development of public speaking skill and self-confidence. There should be five conditions. The first condition is carried out RAP. The second condition is to have forum for community researchers and people in the community to discuss and express the opinions of management for emergency volunteers in the community. The third condition concerns facilitators. There should be have the ability to carry out their role. Facilitators in communities such as research site should be able to communicate in ThaiLom language. The forth condition is motivation and encouragement. The fifth condition is the number of participants, available time and location of the forum which should not be far from the study area.

6.3.2 Reflection on a model of a community-based prehospital care management for emergency volunteers:

6.3.2.1 Activities. There should be improvement in the the activities such as described in the following. In term of the forum improvements should include preparation of internal and external participants from organizations, additional questionnaires for needs assessment and time period of activities. Activities should be organized at night instead of during the daytime and community forums and emergency volunteering training should be organized in February to April instead of December to February. There should be follow up on the research as well.

6.3.2.2 Stakeholder. the LAO, the health Center, hospital and related organizations have to attend the meeting to receive an explanation of research, provide financial support, promote the needs assessment of emergency volunteering management and prepare plans that are possible to implement. Researchers must have self-development in order to contribute to the community's understanding for needs assessment. Reliable coordinators are necessary to receive data from the community survey, paradigms and meetings to understand the research. Also, reliable coordinators can approach community leaders, explain the research to villagers, do documentary surveys and help with community forums.

6.4 Recommendations

6.4.1 Recommendations of model generalization

Area where the model can be adopted primarily remote areas where there is a risk of emergency illness. Reflection on a model of a community-based prehospital care management for emergency volunteers should be adapted to the next research.

6.4.2 Recommendations at the policy level

6.4.2.1 Policy determination for community management support. Management should encourage the community to learn about emergency volunteering. This will lead to community management according to the community context of each area in Thailand.

6.4.2.2 Policy determination for health development of all relating especially in local areas. People in the local area should function as process facilitators and could be able to handle with community health concern so thatt community of learning can be initiated and sustained.

6.4.3 Recommendations for practices

6.4.3.1 Application of instruments. The SARs should be adapted to located realities. They are card sort techniques, AAR, training of

emergency volunteers, empowerment evaluation forum and development methods for community researchers and people in the community.

6.4.3.2 Stakeholders. The LAO should proceed by carrying practical planning forward. They should incorporate the management of emergency volunteer into their community to action plan including the provision of financial support of activities. In addition, the LAO should utilize existing mechanisms to initiate community responders unit to combine with sub-district responder unit.

6.4.3.3 Health facilities should take actions as follows.

1) Health facilities should be supported academic matter about prehospital care and budget of management for emergency volunteers.

2) Training for health officers. This should be encourage health officers to become health management officers especially in the sub-district and district. Health management staffs can work as a researcher and a facilitator. Health management officers can urge to organize emergency volunteering management within community context.

3) Understanding learning. This research reveals that the community is still lack about report of emergency illness. There should be understanding about report of emergency illness and this should be promoted urgently so that people in rural area can take care of themselves safely.

6.4.3.4 Schools. The results of this research show that geography is the cause of emergency illnesses especially with children in schools. Therefore, schools should improve the environment which put children at risk of injuries. They should educate children to follow safety regulations to avoid injury. The education programs should corporate with the community, families, health facilities accordingly.

6.4.4 Recommendations for further researches

This research should further investigate CAR for building a learning community. This can carried out in the community and associated organizations to learn about other health concerns.

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APPENDICES

APPENDIX A

เครื่องมือที่ใช้ในการศึกษานี้

แนวทางการสังเกตสำหรับการเดินสำรวจแบบเร่งด่วนในชุมชน (A1)

ชื่อหมู่บ้าน..... ตำบล..... อำเภอ..... จังหวัด เพชรบูรณ์

วันที่/เวลา.....

ผู้เก็บรวบรวมข้อมูล.....

1.สภาพลักษณะของชุมชนเป็นอย่างไร (ชุมชนเมือง ชุมชนกึ่งเมือง ชุมชนชนบท)

2.ระบบการขนส่ง(ชนิด ความพอเพียงของพาหนะ และค่าใช้จ่ายในการเดินทาง) สภาพของถนนเป็นอย่างไร

3.ระบบสาธารณูปโภคของชุมชนมีอย่างไร (ระบบการสื่อสาร ไฟฟ้า แหล่งน้ำใช้)

4.ระยะทางจากแหล่งที่สำคัญถึงสถานพยาบาล (เช่น จากบริเวณตลาด แหล่งที่ชุมนุมในหมู่บ้าน แหล่งที่ประกอบอาชีพ แหล่งน้ำ ทุ่งนา ถึงสถานพยาบาลของชุมชน)

5.แหล่งประโยชน์ของชุมชนมีอยู่ที่ใดบ้าง (เช่น วัด โรงเรียน สถานที่ราชการ แหล่งชุมนุมของชุมชน)

6.แหล่งบริการสุขภาพของชุมชน มีอะไร อยู่ที่ใดบ้าง

7.สภาพบ้านเรือน เป็นอย่างไร (ขนาด วัสดุที่ใช้ปลูกสร้าง ลักษณะการตั้งบ้านเรือน เช่น การตั้งตามกลุ่มญาติ ตั้งตามฐานะทางเศรษฐกิจ เป็นต้น)

8.สิ่งแวดล้อมในชุมชนและบ้าน

8.1 สภาพแวดล้อมทั่วไปของชุมชน (เช่น แหล่งน้ำ โรงงาน ภูมิอากาศ สิ่งก่อเหตุรำคาญ)

8.2 สภาพแวดล้อมบริเวณบ้าน(เช่นความสะอาด สิ่งปลูกสร้างต่างๆ ขยะมูลฝอย เป็นต้น)

9.ลักษณะทางประชากรในชุมชน ในครัวเรือน เมื่อได้ดำเนินการสำรวจ (ชนิดของบุคคล เช่น ผู้สูงอายุ ผู้ป่วย ผู้นำ) กลุ่มที่พบเห็นกำลังทำกิจกรรมอะไร มีปฏิกริยาอย่างไร

แบบสัมภาษณ์เกี่ยวกับสังคมและวัฒนธรรมและบริบทระบบสุขภาพฉุกเฉินในชุมชน (A2)

สถานะทางเพศของผู้ให้ข้อมูล**……**อายุ**.....**ปี
อาชีพ**……**สถานะของผู้ให้ข้อมูล (ระบุตำแหน่งผู้ให้ข้อมูล)……
ที่อยู่**……**
วัน เดือนปีที่สัมภาษณ์**……**ผู้สัมภาษณ์**……**

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1. ด้านเศรษฐกิจและการผลิต
   1.1 เดิมชาวบ้านในชุมชนเคยประกอบอาชีพอะไรบ้าง มีการเปลี่ยนแปลงแต่ละอาชีพจากอดีตสู่สภาพปัจจุบันอย่างไร เพราะอะไร ความเปลี่ยนแปลงที่เกิดขึ้นเกิดจากสาเหตุอะไร
   1.2 ปัจจุบัน ในชุมชนของท่านมีการประกอบอาชีพอะไรบ้าง สัดส่วนของอาชีพเป็นอย่างไร
   1.3 ในอาชีพที่กล่าวมาข้อ 1.2 มีการทำงานช่วงเวลาไหน อย่างไร แต่ละอาชีพประสบความสำเร็จอย่างไร
   1.4 สภาพเศรษฐกิจของคนในชุมชนเป็นอย่างไร คนในชุมชนมีภาระ หนี้สินหรือไม่ มีแหล่งกู้เงินหรือไม่ อย่างไร (ระบุแหล่ง และวิธีการ)

2. ด้านสังคม วัฒนธรรม
   2.1 ชุมชนของท่านมีประวัติความเป็นอย่างไร ทำไมจึงมีการตั้งชื่อเช่นนี้ ใครเป็นผู้ตั้งถิ่นฐานกลุ่มแรก
   2.2 ในชุมชนมีประเพณีอะไรบ้าง ทำกิจกรรมในช่วงไหนบ้าง มีใครเข้าร่วมกิจกรรมบ้าง
   2.3 ประเพณีหรือพิธีกรรม หรือกิจกรรมในชุมชนที่เคยมี และมีการสูญหายไป เพราะอะไร
   2.4 มีการจัดตั้งกลุ่มต่างๆ ทั้งที่เป็นของรัฐ หรือชุมชนเองหรือไม่ อย่างไร
   2.5 ทุนทางสังคมมีอะไร บ้างเช่น ระบบความสัมพันธ์ /ค่านิยมที่ทำให้ชุมชนแก้ปัญหาได้ ผู้นำชุมชนที่ไม่เป็นทางการ ภูมิปัญญาท้องถิ่น เป็นต้น
   2.6 ความสัมพันธ์ของคนในชุมชนเป็นอย่างไร และระหว่างชาวบ้านกับผู้นำเป็นอย่างไร
   2.7 การสื่อสารของคนในชุมชนเป็นอย่างไร

3. ด้านการเมือง
   3.1 ในอดีต มีผู้นำสำคัญของชุมชนเป็นใคร แต่ละคนมีความสำคัญอย่างไร

3.2 โครงสร้างการปกครองของชุมชนเป็นอย่างไร

3.3 ลักษณะทั่วไปการเมืองในท้องถิ่นเป็นอย่างไร เช่นกลุ่มผลประโยชน์ ความขัดแย้ง

3.4 การมีส่วนร่วมของชุมชนในท้องถิ่น การประชุม หรือการตัดสินใจที่เกี่ยวกับกิจการสาธารณะในชุมชนเป็นอย่างไร

4.ระบบสุขภาพฉุกเฉินในชุมชน

4.1 ในอดีตในบ้านท่านเมื่อเกิด “เจ็บป่วย” บอกได้หรือไม่ว่าทำอย่างไร คิดอย่างไรจึงเลือกใช้วิธีนั้น ปัจจุบันผู้ช่วยเหลือ/ วิธีการช่วยเหลือยังคงอยู่อย่างไร

4.2 ในอดีตในบ้านท่านและชุมชนเมื่อเกิด “เจ็บป่วยฉุกเฉิน” บอกได้หรือไม่ว่าทำ คิดอย่างไรจึงเลือกใช้วิธีนั้น ปัจจุบันผู้ช่วยเหลือ/ วิธีการช่วยเหลือยังคงอยู่อย่างไร

4.3 เมื่อเกิดเจ็บป่วยฉุกเฉิน มีการจัดการกันอย่างไร (ระบุชนิดและการจัดการเมื่อเจ็บป่วยฉุกเฉินให้มากที่สุดที่เข้าใจ)

4.4 แหล่งบริการสุขภาพฉุกเฉิน อยู่ที่ใดบ้าง

4.5 มีหมอพื้นบ้านที่รักษา หรือไม่ อย่างไร มีคนนิยมใช้บริการหรือไม่

4.6 สถานบริการสุขภาพเมื่อเจ็บป่วยฉุกเฉินที่ชาวบ้านที่ชาวบ้านนิยมใช้ทั้งในและนอกชุมชน มีที่ไหนบ้างอย่างไร

4.7 ชาวบ้านมีปัญหาเกี่ยวกับการใช้บริการฉุกเฉินหรือไม่อย่างไร (ระบุ ชนิดของการป่วยฉุกเฉินตามที่เข้าใจ)

แนวคำถามสัมภาษณ์กลุ่มระบบสุขภาพฉุกเฉิน
และการจัดการอาสาสมัครฉุกเฉินของชุมชน
ในการดูแลผู้ป่วยฉุกเฉินก่อนนำส่งสถานพยาบาล (A3)

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1. ในอดีตในบ้านบ้านและชุมชนเมื่อเกิด “เจ็บป่วย” บอกได้หรือไม่ว่าทำอย่างไร คิดอย่างไรจึงเลือกใช้วิธีนั้น ปัจจุบันผู้ช่วยเหลือ/ วิธีการช่วยเหลือยังคงอยู่อย่างไร
2. ในอดีตในบ้านท่านและชุมชนเมื่อเกิด “เจ็บป่วยฉุกเฉิน” บอกได้หรือไม่ว่าทำ คิดอย่างไรจึงเลือกใช้วิธีนั้น ปัจจุบันผู้ช่วยเหลือ/ วิธีการช่วยเหลือยังคงอยู่อย่างไร
3. เมื่อเกิดเจ็บป่วยฉุกเฉิน มีการจัดการกันอย่างไร (ระบุให้มากที่สุดที่เข้าใจ)

ชนิดของฉุกเฉิน	การจัดการ
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
n……	n……

4. แหล่งบริการสุขภาพฉุกเฉิน อยู่ที่ใดบ้าง สถานบริการสุขภาพเมื่อเจ็บป่วยฉุกเฉินที่ชาวบ้านในชุมชนนิยมใช้ทั้งในและนอกชุมชน มีที่ไหนบ้างอย่างไร มีปัญหาเกี่ยวกับการใช้บริการฉุกเฉินหรือไม่อย่างไร (ระบุ ชนิดของการป่วยฉุกเฉินตามที่เข้าใจ)
5. มีหมอพื้นบ้านที่รักษา หรือไม่ อย่างไร มีคนนิยมใช้บริการหรือไม่

แนวคำถามสัมภาษณ์เชิงลึก

เพื่อค้นหากระบวนทัศน์การอาสา ในการดูแลผู้ป่วยฉุกเฉินก่อนนำส่งสถานพยาบาล (A4)

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1. ข้อมูลทั่วไปเป็นอย่างไร

ข้อมูล ด้านอายุ ที่อยู่อาศัย การศึกษา อาชีพ รายได้ ตำแหน่งในชุมชน

ข้อมูลครอบครัว ชีวิตครอบครัว ประวัติพ่อแม่พี่น้องที่เคยอาสา

2. วิถีชีวิตในครอบครัว ความผูกพัน วิถีชีวิตประจำวันเป็นอย่างไร

3. คติพจน์ในการดำเนินชีวิตเป็นอย่างไร

4. มองชีวิตที่ผ่านมา ปัจจุบัน อนาคตอย่างไร

5.เหตุจูงใจในการอาสาและการอาสาในการดูแลผู้ป่วยฉุกเฉินก่อนนำส่งสถานพยาบาล

6.รู้สึกและคิดอย่างไรต่อตนเองในการช่วยเหลือผู้ทุกข์ร้อน ต่อผู้ที่เกี่ยวข้อง และการเรียนรู้ด้านอื่น

7.ความเชื่อ ทัศนะต่อผู้ที่ทุกข์ร้อน ผู้ป่วยฉุกเฉิน ประชาชน ผู้นำชุมชน ผู้ร่วมงาน เป็นอย่างไร

8.มุมมองต่อโลก ชีวิตและการเปลี่ยนแปลงของสังคม เศรษฐกิจและการเมืองเป็นอย่างไร

แนวคำถามในเทคนิค AAR (A5)

ชื่อกิจกรรมที่ปฏิบัติ.....

วันที่.....เดือน.....พ.ศ.....เวลา.....น.

สถานที่ทำกิจกรรม ..... จำนวนผู้ร่วมกิจกรรม.....คน

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1. ท่านคาดหวังอะไรจากกิจกรรม
2. อะไรคือสิ่งที่เกิดขึ้นจริงในกิจกรรมนี้(ระบุทั้งสิ่งที่ดีและไม่ดี)
3. ทำไมจึงเกิดความแตกต่างกับสิ่งที่คาดหมาย
4. ท่านได้เรียนรู้อะไร และท่านมีข้อเสนอแนะอย่างไรในกิจกรรมนี้ครั้งต่อไป

แนวทางการสังเกต (A6)

1.1 กิจกรรม 1	วันที่ เวลา สถานที่
ON	สิ่งที่สังเกตเห็นจริง
TN	ตีความเบื้องต้น
MN	ระเบียบวิธี

แนวคำถามการประเมินความต้องการจำเป็นของผู้รับบริการต่อการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลผู้ป่วยฉุกเฉินก่อนนำส่งสถานพยาบาล (A7)

สถานะทางเพศผู้ที่ให้ข้อมูล……..……อายุ…….ปี.
ที่อยู่…….....……..
วัน เดือนปีที่ให้ข้อมูล.....…….

ในฐานะที่ท่านเป็นผู้รับบริการจากอาสาสมัครฉุกเฉินในการดูแลผู้ป่วยฉุกเฉินก่อนนำส่งสถานพยาบาล ท่านมีความคิดเห็นต่อเรื่องเหล่านี้อย่างไร

1. สิ่งที่จำเป็น ในการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล คืออะไร
    - ด้านโครงสร้างและกลไกลการทำงานได้แก่ หน่วยงานที่รับผิดชอบและวัฒนธรรมองค์กร, กฎหมาย/ระเบียบที่สนับสนุน, งบประมาณ, คนและวัสดุอุปกรณ์
    - ด้านระบบการจัดการอาสา ได้แก่ การสรรหา (Recruitment) และ การดำรงรักษาอาสาสมัคร
    - ด้านการประเมินผล ได้แก่ประเมินตนเอง ประชาชนและองค์กร
    - ด้านอื่น ๆ
2. จากข้อที่ 1 ท่านคิดว่า การจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล สภาพที่เป็นอยู่เป็นอย่างไร และสภาพที่ควรจะเป็นคืออะไร เรียงลำดับจากมากไปหาน้อย

ตารางสภาพที่เป็นอยู่ของการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล

สิ่งที่จำเป็น(I)	คนที่ 1	คนที่ 2	คนที่ 3	คนที่ 4	คนที่.n.	รวม	เฉลี่ย(IX) = รวม/In
1.							
2.							
n.							

ตารางสภาพที่เป็นควรจะเป็นของการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล

สิ่งที่จำเป็น(S)	คนที่ 1	คนที่ 2	คนที่ 3	คนที่ 4	คนที่.n.	รวม	เฉลี่ย(SX) = รวม/Sn
1.							
2.							
n.							

ตารางลำดับความสำคัญความต้องการจำเป็นของการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล

สภาพที่เป็นจริง (IX)	สภาพที่ควรจะเป็น(SX)	ความต้องการจำเป็น (Needs = IX – SX)	ลำดับ

แนวคำถามการประเมินความต้องการจำเป็นของผู้ให้บริการต่อการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลผู้ป่วยก่อนนำส่งสถานพยาบาล (A8)

สถานะทางเพศผู้ที่ให้ข้อมูล…… อายุ…….ปี.
ที่อยู่……วัน เดือนปีที่ให้ข้อมูล…….

ในฐานะที่เป็นผู้ที่เคยมีประสบการณ์การอาสาฉุกเฉิน หากท่านต้องจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล ท่านมีความคิดเห็นต่อประเด็นเหล่านี้อย่างไร

1. สิ่งที่จำเป็น ในการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล คืออะไร
    - ด้านโครงสร้างและกลไกลการทำงานได้แก่ หน่วยงานที่รับผิดชอบและวัฒนธรรมองค์กร, กฎหมาย/ระเบียบที่สนับสนุน, งบประมาณ, คนและวัสดุอุปกรณ์
    - ด้านระบบการจัดการอาสา ได้แก่ การสรรหา (Recruitment) และ การดำรงรักษาอาสาสมัคร
    - ด้านการประเมินผล ได้แก่ประเมินตนเอง ประชาชนและองค์กร
    - ด้านอื่น ๆ
2. จากข้อที่ 1 ท่านคิดว่า การจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล สภาพที่เป็นอยู่เป็นอย่างไร และสภาพที่ควรจะเป็นคืออะไร เรียงลำดับจากมากไปหาน้อย

ตารางสภาพที่เป็นอยู่ของการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล

สิ่งที่จำเป็น(I)	คนที่ 1	คนที่ 2	คนที่ 3	คนที่ 4	คนที่.n.	รวม	เฉลี่ย(IX) = รวม/In
1.							
2.							
n.							

ตารางสภาพที่เป็นควรจะเป็นของการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล

สิ่งที่จำเป็น(S)	คนที่ 1	คนที่ 2	คนที่ 3	คนที่ 4	คนที่.n.	รวม	เฉลี่ย(SX) = รวม/Sn
1.							
2.							
n.							

ตารางลำดับความสำคัญความต้องการจำเป็นของการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล

สภาพที่เป็นจริง (IX)	สภาพที่ควรจะเป็น(SX)	ความต้องการจำเป็น (Needs = IX – SX)	ลำดับ

แนวคำถามการประเมินความต้องการจำเป็นของผู้มีส่วนกำหนดนโยบายขององค์กร/กลุ่มต่อการจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลผู้ป่วยก่อนนำส่งสถานพยาบาล (A9)

ชื่อองค์กร.....ที่ตั้งองค์กร……..
สถานะทางเพศผู้ที่ให้ข้อมูล…….……อายุ…….ปี.
วัน เดือนปีที่ให้ข้อมูล.....……..

ในฐานะที่เป็นองค์กร/หน่วยงานที่เกี่ยวข้อง องค์กร/หน่วยงานของท่าน หากท่านต้องจัดการอาสาสมัครฉุกเฉินโดยใช้ชุมชนเป็นฐานในการดูแลก่อนนำส่งสถานพยาบาล ท่านมีความคิดเห็นต่อประเด็นที่มีความจำเป็นต่อการจัดการอาสาสมัครฉุกเฉินในชุมชนอย่างไร และสาเหตุอะไรที่ทำให้คิดเช่นนั้น

1. องค์ประกอบ ด้านโครงสร้างและกลไกลการทำงาน ได้แก่
   1. 1 หน่วยงานที่รับผิดชอบการอาสาฉุกเฉินในชุมชน
   1. 2. วัฒนธรรมองค์กร เช่น การแต่งกายตามแบบฟอร์มที่กำหนด การกำหนดสัญลักษณ์ของหน่วยงานอาสาสมัครฉุกเฉิน
   1.3. กฎหมาย/หรือระเบียบที่เอื้อต่อการอาสาฉุกเฉิน
   1.4 .งบประมาณที่เอื้อต่อการอาสา
   1.5. คนที่เข้าสู่การอาสาฉุกเฉินและผู้ที่เกี่ยวข้องด้านอื่น
   1.6. วัสดุอุปกรณ์ที่จำเป็นต่อการอาสาฉุกเฉิน

2. องค์ประกอบด้านระบบการจัดการอาสา ได้แก่
   2.1 การสรรหาอาสาสมัครฉุกเฉิน
   2.2การดำรงรักษาอาสาสมัครฉุกเฉิน

3. องค์ประกอบด้านการประเมินผล (วิธีการการประเมินและผู้ประเมิน)

แนวทางการประเมินแบบเสริมพลังต่อการจัดการอาสาสมัครฉุกเฉิน
โดยใช้ชุมชนเป็นฐานในการดูแลผู้ป่วยก่อนนำส่งสถานพยาบาล (A10)

สถานที่ประเมิน.....
ครั้งที่..... วัน เดือน ปีที่ประเมิน.....

1.กติกาในการประชุมกลุ่มการประเมินผลแบบเสริมพลัง

1.1 ทุกคนพูดความจริงด้วยความหวังดีต่อโครงการ/แผนงานที่ได้ดำเนินงาน

1.2 นำประสบการณ์มาแลกเปลี่ยน ประสบการณ์มากจะมีผลดีต่อการประเมินแบบเสริมพลัง

1.3 ฟังอย่างตั้งใจและไม่ปฏิเสธความคิด

2. แนวคำถามแนวทางที่ใช้ในการประชุมกลุ่ม

2.1 อะไรคือสภาพความสำเร็จที่โครงการนี้คาดหวัง และโครงการนี้ต้องการบรรลุอะไรเมื่อสิ้นสุดโครงการ

2.2 การบรรลุเป้าหมายในข้อที่ 1ในช่วงที่ผ่านมากิจกรรมสำคัญอะไรบ้างที่ยังจำได้ ให้จัดลำดับกิจกรรมที่สำคัญในโครงการตามตาราง พร้อมอธิปรายเหตุผล

ตารางลำดับกิจกรรมที่สำคัญ ใช้สติกเกอร์สี

กิจกรรมโครงการ (AP)	คนที่ 1	คนที่2	คนที่ 3	คนที่ 4	คนที่n	เฉลี่ย AP
1.						
2.						
n.						

2.3 กิจกรรมอะไรที่ทีมงานทำได้ดีที่สุด จุดอ่อนและจุดแข็งของกิจกรรมนั้นคืออะไรทำไมจึงเป็นเช่นนั้น

ตารางกิจกรรมที่ทีมได้ดำเนินงานที่ผ่านมา ใช้การให้คะแนน 1-10 คะแนน

กิจกรรมที่ได้ดำเนินงานที่ผ่านมา (DAP)	คะแนน1-10					คะแนนเฉลี่ย DAP	ลำดับที่ DAP
	คนที่1	คนที่2	คนที่ 3	ค น ที่ 4	ค น ที่ n		
1.							
2.							
n.							

ตารางจุดแข็ง จุดอ่อนของกิจกรรมที่ได้ดำเนินงานที่ผ่านมา (DAP)

ลำดับที่กิจกรรมที่ได้ดำเนินงานที่ผ่านมา (DAP)..... คะแนนเฉลี่ยที่ได้.....คะแนน

ชื่อกิจกรรม.....

จุดแข็ง	จุดอ่อน
1. 2. n.	1. 2. n.

2.4 ขั้นตอนสุดท้ายเป็น กิจกรรมที่สำคัญมีกลยุทธ์อย่างไรและจะทำให้ขึ้นกว่าที่ผ่านมาอย่างไร ตารางการวางแผนอนาคต

ชื่อกิจกรรมที่ 1 .....คะแนนเฉลี่ยที่ได้..... คะแนน	
เป้าหมาย	กลยุทธ์
1. 2. n.	1. 2. n.
จุดตรวจสอบ : ระบุเครื่องมือ รายงาน ภาพถ่ายที่สามารถติดตามได้	

APPENDIX B

แผนที่เดินดินพื้นที่ศึกษา

APPENDIX C

รายชื่อผู้เชี่ยวชาญในการตรวจเครื่องมือ

1. ดร. วณี ปิ่นประทีป
   มูลนิธิสาธารณสุขแห่งชาติ
2. ดร. วิรัตน์ คำศรีจันทร์
   สถาบันพัฒนาสาธารณสุขอาเซียน มหาวิทยาลัยมหิดล
3. ผศ. ดร. วีณา เที่ยงธรรม
   คณะสาธารณสุขศาสตร์ มหาวิทยาลัยมหิดล
4. รศ. ดร.ศุภวัลย์ พลายน้อย
   คณะสังคมศาสตร์และมนุษยศาสตร์ มหาวิทยาลัยมหิดล

BIOGRAPHY

NAME	Taweewun Chaleekrua
DATE OF BIRTH	March 13, 1961
PLACE OF BIRTH	Phetchabun Province, Thailand
INSTITUTE ATTENED	Buddhachinaraj Nursing College, Pitsanuloke Thailand, 1980-1984 Diploma in Nursing Science. (Equivalent to Bachelor Degree in Nursing) Sukhothai Thummathirat University, Nontaburee, Thailand, 1987-1988 Degree of Bachelor of Public Health (Public Heath) Faculty of Medicine Ramathibodi Hospital, Mahidol university, Thailand, 1992-1994 Master of Science (Human Reproduction and Population Planning) Faculty of Social Science and Humanities, Mahidol University, Thailand, 2005-2010 (Population Education)
RESEARCH GRANTS	The King Prajadhipok and Queen Ramabhai Barni Memorial Foundation Scholarships for Graduate Research Presentations at National Level Seminars
POSITION & OFFICE	Public Health Technician (Specialist) Provincial Public Heath Office Phetchabun Province Email: toon8627@gmail.com