A FOLLOW-UP STUDY ON THE TRI-PARTITE SEMINAR COURSE TRAINING FOR ENVIRONMENTAL SURVEILLANCE

NASARIN NIYOMDEJ

A THESIS SUMMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF EDUCATION
(ADULT AND CONTINUING EDUCATION)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2006

ISBN 974-04-7146-3

Thesis
Entitled
A FOLLOW-UP STUDY ON THE TRI-PARTITE SEMINAR COURSE TRAINING FOR ENVIRONMENTAL SURVEILLANCE

Nasarin Niyomdej
Miss Nasarin Niyomdej
Candidate

Asst. Prof. Nug-rob Rawangkarn,
M.Ed.
Major Advisor

Assoc. Prof. Dr. Naranan Suriyamanee,
Ed.D.
Co-Advisor

Lect. Yunyong Ampawa,
Ms.Bs.
Co-Advisor

Prof. M.R. Jisnuson Svasti, Ph.D
Dean
Faculty of Graduate Studies

Assoc. Prof. Dr. Somkid Isarawatana,
Ph.D.
Chair
Master of Education Program in
Adult and Continuing Education
Faculty of Social Sciences and Humanities

Thesis
Entitled
A FOLLOW-UP STUDY ON THE TRI-PARTITE SEMINAR COURSE TRAINING FOR ENVIRONMENTAL SURVEILLANCE
Was submitted to the faculty of Graduate Studies, Mahidol University
For the degree of Master of Education (Adult and Continuing Education)
on
March 30, 2006

Nasarin Niyomdej
Miss Nasarin Niyomdej
Candidate

Asst. Prof. Nug-rob Rawangkarn,
M.Ed.
Chair

Assoc. Prof. Dr. Naranan Suriyamanee,
Ed.D.
Member

Assoc. Prof. Dr. Natthapong Charoenpit,
Ph.D.
Member

Lect. Yunyong Ampawa,
Ms.Bs.
Member

Prof. M.R. Jisnuson Svasti, Ph.D
Dean
Faculty of Graduate Studies
Mahidol University

Assoc. Prof. Suree Kanjanawong,
Ph.D.
Dean
Faculty of Social Sciences and Humanities
Mahidol University

ACKNOWLEDGEMENT

This thesis was successfully done due to care and kindness of Asst. Professor Nug-rob Rawangkarn, Assoc. Professor Dr. Naranan Suriyamanee, Archan Yunyong Ampawa, and Assoc. Professor Dr. Natthapong Charoenpit who also gave consultation until the research was more perfect

I would like to thank Assoc. Professor Dr. Somkid Isarawatana for teaching and giving the researcher the knowledge and experience of being lecturers and training.

I would like to thank Archan Nipat Karntaumphorn for being an advisor and giving advice about the course and questionnaire design.

I would like to thank my friends who were students in the field of adult education and continuing education Class 6 for helping me do the research.

I would like to thank my father, mother, and aunt for supporting my education and being important encouragement for this research.

Nasarin Niyomdej

A FOLLOW-UP STUDY ON THE TRI-PARTITE SEMINAR COURSE TRAINING FOR ENVIRONMENTAL SURVEILLANCE

NASARIN NIYOMDEJ 4536741 SHAC/M
M.Ed. (ADULT AND CONTINUING EDUCATION)

THESIS ADVISORS : NUG-ROB RAWANGKARN, M.Ed.,
NARANAN SURIYAMANEE, Ed.D., YUNYONG AMPAWA, Ms.Bs.

ABSTRACT

The objective of this research was to follow up the tri-partite seminar course training for environmental surveillance for the local administrative organization having a concession card and a concession card application, the Primary Industries and Mines Section, and mine operators.

513 training participants divided into 3 groups were used for this research. The sample group was derived randomly and consisted of 153 officials of the local administrative organization; 28 officials of the Primary Industries and Mines Section; and 44 mine operators.

The research tool was a questionnaire with the contents of teamwork and network administration. Data was collected by sending the questionnaire to the participant by mail. 225 copies of the answered questionnaire were completely returned. As for data analysis, data of the rating scale questionnaires were analyzed by calculating mean and standard deviation. After that, the mean was arranged. T-test was used for comparison of differences of mean according to a variable of sex. One way analysis of variance was used for comparison according to the variables of age, education, and group of the training participants by using the level of .01 as significance for statistical test.

Data analysis results were as follows;

1.After comparing knowledge and understanding and application of the knowledge after the training according to the variables of sex, age, education, and group of the training participants, it was found that there was no difference.

2.The training participants' knowledge and understanding of the training course correlated with application of the training knowledge to duty performance.

KEY WORDS : FOLLOW UP STUDY, TRAINING, LOCAL ADMINISTRATIVE ORGANIZATION, THE PRIMARY INDUSTRIES AND MINES SECTION
87 p. ISBN 974-04-7146-3

การติดตามผลการฝึกอบรมหลักสูตรการประชุมสัมมนาไตรภาคีเพื่อการเฝ้าระวังสิ่งแวดล้อม
(A FOLLOW-UP STUDY ON THE TRI-PARTITE SEMINAR COURSE TRAINING FOR ENVIRONMENTAL SURVEILLANCE)

นัศรินทร์ นิยมเดช 4536741 SHAC/M
ศษ.ม. (การศึกษาผู้ใหญ่และการศึกษาต่อเนื่อง)
คณะกรรมการควบคุมวิทยานิพนธ์ : นักรบ ระวังการณ์ ค.ม., นฤนันท์ สุริยมณี Ed.D, ยรรยงศ์ อัมพวา วท.ม.

บทคัดย่อ

การวิจัยครั้งนี้ มีวัตถุประสงค์เพื่อติดตามผลการฝึกอบรมหลักสูตรการประชุมสัมมนาไตรภาคีเพื่อการเฝ้าระวังสิ่งแวดล้อมสำหรับองค์กรปกครองส่วนท้องถิ่นที่มีประทานบัตรและคำขอประทานบัตรตั้งอยู่ ฝ่ายอุตสาหกรรมพื้นฐานและการเหมืองแร่ และผู้ประกอบการเหมืองแร่

ประชากรของการวิจัย ได้แก่ ผู้เข้ารับการอบรม ประกอบด้วยบุคคล 3 กลุ่ม มีจำนวนรวม 513 คน กลุ่มตัวอย่างได้มาจากการสุ่มจากประชากรข้างต้น มีจำนวน 225 คน แยกเป็น 1) เจ้าหน้าที่องค์กรปกครองส่วนท้องถิ่น 153 คน 2) เจ้าหน้าที่ฝ่ายอุตสาหกรรมพื้นฐานและการเหมืองแร่ 28 คน 3) ผู้ประกอบการเหมืองแร่ 44 คน

เครื่องมือที่ใช้ในการวิจัยได้แก่ แบบสอบถาม มีเนื้อหาครอบคลุมเรื่องการทำงานเป็นทีมและการบริหารเครือข่าย การเก็บข้อมูลกระทำโดยการส่งแบบสอบถามไปยังกลุ่มตัวอย่างโดยทางไปรษณีย์ได้รับแบบสอบถามกลับคืนมาครบทั้ง 225 ชุด การวิเคราะห์ข้อมูล ในส่วนที่เป็นข้อมูลจากแบบสอบถามมาตราส่วนประมาณค่า วิเคราะห์โดยคำนวณค่าเฉลี่ย ค่าส่วนเบี่ยงเบนมาตรฐาน แล้วนำค่าเฉลี่ยมาจัดเป็นระดับ และการเปรียบเทียบความแตกต่างของค่าเฉลี่ยตามตัวแปรเพศ ใช้การทดสอบค่า t (t-test) และเมื่อเปรียบเทียบตามตัวแปร อายุ ระดับการศึกษา และกลุ่มผู้เข้ารับการอบรม ใช้การวิเคราะห์ความแปรปรวนทางเดียว ทั้งนี้โดยใช้ระดับ .01 เป็นนัยสำคัญในการทดสอบทางสถิติ

ผลการวิเคราะห์ข้อมูลพบว่า

1.เมื่อเปรียบเทียบความรู้ความเข้าใจและการนำความรู้ไปใช้ภายหลังการอบรมตามตัวแปรเพศ อายุ ระดับการศึกษา และกลุ่มของผู้เข้ารับการอบรม พบว่า ไม่มีความแตกต่าง

2.ความรู้ความเข้าใจในหลักสูตรฝึกอบรมของผู้เข้ารับการอบรมมีความสัมพันธ์กับการนำความรู้จากการอบรมไปใช้ในการปฏิบัติงาน

87 หน้า ISBN 974-04-7146-3

CONTENTS

CONTENTS (CONT.)

CONTENTS (CONT.)

LIST OF TABLES

LIST OF TABLES (CONT.)

LIST OF TABLES (CONT.)

CHAPTER I

INTRODUCTION

Background and the Statement of the Problems

In the past, Thailand was a country which was full of various resources such as forests and minerals. So there was immense utilization of these natural resources at all times. These natural resources were an important income source of the country and were a source of employment and income of the government such as the mining remuneration of the sub-district administrative organization and various taxes (Somchai Harnhiran, 1995: 1). Due to considerable utilization of various resources, various environmental problems involving air, soil, and water presently occur and impact on existence of people.

Mining is an activity which unavoidably impacts on nature and environment. Impacts on environment differ. (Duangjai Intharapravich and others 1991: 38) Problems and causes of mineral management were lack of clear planning about production and environmental impacts. Decision to produce minerals without suitably thinking of environmental cost affects deviation to decide about investment, production, and use. This affects the highest utilization of natural resources for the society. Although the government presently determines various measures to closely supervise working impacts of the mineral industry on the environment such as determining insurance for restoring soil after mining and various stipulations during production process so that implementation of mineral production least impacts on the environment (Somchai Harnhiran, 1995 : 1).

At present, the government emphasizes decentralization. Therefore, the Primary Industries and Mines Department has provided transfer of the mine supervision duty to the local administrative organization since 2003. The local administrative organization provided the training in basic knowledge of mining, mine examining theory, writing and filling in the report together with mine examination practice. In 2004, the organization provided the training in practice plan integration

theory. There was practice meeting on the mine environmental practice plan integration and a talk about duty performance experiences. In 2005, mine operators also participated in the training. As there was transfer of duties to the local administrative organization whose duty was to examine mines instead of the Primary Industries and Mines Section, 3 groups should mutually ask and give advice. Therefore, the local administrative organization's 2005 participation promotion program on mineral management and environmental conservation provided the training in teamwork and creation of the mine environmental network in order to indicate working problems and obstacles on mine environmental management.

The tri-partite seminar course for environmental surveillance was arranged to make 3 groups of training participants who were officials of the local administrative organization, officials of the Primary Industries and Mines Section, and mine operators know to work together as a team and create the environmental management network so that they could mutually consult and help. 3 groups arranged the meeting within the networks in order to know problems and recommendations of the networks.

The course training duration was 2 days under the systematic training course development planning process of various experts. After evaluating the training of such course, the researcher found that the training participants had knowledge. As the training was beneficial to the training participants, the training participants could apply the training knowledge in their locality. Follow-up is a part of the training process and is a method which can examine sustenance and application in order to use the follow-up results as the guidelines of improving the training administration to have quality according to the training objectives. There should be follow-up of all training programs in order to know that whether the training was successful according to the goals and was worthy of investment in developing human resources. (Natthawut Phetchphromsorn, 1993: 64)

The researcher who observed and performed the duty on training saw importance of follow-up of the tri-partite seminar course training for environmental surveillance in order to know quality of the training course, problems, obstacles, and recommendations to be used as the information for developing the training for the next training arrangement of the local administrative organization's participation promotion program on mineral management and environmental conservation.

Research Objective

The objective of this research was to follow up the tri-partite seminar course training for environmental surveillance of the local administrative organization having a concession card and a concession card application, the Primary Industries and Mines Section, and mine operators.

Research Questions

1. How much do the training participants have knowledge and understanding and apply the knowledge to duty performance after the training?
2. After the training, how much do the training participants have knowledge and understanding and apply the knowledge of importance, meaning, and benefits of teamwork, teamwork components, teamwork methods, joint practice guidelines of teamwork, importance, meaning, and benefits of the networks, network components, methods of working together as the networks, joint practice guidelines of working together as the networks, and network activities for sustainable development of the networks?
3. Is the training participants' knowledge and understanding different after comparing according to variables of sex, age, education, and group of the training participants?
4. Is the training participants' application of the training knowledge different after comparing according to variables of sex, age, education, and group of the training participants?
5. How do the training participants express the opinion on development of the tri-partite seminar course for environmental surveillance?

Research Scope

1. The course which was followed up was the tri-partite seminar course for environmental surveillance according to the local administrative organization's 2005 participation promotion program on mineral management and environmental conservation.

2. The tri-partite seminar course training for environmental surveillance had been completely arranged for 4 classes as follows; the class-1 training was arranged in Surat Thani Province on April 19-20, 2005. The class-2 training was arranged in Chiang Mai Province on May 3-4, 2005. The class-3 training was arranged in Ubon Ratchathani Province on June 7-8, 2005. The class-4 training was arranged in Bangkok on June 14-15, 2005.

3. Populations and the sample group used for this research were the training participants who were officials of the local administrative organization in the area having the concession card and the mine concession card application, officials of the Primary Industries and Mines Section, and mine operators.

4. Dependent variables were sex, age, education, and group of the training participants.

5. Independent variables were knowledge and understanding and application of the knowledge to duty performance.

Research Hypothesis

1. If the training participants' sex were different, the training participants' knowledge and understanding and application of the knowledge to duty performance after the training were different.

2. If the training participants' age were different, the training participants' knowledge and understanding and application of the knowledge to duty performance after the training were different.

3. If the training participants' education were different, the training participants' knowledge and understanding and application of the knowledge to duty performance after the training were different.

4. If the training participants' group were different, the training participants' knowledge and understanding and application of the knowledge to duty performance after the training were different.

5. The training participants' knowledge and understanding of the tri-partite seminar course for environmental surveillance correlated with application of the training knowledge to duty performance.

Research Definitions

The tri-partite seminar course for environmental surveillance according to the local administrative organization's 2005 participation promotion program on mineral management and environmental conservation mean a course which is arranged by the Faculty of Social Science and Humanities, Mahidol University and the Primary Industries and Mines Department for training and supporting management to officials of the local administrative organization having the concession card and the concession card application, officials of the Primary Industries and Mines Section, and mine operators so that these people are able to manage minerals and mine environment according to duty transfer plan of the Primary Industries and Mines Department.

Training follow-up means training follow-up of 3 groups who are officials of the local administrative organization, officials of the Primary Industries and Mines Section, and mine operators for the tri-partite seminar course for environmental surveillance on knowledge and understanding and application of the knowledge. This research used the questionnaire as the data collection tool.

Teamwork means jointly working according to the jointly specified goals. All members have clear roles and duties. Members must mutually help and participate in working.

Creation of the mine environmental management network mean creation of mutual communication by connection among 3 sectors consisting of officials of the local administrative organization having the concession card and the concession card application, officials of the Primary Industries and Mines Section, and mine operators who are willing to exchange information and knowledge and jointly do activities on mine environmental management. Working structure of each sector has equal independence.

Sex means male sex or female sex of people who receive the training of the tri-partite seminar course for environmental surveillance.

Age means 4-span age: below 30 years old, 30-40 years old, 41-50 years old, and over 50 years old.

Education means the training participants' highest education by dividing education into 3 levels: below the bachelor degree, the bachelor degree, and over the bachelor degree.

Group of training participants mean people who receive the training and consist of 3 groups who are officials of the local administrative organization having the concession card and the concession card application, officials of the Primary Industries and Mines Section, and mine operators.

Knowledge and understanding mean knowledge and understanding which the training participants obtain from the training of the tri-partite seminar course for environmental surveillance.

Application means application of the knowledge obtaining from the tri-partite seminar course training for environmental surveillance after the training.

Benefits of the Research

1. To make the tri-partite seminar course training for environmental surveillance have perfection according to technical principles by covering creation, application, and training follow-up.

2. To be the information for the local administrative organization's 2005 participation promotion program on mineral management and environmental conservation to consider improvement and development of the training

3. Training follow-up is beneficial to 3 groups of the training participants who are officials of the local administrative organization, officials of the Primary Industries and Mines Section, and mine operators. It is a guideline for people who are interested in following up the training of similar and related programs.

CHAPTER II

LITERRATURE REVIEW

Training Concepts and Theories

1. The meaning of training

Charn Sawassalee (2001: 15) defined that training means a systematic process which helps increase working knowledge, capacity, and skills and changes people's working attitude and behavior to be better so that those people can work more efficiently and effectively. This is beneficial to "Work" which people are presently responsible and/or work which people are going to be directly assigned to do in the future.

Wijit Arwakul (1997: 14-15) defined that training means a process of increasing people's knowledge, expertise, and capacity or it is called people development. It may be said that training is a process which encourages capacity of people (staff, state officials) to be able to efficiently perform duties. This directly affects performance of institutes, society, and people.

Nak-rob Rawangkarn (1996: 4) stated that training was one process of human resources development that consists of planning, setting the structure, and arranging the various activities for the organizations' employees, in order for those employees to receive increased knowledge, understanding, skills, and experiences, as well as a change in their attitude and behavior in the work in order to let them meet organization goals effectively.

Morris (1993: 6) training is the main process by which the composition of the existing workforce can be changed. It therefore has a central role in promoting similar career progression among men and women.

Good (1973: 613) defined training as a process that helped individuals have skills and knowledge, arranged in certain conditions but not in the same scale as how learners learn in normal educational institutions.

Michael (1971: 243) defined that training is any process which helps increase working attitude, skills, and capacity.

In conclusion, training is a process arranged for developing and changing the training participants' knowledge, skills, attitude, and behavior according to the specified objectives. This brings about continuous development of people themselves and the organization. The training is arranged under some conditions.

2. Training objectives

Training is an important activity of people development. Therefore, training objectives are important. After studying the training objectives from various documents such as the training objectives of Somkhid Bangmo (2002: 14) and the training objectives of Natthaphan Khejornnan (2001: 77), the researcher could divide the objectives into 3 aspects as follows;

1. Cognitive domain was knowledge and understanding which could be applied, analyzed, and synthesized for developing people to apply such knowledge in their work.
2. Affective domain was attitude, value, behavior changes foe the better feeling
3. Psychomotor domain was working expertise and occupational skill for more working efficiency.

After considering the training objectives, the researcher thought that the training must make the training participants have more knowledge, feeling, and skills for adjusting behavior and being able to apply the training knowledge to duty performance.

Concepts and Theories of Training Follow-up

1. The meaning of follow-up

Kasem Piyasongrit (2003: 30) defined that training follow-up mean a method of evaluating the implemented performance or is evaluation of the work progress that how much people successfully work according to the objectives by using measurement tool and process.

Kanjana Watthanasunthorn (1996: 2) said that follow-up is a kind of evaluation after completely implementing the program for a period of time for seeing that whether the program results are consistent with the program objectives and what impacts occur. Apart from the program objectives, application of the training knowledge and skills to duty performance, change of working behavior, impacts on colleagues or related people/ organizations/ institutes, and side effect may be followed up

Natthawut Phetchphromsorn (1993: 64) defined that training follow-up mean the study that how much the training participants apply the training knowledge such as principles, concepts, methods, and techniques to duty performance after receiving the training. And there must be the study that what factors support or hinder application of the training knowledge and experiences to duty performance. Training follow-up is a part of the training process for use as the guidelines of improving the training administration to have quality according to the training objectives. All training programs should be followed up in order to know that whether the training is successful according to the specified goals and is worthy of investment in developing human resources.

Nupakorn Janthrapakorn (1990: 36) defined that training follow-up mean follow-up for studying that how much the training participants apply the training knowledge and methods to duty performance and studying problems, obstacles, and restrictions of application of the training knowledge and experience to duty performance. Training follow-up indicates achievement of objectives, success or failure of the training program for being guidelines of improving the training program to have more perfection and quality.

Good (1973: 565) defined that training follow-up mean evaluation of people's progress during duty performance by using tools and process.

Tracey (1971: 389) said that training follow-up is to study that how much the training participants suitably apply the training knowledge to duty performance, whether the training achieves the goals, how working changes, and what should be improved in the training program.

According to the abovementioned meanings of training follow-up, the researcher could conclude that follow-up is an important process which reflects

success or failure of the training after the training in order to indicate that whether the training is consistent with the course objectives, to follow up that how much the training participants apply the knowledge to duty performance, and to study problems and obstacles of application of the knowledge for being the guidelines of improving the next training to have more quality.

2. Objectives of training follow-up

Training follow-up is a most important process with the objective to collect data or facts in order to indicate achievement of the training objectives and the training participants' working behavior quality, and to indicate correlation between the training knowledge and application of the knowledge to duty performance. Therefore, training follow-up is very important to several groups of people such as the training participants, lecturers, course producers, and training administrators.

Program arrangers must follow up to make sure that whether the trained personnel express the required behavior or attitude and how the trained personnel must improve so that these people can keep the training knowledge and really and naturally apply the knowledge. There are 4 objectives of the training program follow-up as follows; (Natthaphan Khejornnan, 2000: 131-133)

1. Suitability. How much is the training suitable for personnel's need. Is the training modern and consistent with the situation? Should the training program be improved or stopped?

2. Benefits. People must follow up that how much the training creates benefits to people, agency, and organization.

3. Behavioral change. Evaluators must follow up the program that whether people can maintain behavior or attitude according to the objectives required by the organization, and how to complement people's maintaining behavior.

4. Problems and obstacles. Training program follow-up is to examine that whether implementation is consistent with the specified plans, what problems and obstacles occur, how to improve and develop the training course or guidelines of administrating the program so that arrangement of the future training program creates benefits and the most efficiency to the organization and the training participants.

Lakkhana Phanitchsupphol (1987: 26) said that objectives of training follow-up is important to several groups of people such as the trained participants, lecturers, course producers, and training program administrators to improve the training. The objectives are as follows;

1. To help make the training system more perfect.
2. To improve the training objectives.
3. To more considerably change or expand or emphasize the training contents.
4. To improve the training program and correct the course defects.

Prayut Jaisangium (1984: 45) said that generally, there are 2 objectives of training follow-up as follows;

1. To give guidelines and support the trained participants to be able to apply the training knowledge to duty performance.
2. To examine that how correlation between the training and real duty performance is or to see that how much the training can be really applied to duty performance.

Objectives of training follow-up are to collect data or facts in order to indicate achievement of the training objectives and the training participants' working behavior quality. So, objectives of training follow-up are to help make the training more perfect, improve the training objectives and contents, to examine that how much the training is suitable for the training participants' need, and how much the training participants are able to apply the training knowledge to real duty performance.

Objectives of training follow-up for this research are to examine that the training participants apply the training knowledge to duty performance and change working behavior and to examine that there are problems and obstacles after applying the training results to duty performance and recommendations for the next training.

3. Data collection methods for use in the training follow-up

Archawan Waiwanon and others (1977: 31) and Theera Prawalphruk (1995: 167-168) had similar opinion on data collection methods for use in the training follow-up as follows;

1. To observe the training participants' behavior during duty performance. This method uses a lot of time but it is very beneficial. This is because the real working condition can be seen. This method should be done while observees do not pretend to express roles. Observers should find a chance to observe the training participants' working behavior on the training knowledge or skills.

2. To interview the training participants about the training results toward working or obstacles of application of the knowledge. This method may bring about incorrect data.

3. To study chiefs' report on the training participants' duty performance. This method helps bring about good data because chiefs well know subordinates' performance.

4. To survey by using questionnaires by sending the required questionnaires to the target groups. This method should be used together with other methods for data collection for evaluation and accuracy of data to be used in follow-up.

Data collection methods for use in the training follow-up consist of observation of the training participants' behavior during duty performance, interview about the training results toward working or obstacles of the application of the knowledge, the study of chiefs' report on the training participants' duty performance, and questionnaire use.

As for the training follow-up, the researcher collected data from the training participants by sending the questionnaires to all training participants because 3 groups of the training participants stay in every region of the country and have a lot of work. Therefore, answer to the questionnaires is a good method of the training follow-up because respondents have time to think and sequence knowledge and behavior. So, this research used the questionnaires to follow up the training in order to improve the obtained results for the next training.

4. Implementation guidelines for the training follow-up

Charn Sawassalee (2001: 55-60), Natthaphan Khejornnan (2000: 133-142) and Danai Thienphut (1985: 79-81) had similar opinion on the implementation guidelines for the training follow-up which consisted of the following steps;

Step 1: To determine scope and objectives of follow-up

For use as practice guidelines and standard which consist of implementation steps as follows;

1. To study and collect data on the training program in order to bring about understanding and get the concepts of follow-up.

2. To collect data from related people.

3. To determine the scope of follow-up, study and analyze the collected data in order to determine the scope and objectives of follow-up.

Step 2: To plan the follow-up

Such step is implemented according to the following steps;

1. To consider follow-up and evaluation plans.

2. To analyze the scope and objectives of follow-up.

3. To determine follow-up plans and details.

4. To design data collection tools for follow-up. Generally, methods which are widely used for the follow-up are interview and questionnaire sending.

5. To test, correct, and improve the implementation plans and the designed tools before real use in order to reduce and prevent problems which may occur during duty performance.

Step 3: To implement the plans

As for the first follow-up, if people receive the answered questionnaires below the minimum number, they must follow up next time in order to get complete data according to the minimum number as specified.

Step 4: To analyze data

After people receive the answered questionnaires, they must count the collected data for analysis. They analyze data according to the objectives of follow-up according to issues and methods stipulating that how each item is effective, what problems and obstacles occur, what guidelines can improve the training program to be more efficient and effective. Data may be analyzed by the following methods:

1. Data analysis according to statistical method;

    1.1 Mean

    1.2 Standard Deviation

    1.3 Coefficient of Variation

2. Matrix analysis
3. Comparative description
4. Comparison by percentage.

Step 5: To report

To directly report to chiefs and/or related people. The training follow-up report models which are widely used have the following characteristics;

Abstract concludes all important contents from the follow-up which related people should know.

Introduction is summary data on the training program by consisting of

1) Background of the training program
2) Main objectives of the program
3) Expected benefits of the program.

Chapter 1: Follow-up methodology consists of

1) Objectives of follow-up
2) Scope of follow-up
3) Data collection methods
4) Sample group
5) Data analysis
6) Report

Chapter 2: Data analysis Data are analyzed according to sequence of the objectives of follow-up.

- Analyzed issues
- Outcome deriving from data collection

Chapter 3: Conclusion and recommendations

1) Conclusion of the follow-up according to each item of the objectives.
2) Recommendations and opinion on program improvement

Appendix: Things involving the follow-up are various tools used in data collection.

Implementation guidelines for the training follow-up should be done according to the following steps; to determine scope and objectives of follow-up by studying and collecting data on the training program, to collect data from related people, to plan the follow-up, to analyze scope and objectives of follow-up, to design data collection tools, to test, correct, and improve the plans and tools before real use, to implement the plans, to analyze data according to the objectives of follow-up according to issues and methods specified in each item after receiving complete data according to the specified number, and to report to related people.

Concepts on Teamwork and Creation of the Mine Environmental Management Network

1. The meaning of team

Michael Maginn (2005) said that team is a group of people having the same goal but different capacity, talent, experience, and background. However, joint goals indicate state of being a team.

Kezsbom (1990: 51) defined that team means special assignment to a group of people who have joint goals, realize interdependent roles for duty performance, and know how to use existing capacity of each person to correlate so that this group of people can gather power in order to bring success to the assigned work.

Parker (1990: 16) explained that team is a group of people who have relationship and interdependence in order to successfully work according to the specified goals. These people have joint goals and accept that a single method for successful work is to work together.

In conclusion, team means a group of people who have the same goals, are connected by structure or duty, and clearly divide roles and duties. Members understand their roles and duties and jointly work to achieve the objectives because each member has different capacity and experience.

2. The meaning of teamwork

Nak-rob Rawangkarn (2005) defined that teamwork means cooperation in performing duties according to the organization objectives. Team members mutually

coordinate from the step of determining goals, working methods, practice and evaluation.

The southern school informal education centre (2005) defined that teamwork is gathering of people to jointly work by having the same goals or objectives. Everybody in the group has a role to help work by communicating and coordinating in order to achieve the goals. Successful teamwork depends on several factors and components such as joint goals, participation in working, mutual communication, mutual coordination, and having common benefits.

Banyat Bunya (2003) said that teamwork is expression of joint opinion and mutual help. All members participate in working and have joint goals.

Rewat Chatreewisit (2003) said that teamwork is very important and it helps bring about good implementation of various activities according to the objectives. Whenever people stay together as a team, they must have criteria to make them do anything in the same direction.

On the contrary, they may have different opinion. To make implementation of activities efficient and effective, work team must be administered to be able to well work together.

So, teamwork means gathering of people to jointly work according to the specified goals. All members have clear roles and duties for duty performance. Members mutually communicate and coordinate in order to achieve the goals. Members must mutually help and participate in working and have common benefits.

3. Teamwork components

Parker (1990: 31-56) said that there are 11 teamwork components as follows;

1. Clear objectives
2. Informal working atmosphere
3. Participation
4. Accepting other people’s opinion
5. Positive disagreement
6. Agreement

7. Frank communication
8. Clear work assignment and roles
9. Joint leadership
10. Relationship with outsiders
11. Diverse working models
12. Self evaluation.

Nipat Karntaumporn (2005) said that there are 4 teamwork components as follows;

1. To determine joint goals
2. To determine roles and duties
3. Working systems
4. To create jointly working atmosphere.

The southern school informal education centre (2005) said that teamwork components are as follows;

1. Group leaders or team leaders
2. Group members. Qualifications of good team members are as follows;
   2.1 Members have understanding and are enthusiastic to work.
   2.2 Members well understand their roles and duties.
   2.3 Members are responsible for their duties.
   2.4 Members accept other people's opinion and use reasons to make decision.
   2.5 Members think of common benefits rather than their benefits.
3. Working process which is systematically arranged, has steps, and clearly determines people's roles and duties.

In conclusion, there are 4 teamwork components as follows;

1. To determine joint goals by having clear objectives.
2. To determine roles and duties of team leaders and members.
3. The working process is systematic, has steps, and clearly determines people's roles and duties.
4. To create jointly working atmosphere. People must mutually accept opinion and participate in working. The working atmosphere must be informal.

4. The meaning of network creation

Nipat Karntaumporn (2005) said that network means connection among people, group, or organizations which are willing to exchange information or jointly do activities by arranging structure models which each agency still has equal independence under the base of mutually respecting right, trusting, and helping.

Khanittha Karnjanarangseenon (2005) said that network establishment must have clear objectives which can determine network direction, main activities, and category of people and organizations which will be diligent members of the networks. A lot of members should be allowed to participate in determining the objectives in order to prevent influence of some people groups.

Kriengsak Jaroenwongsak (2000: 28) defined that network means agreement of any individuals, organizations, agencies, or institutes to mutually and systematically connect under the objectives or agreement by having the joint goals. The network group must be expressive by jointly doing activities.

Network creation mean connection among people, group, or organizations which agree to exchange information or jointly do activities by having joint goals. This network group must be expressive by jointly doing activities.

As for this research, network creation is to create mutual communication by connection among 3 sectors consisting of the local administrative organization having the concession card and the concession card application, the Primary Industries and Mines Section, and mine operators who are willing to exchange information, knowledge and jointly do activities. The working structure of each sector has equal independence.

5. Network benefits

Khanittha Karnjanarangseenon (2005) mentioned network benefits as follows;

1. The networks help bring about exchange of information, skills, experience, and media through the meeting, practice experiment, public relations, and giving cooperation in implementing the program.

2. The networks help reduce repetitive working and resource use.

3. The networks can efficiently connect people having different position, working methods, organizing, and background and having no chance to mutually contact.

4. The networks can indicate that a lot of other people or agencies are still interested to work in the same issue and face the same problems.

5. The networks enable people's need to be responded by the government.

6. The networks help indicate the complicated development issues and problems of the village.

7. The networks help connect the technical agency and capital source with people who need help.

8. The networks make people and the organization receive help from friends, encouragement, motivation, and acceptance which are important to small agencies outside the official system.

Network creation helps bring about various benefits as follows; to bring about exchange of information among network members, to bring about quick working, to bring about connection of people having different positions and other organizations which have the same interest and problems.

6. Network components

The networks have at least 7 important components as follows; (Kriengsak Jaroenwongsak, 2000: 37-44)

1. Perception of common views brings about ties in jointly doing some activities in order to solve problems.

2. Having common vision. Group members jointly see the future goals and have the same perception and understanding.

3. Having common benefits and interest. There are benefits which are money and are not money such as honor, reputation, acceptance of progress chance, happiness, and satisfaction.

4. Wide participation of network members. Network members should have equal status.

5. Complementary relationship. Strong points of a person help correct weak points of another person. This brings about benefits deriving from gathering as the network.

6. Interdependence. Network members will closely connect if the networks make each member feel that existence of each member is necessary to existence of the network. This will make members automatically interact.

7. Interaction by exchange. Network members must jointly do activities in order to bring about interaction and network change.

So, the mine environmental management network should have important components as follows; to perceive participation in the network in order to jointly solve problems, to have joint goals in the network, to have common interest, to have complementary relationship and interdependence of network members, and to have interaction at all times.

7. Methods of working together as the networks

There are 5 steps of methods of working together as the networks as follows; (Kriengsak Jaroenwongsak, 2000: 75-84)

1. To map the network group.
2. To arrange roles and duties of network members.
3. To arrange communication system.
4. To arrange joint learning system.
5. To arrange information system.

As for this training, there are 3 steps of working together as the networks as follows; to arrange roles and duties of network members, to arrange communication system, and to arrange joint learning system. As the local administrative organization has to perform new duty, its working roles are changed. Moreover, the Primary Industries and Mines Section and mine operators have to directly meet the local administrative organization about mine environmental management, these sectors have to mutually communicate at all times and jointly learn in order to successfully work.

8. Network Sustenance

There are 6 components of network sustenance as follows; (Kriengsak Jaroenwongsak, 2000: 91-100);

1. To continuously arrange joint activities
2. To keep good relationship among network members
3. To determine motivation system mechanism
4. To sufficiently provide resources
5. To assist and help solve problems
6. To continuously produce new leaders.

As for network sustenance, it is necessary to continuously arrange joint activities in order to bring about understanding among network members. Members know need for assistance and help solve problems. And members want the network leaders to create motivation system for working in the network.

Tri-partite Seminar Course for Environmental Surveillance According to the Local Administrative Organization's 2005 Participation Promotion Program on Mineral Management and Environmental Conservation

As for the budget year in 2005, the Faculty of Social Science and Humanities and the Primary Industries and Mines Department produced the tri-partite seminar training course for environmental surveillance for the local administrative organization having the concession card and the concession card application, mine operators, and officials of the Primary Industries and Mines Section. The objectives of such training course were to make the training participants have knowledge of teamwork and creation of the mine environmental management network. Important contents of such course could be concluded as follows;

1. Principles and Reasons

At present, the government emphasizes decentralization. Therefore, the Primary Industries and Mines Department had transferred the duty on mine supervision to the local administrative organization from 2003-2004. In 2005, mine operators also participated in the training. After there was transfer of duty to the local administrative organization, this organization has duty to examine mines instead of the Primary Industries and Mines Section. Therefore, 3 groups should mutually ask and consult. Therefore, the local administrative organization's 2005 participation promotion program on mineral management and environmental conservation provided the training on teamwork and creation of the mine environmental management network in order to indicate working problems and obstacles on mine environmental management.

2. Objectives

2.1 To make the training participants have knowledge and understanding on teamwork methods and creation of the mine environmental management network.

2.2 To make the training participants create the mine environmental management network.

2.3 To make the training participants apply the training knowledge, skills, and attitude to duty performance.

3. Training contents

3.1 Teamwork

1) Importance, meaning, and benefits of teamwork

2) Teamwork components

3) Teamwork methods

4) Joint practice guidelines of teamwork

3.2 Creation of the mine environmental management network

1) Importance, meaning, and benefits of networks

2) Network components

3) Methods of working together as the networks

4) Network activities for sustainable development of the networks

4. Training models

The training models consist of arrangement of learning activities, relation group activities, and sub-group meeting.

5. Qualifications of the training participants

The training participants consist of 3 groups who are officials of the local administrative organization in the area having the concession card and the mine concession card application, officials of the Primary Industries and Mines Section, and mine operators.

6. Training duration

Training Duration was a day and a half**,** had been completely arranged for 4 classes as follows;

6.1 The class-1 training was arranged in Surat Thani Province on April 19-20, 2005.

6.2 The class-2 training was arranged in Chiang Mai Province on May 3-4, 2005.

6.3 The class-3 training was arranged in Ubon Ratchathani Province on June 7-8, 2005.

6.4 The class-4 training was arranged in Bangkok on June 14-15, 2005.

Related Researches

After training of the training participants, there are 2 researches which involve this part as follows;

Training participants' knowledge and understanding after the training

Sumalee Amphairat (2003) did a research on salesperson training program follow-up on "being efficient salespersons" of Hegger Brother Company Limited. The research results found that the salespersons considerably had knowledge of sale techniques and goods after the training. The salespersons could considerably apply the training knowledge to duty performance.

Kriengsak Liangwannaphorn (2003) did a research on car owners' knowledge and understanding of insurance according to 1992 Car Injured Protection Act. in Nakhon Pathom Province. The research results found that the car owners moderately had knowledge and understanding of insurance according to the Car Injured Protection Act. If the car owners' age and occupation were different, the car owners' knowledge and understanding of insurance according to the Car Insured Protection Act. was different at the significant level of .05.

Noojan Mata (1998) did a research on a follow-up study on the pig breed improvement and artificial breeding training of farmers who were trained from the national pig raising training and researching centre. The research results found that the farmers considerably had knowledge and understanding. If the training participants' education and occupation were different, the training participants' application of the knowledge to duty performance was different. If the training participants' sex was different, the training participants' application of the knowledge to duty performance was not different.

In conclusion, most training participants considerably had knowledge and understanding while a few training participants moderately had knowledge and understanding.

The training participants' application of the training knowledge after the training

Jessadaphorn Wiriyasakulthorn (2004) did a research on a follow-up study on the training participants who were chiefs giving the training in the scout controller subject of the National Scout Administration Committee Office. The research results found that the training participants who were chiefs giving the training on the scout controller subject considerably applied knowledge and understanding to the scout controller subject training in general. If the training participants' sex, age, education, occupation, and training class were different, the training participants' application of the knowledge and experience to the scout controller subject training in general aspect and each aspect without no statistical significance. If the training participants' experience on scouts was different, the training participants' application of the knowledge and experience to the scout controller subject training was different at the

significant level of .05. The training participants having the experience on scouts over 20 years more considerably applied the training knowledge at the significant level. As for consideration of each aspect, working skills were different at the significant level of .05. Most training participants thought that the training course was suitable. As for some issues, the training participants thought that selection of the training participants did not have clear criteria. The lecturers who gave the training should have real knowledge and capacity. The training course and important contents of the course should be improved to be consistent with the present condition. The training technology should be modern.

Jutamas Jaiprom (2003) did a research on a follow-up study on application of knowledge of the area-4 primary executives who received the public health executive course training. The research results found that the primary executives moderately applied the knowledge to duty performance. The knowledge contents were moderately suitable. The primary executives slightly had a problem of application of the knowledge. If the primary executives' sex was different, the primary executives' application of the knowledge was different at the significant level of .05. If the position before the training and the present position was different, application of the technical knowledge to working was different at the significant level of .05. If working experience was different, application of the administration knowledge to working was different at the significant level of .05.

Waraphorn Damrongrat (2003) did a research on a follow-up study on application of knowledge to duty performance after the distance training in the sub-district administrative organization administration course. The researcher also studied problems and recommendations about application of knowledge to duty performance. The research results found that consistence of domicile, knowledge and understanding of the training course, and achievement of the training course objectives correlated with application of the training knowledge to duty performance. While, sex, age, education, position, tenure of being sub-district officials, and position expectation did not correlate with application of the training knowledge to duty performance.

Suchart Angsuchote (2001) did a research on a follow-up study on the agricultural officer course training of the Development Officer Office. The research

results found that commissioned officers having the experience of receiving the agricultural training apart from the agricultural officer course differently applied the training knowledge to duty performance at the significant level of .05. If age, education, present position, working duration, salary, and job characteristics were different, application of the training knowledge to duty performance was not different.

Kobsuk Atthi (2000) did a research on a follow-up study on knowledge application of people who received the training of short-period professional course from the technician college. The research results found that 2 groups of the trained participants were as follows; a group who applied the training knowledge to freelance occupation was business owners. And a group who applied the knowledge was employees. Both groups considerably applied the training knowledge.

Natthawut Phetchphromsorn (1993) did a research on a follow-up study on students' training, the high-level ruler course, Administrative College, Class 25, 26, 27. The research results found that the students applied the training knowledge to duty performance and considerably applied 7 lessons as follows; Administration Development, Thai Politics, Social Development, Working Behavior Development, Thai Economics Development, Social and Economic Development in the Countryside, and special lesson. Recommendations of this research were as follows; the course should be improved to be consistent with the need of the Administrative Department based on finding the training need of the Administrative Department. Evaluation methods should be improved to be consistent with application of the technical knowledge to duty performance by emphasizing decision and command in different situations.

According to the abovementioned researches, most training participants considerably applied the training knowledge to duty performance. While, few training participants moderately applied the training knowledge to duty performance.

After there was transfer of duty of the Primary Industries and Mines Department to the local administrative organization, the local administrative organization had to more considerably coordinate with mine operators and the Primary Industries and Mines Section. For efficient duty performance, the training in teamwork and the mine environmental management network administration was

arranged to bring about the working network so that 3 groups of the training participants were able to more conveniently perform duties on coordination and seeking cooperation and help on the mine environmental management. Therefore, the researcher followed up the tri-partite seminar course training for environmental surveillance in order to know that whether the training achieved the objectives, how the training participants were able to apply the training knowledge and skills to duty performance, and how the training participants had attitude toward working together as the networks.

CHAPTER III

MATERIALS AND METHODS

This research was to follow up the training in the local administrative organization's 2005 participation promotion program on mineral management and environmental conservation. The researcher implemented according to the following steps;

1. Population and sample
2. Design of research instrument
3. Data collection
4. Data analysis

Population and Sample

1. Population

Populations used for this research were 513 training participants for the tri-partite seminar course for environmental surveillance of the local administrative organization's 2005 participation promotion program on mineral management and environmental conservation. Those training participants were officials of the local administrative organization, officials of the Mining Basic Industry Section, and mine operators. The training was arranged for 4 times.

2. Sample

The sample group for this research was 225 people derived from stratified random sampling from reliable populations by 95% (Yamane, 1967: 886-887) by using regions of the training participants as strata.

Number of the randomized sample group :

$$\frac{\text{Number of all sample group} \times \text{Number of randomized populations}}{\text{Number of total populations}}$$

Table 1 Number of the sample group classified by regions by comparing with population ratio

Group of the training participants	North		South		Middle		North East		Total	
	N	**n**	N	**n**	N	**n**	N	**n**	N	**n**
Officials of the local administrative organization	132	**58**	95	**42**	88	**39**	32	**14**	347	**153**
Mine operators	30	**13**	15	**6**	32	**14**	24	**11**	101	**44**
Officials of the Primary Industries and Mines Section	18	**8**	20	**9**	15	**6**	12	**5**	65	**28**
Total	180	**79**	130	**57**	135	**59**	68	**30**	513	**225**

Design of Research Instrument

The research tool was the questionnaire divided into 4 sections as follows;

Section 1 Questionnaire on status of respondents was the check-list questions.

Section 2 Questionnaire on knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training. The questionnaire was the 5-level rating scale questionnaire according to Likert's concept to determine score giving criteria for data analysis.

Opinion Level	Points
Highest	5
High	4
Medium	3
Low	2
Lowest	1

Section 3 Questionnaire on opinion on teamwork and network creation after the training

Opinion Level	Points
High	3
Medium	2
Low	1

Section 4 Questionnaire on development of the tri-partite seminar course for environmental surveillance was the open-ended questionnaire which allowed the training participants to give more recommendations about the training.

The abovementioned tool was designed according to the following steps;

1. To study related researches, documents covering training data details which were theory and performance which involved the studied variables for use as a guideline of designing the questionnaire.

2. To draft the questionnaire by using a guideline of Jutamas Jaiprom (2003) and Waraphorn Damrongrat (2003) to design the questionnaire on knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training. Then, the researcher presented such questionnaire to the advisor to examine correctness and give more recommendations.

3. To design the questionnaire on knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training.

4. To find Face Validity of the questionnaire by presenting the questionnaire to the thesis advisor committee to examine suitability of contents, question items, and language to be consistent with specific definitions. Then, the researcher improved the questionnaire before try-out. The questionnaire consisted of question items covering the required objectives. The contents were suitable. The language which was used was correct and clear.

5. To find item discrimination of the questionnaire by trying out the improved questionnaire with 30 officials of the local administrative organization, who received the training of this course but were not the sample group. After that, the researcher checked the questionnaires and gave scores according to the specified criteria in order to find item discrimination by t-test. The researcher specifically selected items with the t value having the significant level of .05 as the research questionnaire.

6. To find reliability of the questionnaire by finding Cronbach's alpha-coefficient of the selected questionnaire in item 5. The results were as follows;

6.1 General reliability of the knowledge and understanding of the training course contents was .8558. Each part of the contents was divided as follows;

6.1.1 Section 1 Importance, meaning, and benefits of teamwork (3 items) reliability was .7875

6.1.2 Section 2 Teamwork components (4 items) reliability was .8091

6.1.3 Section 3 Teamwork methods (6 items) reliability was .7997

6.1.4 Section 4 Joint practice guidelines of teamwork (8 items) reliability was .8832

6.1.5 Section 5 Importance, meaning, and benefits of the network (3 items) reliability was .8429

6.1.6 Section 6 Network components (7 items) reliability was .8751

6.1.7 Section 7 Methods of working together as the network (3 items) reliability was .8790

6.1.8 Section 8 Network activities for sustainable development of the network (6 items) reliability was .9281

6.2 General reliability of application of the training knowledge to duty performance after the training was .9316. Each part of the contents was as follows;

6.2.1 Section 1 Importance, meaning, and benefits of teamwork (3 items) reliability was .8691

6.2.2 Section 2 Teamwork components (4 items) reliability was .9277

6.2.3 Section 3 Teamwork methods (6 items) reliability was .9202

6.2.4 Section 4 Joint practice guidelines of teamwork (8 items) reliability was .9206

6.2.5 Section 5 Importance, meaning, and benefits of the network (3 items) reliability was .9540

6.2.6 Section 6 Network components (7 items) reliability was .9406

6.2.7 Section 7 Methods of working together as the network (3 items) reliability was .9427

6.2.8 Section 8 Network activities for sustainable development of the network (6 items) reliability was .9450

Data collection

The researcher collected data for analysis according to the following steps;

1. 90 days after the training, the researcher sent 225 copies of the questionnaire by mail to the officials of the local administrative organization who were the sample group from the end of August, 2005.

2. After receiving the questionnaires and completely answering the questionnaires, the training participants returned the questionnaires by mail. The researcher received 170 copies of the answered questionnaires in the middle of September, 2005. The researcher followed up the remaining questionnaires by telephoning the sample group who had yet to return the questionnaires.

3. The researcher only selected the perfect questionnaires. It appeared that 225 copies of the questionnaires were totally perfect. Then, the researcher checked the questionnaires and gave score according to the specified criteria. After that, the researcher analyzed the obtained data according to the research goals.

Data Analysis

1. The researcher studied the level of knowledge and understanding and application by calculating mean ($\overline{X}$) and standard deviation (S.D) as each item and main item. Then, the researcher arranged the mean into levels from Most, Considerable, Moderate, Little, and Least.

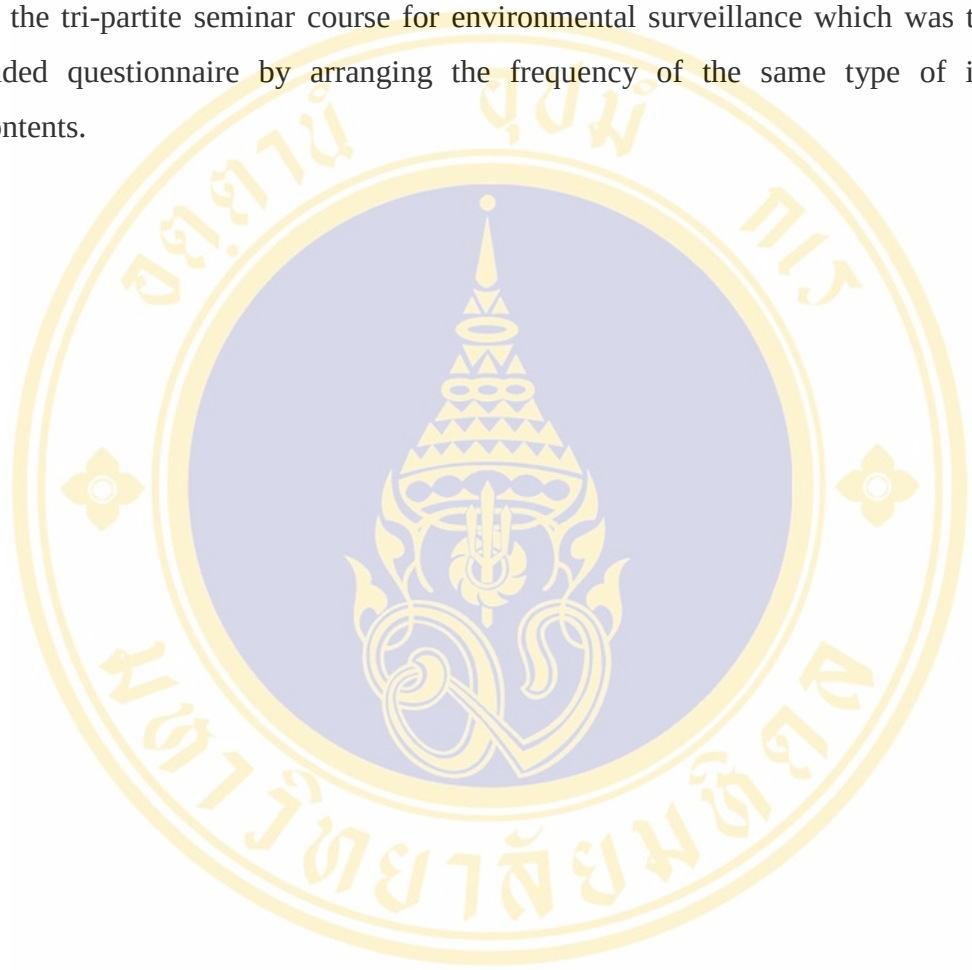
2. The researcher compared difference of the mean according to various independent variables as follows;

2.1 T-test was used to compare according to a variable of sex.

2.2 Oneway ANOVA was used for comparison according to the variables of age, education, and group of the training participants.

3. The researcher found correlation of the level of knowledge and understanding and application of the knowledge after the training by using the analysis method of Pearson product moment correlation.

4. The researcher gathered more opinion / recommendations on development of the tri-partite seminar course for environmental surveillance which was the open-ended questionnaire by arranging the frequency of the same type of important contents.



CHAPTER IV

RESULTS

Presentation of data analysis results, as for the first part, the researcher presented data analysis results on status of the training participants. As for the second part, the researcher presented according to the sequence of the research problems.

Data Analysis Symbols

As for data analysis and interpretation of data analysis results, the researcher used the following symbols;

$\bar{X}$	=	Mean
S.D.	=	Standard Deviation
n	=	Number of the sample group
t	=	Statistic used in considering t-distributions
F	=	Statistic used in considering F-distributions
df	=	Degrees of Freedom
SS	=	Sum of Squares
MS	=	Mean Squares

Presentation of Data Analysis Results

As for data analysis, the researcher presented data analysis results into 4 sections as follows;

Section 1 Analysis of data on status of the respondents classified by sex, age, education, position.

Section 2 The level of knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training.

Section 3 Comparison between the knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training classified by sex, age, education, and position.

Section 4 Compilation of opinion on development of the tri-partite seminar course for environmental surveillance

Section 1 Analysis of data on status of respondents

Table 2 Number and percent of the sample group classified by sex, age, education, group of the training participants

Demographic Data	n	%
1. Sex		
1.1 Male	181	80.4
1.2 Female	44	19.6
Total	225	100.0
2. Age		
2.1 Below 30 years	30	13.3
2.2 30 – 40 years	93	41.4
2.3 41 – 50 years	70	31.1
2.4 Over 50 years	32	14.2
Total	225	100.0
3. Educational Level		
3.1 Below the bachelor degree	56	24.9
3.2 The bachelor degree	136	60.4
3.3 Over the bachelor degree	33	14.7
Total	225	100.0
4. Group		
4.1 Officials of the local administrative organization	153	68.0
4.2 Mine Operators	44	19.6
4.3 Officials of the Primary Industries and Mines Section	28	12.4
Total	225	100.0

According to the table 2, there were 225 respondents divided into 181 male respondents (80.4%) and 44 female respondents (19.6%).

93 respondents were 30-40 years old (41.4%). 70 respondents were 41-50 years old (31.1%).

136 respondents graduated with the bachelor degree (60.4%). 56 respondents graduated below the bachelor degree (24.9%).

Most respondents were officials of the local administrative organization (153 people or 68.0%). Second, 44 respondents were mine operators (19.6%).

Section 2 The level of knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training

Table 3 Mean and standard deviation of the training participants' knowledge and understanding and application of the knowledge to duty performance after the training presented in general and shown as the section in order

(n = 225)

Training Topics	Knowledge and understanding			Application of knowledge		
	$\overline{X}$	S.D.	Level	$\overline{X}$	S.D.	Level
1. Importance, meaning, and benefits of teamwork	4.12	.478	high	3.85	.621	high
2. Teamwork components	3.85	.499	high	3.70	.580	high
3. Teamwork methods	3.74	.615	high	3.64	.748	high
4. Joint practice guidelines of teamwork	3.84	.528	high	3.68	.595	high
5. Importance, meaning, and benefits of the network	3.82	.626	high	3.65	.744	high
6. Network components	3.68	.568	high	3.49	.690	medium
7. Methods of working together as the network	3.53	.672	high	3.37	.818	medium
8. Network activities for sustainable development of the network	3.62	.689	high	3.40	.809	medium
Total	**3.77**	**.446**	**high**	**3.60**	**.564**	**high**

According to the table 3, the respondents considerably had the level of knowledge and understanding on importance, meaning, and benefits of teamwork ($\overline{X}$ = 4.12), teamwork components ($\overline{X}$ = 3.85), and joint practice guidelines of teamwork ($\overline{X}$ = 3.84), respectively.

The respondents considerably applied the knowledge on the importance, meaning, and benefits of teamwork ($\overline{X}$ =3.85), teamwork components ($\overline{X}$ = 3.70), and joint practice guidelines of teamwork ($\overline{X}$ = 3.68), respectively.

Table 4 Mean and standard deviation of importance, meaning, and benefits of teamwork presented in each item

(n = 225)

Training topics	Knowledge and understanding			Application of knowledge		
	$\overline{X}$	S.D.	Level	$\overline{X}$	S.D.	Level
1. Importance of teamwork	4.12	.555	high	3.84	.695	high
2. Meaning of teamwork	3.97	.574	high	3.75	.690	high
3. Benefits of teamwork	4.26	.588	high	3.96	.709	high
Total	**4.12**	**.478**	**high**	**3.85**	**.621**	**high**

According to the table 4, the respondents considerably had knowledge and understanding of importance, meaning, and benefits of teamwork in general ($\overline{X}$ = 4.12). As for each item, the respondents considerably had the level of knowledge and understanding on importance of teamwork ($\overline{X}$ = 4.12), meaning of teamwork ($\overline{X}$ = 4.26), and benefits of teamwork ($\overline{X}$ = 4.26), respectively.

The respondents considerably applied the knowledge to duty performance in general ($\overline{X}$ = 3.85). As for each item, the respondents considerably applied the knowledge to duty performance on benefits of teamwork ($\overline{X}$ = 3.96), importance of teamwork ($\overline{X}$ = 3.84), and meaning of teamwork ($\overline{X}$ = 3.75) , respectively.

Table 5 Mean and standard deviation of the training participants after the training in teamwork components presented in each item

(n = 225)

Training topics	Knowledge and understanding			Application of knowledge		
	$\overline{X}$	S.D.	Level	$\overline{X}$	S.D.	Level
4. Determining joint goals	3.88	.597	high	3.71	.701	high
5. Determining roles and duties	3.79	.604	high	3.64	.653	high
6. Working systems	3.79	.589	high	3.67	.654	high
7. Creating jointly working atmosphere	3.93	.701	high	3.79	.743	high
Total	**3.85**	**.499**	**high**	**3.70**	**.580**	**high**

According to the table 5, the respondents considerably had knowledge and understanding of teamwork components in general ($\bar{X}$ = 3.85). As for each item, the respondents considerably had knowledge and understanding of teamwork components on creating the jointly working atmosphere ($\bar{X}$ = 3.93), determining joint goals ($\bar{X}$ =3.88), determining goals and duties, and working system ($\bar{X}$ = 3.79), respectively.

The respondents considerably applied the knowledge to duty performance in general ($\bar{X}$ = 3.70). As for each item, the respondents considerably applied the knowledge to duty performance on creating the jointly working atmosphere ($\bar{X}$ = 3.79), determining joint goals ($\bar{X}$ = 3.71), and working system ($\bar{X}$ = 3.67), respectively.

Table 6 Mean and standard deviation of the training participants after the training in teamwork methods presented in each item

(n = 225)

Training topics	Knowledge and understanding			Application of knowledge		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level
8. Presenting idea of analyzing problems	3.84	.665	high	3.71	.768	high
9. Collecting data and mutually giving data	3.75	.728	high	3.64	.796	high
10. Analyzing and determining problem-solving guidelines	3.71	.722	high	3.62	.810	high
11. Planning about duty performance	3.82	.680	high	3.68	.729	high
12. Implementing according to the specified plan	3.73	.676	high	3.58	.781	high
13. Evaluating and following up	3.52	.808	high	3.44	.875	medium
Total	**3.74**	**.615**	**high**	**3.64**	**.748**	**high**

According to the table 6, the respondents considerably had knowledge and understanding of teamwork methods in general ($\bar{X}$ = 3.74). As for each item, the respondents considerably had knowledge and understanding of teamwork on Presenting idea of analyzing problems ($\bar{X}$ = 3.84), planning about duty performance ($\bar{X}$ = 3.82), and collecting data and mutually giving data ($\bar{X}$ = 3.75), respectively.

The respondents considerably applied the knowledge in general ($\overline{X}$ = 3.64). As for each item, the respondents considerably applied the knowledge on implementing according to presenting idea of analyzing problems ($\overline{X}$ = 3.71), planning about duty performance ($\overline{X}$ = 3.68), and collecting data and mutually giving data ($\overline{X}$ = 3.64), respectively.

Table 7 Mean and standard deviation of the training participants after the training in joint practice guidelines of teamwork presented in each item

(n = 225)

Training topics	Knowledge and understanding			Application of knowledge		
	$\overline{X}$	S.D.	Level	$\overline{X}$	S.D.	Level
14. Accepting team members' opinion	3.99	.590	high	3.77	.718	high
15. Mutually communicating	3.65	.777	high	3.56	.784	high
16. Cooperating	3.74	.755	high	3.57	.800	high
17. Understanding and being responsible for roles and duties	3.83	.603	high	3.65	.735	high
18. Having love and harmony	3.96	.667	high	3.80	.750	high
19. Having sacrifice and thinking of common benefits	3.87	.694	high	3.72	.754	high
20. Creating encouragement	3.79	.737	high	3.63	.769	high
21. Mutually forgiving	3.93	.678	high	3.76	.740	high
Total	**3.84**	**.528**	**high**	**3.68**	**.595**	**high**

According to the table 7, the respondents considerably had knowledge and understanding of joint practice guidelines of teamwork in general ($\overline{X}$ = 3.84). As for each item, the respondents considerably had knowledge and understanding of accepting team members' opinion ($\overline{X}$ = 3.99), having love and harmony ($\overline{X}$ = 3.96), and mutually forgiving ($\overline{X}$ = 3.93), respectively.

The respondents considerably applied the knowledge in general ($\overline{X}$ = 3.68). As for each item, the respondents considerably applied the knowledge on having love and harmony ($\overline{X}$ = 3.80), accepting team members' opinion ($\overline{X}$ = 3.77), and mutually forgiving ($\overline{X}$ = 3.76), respectively.

Table 8 Mean and standard deviation of the training participants after the training in importance, meaning, and benefits of the networks presented in each item

(n = 225)

Training topics	Knowledge and understanding			Application of knowledge		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level
22. Importance of the network	3.86	.693	high	3.68	.811	high
23. Meaning of the network	3.73	.649	high	3.60	.757	high
24. Benefits of the network	3.87	.705	high	3.68	.805	high
Total	**3.82**	**.626**	**high**	**3.65**	**.744**	**high**

According to the table 8, the respondents considerably had knowledge and understanding of importance, meaning, and benefits of the networks in general ($\bar{X}$ = 3.82). As for each item, the respondents considerably had the level of knowledge and understanding on benefits of the network ($\bar{X}$ = 3.87), importance of the network ($\bar{X}$ = 3.86), and meaning of the network ($\bar{X}$ = 3.73), respectively.

The respondents considerably applied the knowledge to duty performance in general ($\bar{X}$ = 3.65). As for each item, the respondents considerably applied the knowledge to duty performance on importance of the network and benefits of the network ($\bar{X}$ = 3.68), and meaning of the network ($\bar{X}$ = 3.60), respectively.

Table 9 Mean and standard deviation of the training participants after the training in network components presented in each item

(n = 225)

Training topics	Knowledge and understanding			Application of knowledge		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level
25. Perceiving common views	3.68	.651	high	3.51	.739	high
26. Having common vision	3.77	.646	high	3.54	.802	high
27. Having common benefits and interest	3.70	.699	high	3.50	.757	medium
28. Wide participation of network members	3.65	.692	high	3.40	.835	medium
29. Complementary relationship	3.64	.714	high	3.48	.797	medium
30. Interdependence	3.69	.755	high	3.55	.845	high
31. Interacting by exchanging	3.61	.737	high	3.39	.885	medium
Total	**3.68**	**.568**	**high**	**3.49**	**.690**	**medium**

According to the table 9, the respondents considerably had knowledge and understanding of network components in general ($\bar{X}$ = 3.68). As for each item, the respondents considerably had knowledge and understanding of having common vision ($\bar{X}$ = 3.77), having common benefits and interest ($\bar{X}$ = 3.70), and interdependence ($\bar{X}$ = 3.69), respectively.

The respondents considerably applied the knowledge in general ($\bar{X}$ = 3.49). As for each item, the respondents considerably applied the knowledge on interdependence ($\bar{X}$ = 3.55), having common vision ($\bar{X}$ = 3.54), and perceiving common views ($\bar{X}$ = 3.51), respectively.

Table 10 Mean and standard deviation of the training participants after the training in methods of working together as the networks presented in each item

(n = 225)

Training topics	**Knowledge and understanding**			**Application of knowledge**		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level
32. Arranging network members' roles and duties	3.50	.702	medium	3.36	.850	medium
33. Arranging communication systems	3.52	.768	high	3.36	.892	medium
34. Arranging joint learning systems	3.57	.759	high	3.39	.900	medium
Total	**3.53**	**.672**	**high**	**3.37**	**.818**	**medium**

According to the table 10, the respondents considerably had knowledge and understanding of methods of working together as the networks in general ($\bar{X}$ = 3.53). As for each item, the respondents considerably had knowledge and understanding of arranging joint learning systems ($\bar{X}$ = 3.57), arranging communication systems ($\bar{X}$ = 3.52), and arranging network members' roles and duties ($\bar{X}$ = 3.50), respectively.

The respondents considerably applied the knowledge in general ($\bar{X}$ = 3.37). As for each item, the respondents considerably applied the knowledge on arranging joint learning systems ($\bar{X}$ = 3.39), arranging network members' roles and duties, and arranging communication systems ($\bar{X}$ = 3.36), respectively.

Table 11 Mean and standard deviation of the training participants after the training in joint practice guidelines of teamwork presented in each item

(n = 225)

Training topics	Knowledge and understanding			Application of knowledge		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level
35. Continuously arranging joint activities	3.53	.807	high	3.25	.956	medium
36. Keeping good relation among members	3.73	.744	high	3.56	.864	high
37. Creating motivation systems	3.63	.798	high	3.43	.914	medium
38. Supporting resources	3.58	.793	high	3.39	.890	medium
39. Assisting and helping solve problems	3.68	.766	high	3.44	.885	medium
40. Continuously producing new leaders	3.59	.847	high	3.34	.951	medium
Total	**3.62**	**.689**	**high**	**3.40**	**.809**	**medium**

According to the table 11, the respondents considerably had knowledge and understanding of network activities for sustainable development of the networks in general ($\bar{X}$ = 3.62). As for each item, the respondents considerably had knowledge and understanding of keeping good relation among members ($\bar{X}$ = 3.73), assisting and helping solve problems ($\bar{X}$ = 3.68), and creating motivation system ($\bar{X}$ = 3.63), respectively.

The respondents moderately applied the knowledge in general ($\bar{X}$ = 3.40). As for each item, the respondents considerably applied the knowledge in keeping good relationship among members ($\bar{X}$ = 3.56) while the respondents moderately applied the knowledge in assisting and helping solve problems ($\bar{X}$ = 3.44) and creating motivation system ($\bar{X}$ = 3.43), respectively.

Section 3 Comparison between knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training classified by sex, age, education, and group of the training participants

Table 12 Comparison of the level of knowledge and understanding of the training participants after the training presented in various aspects classified by sex

(n = 225)

Training topics	Male (n=181)		Female (n=44)		t*	df	p
	$\bar{X}$	S.D.	$\bar{X}$	S.D.			
1. Importance, meaning, and benefits of teamwork	4.13	.498	4.06	.389	1.012	80.966	.315
2. Teamwork components	3.83	.506	3.90	.468	-.756	223	.450
3. Teamwork methods	3.75	.649	3.72	.457	.141	223	.888
4. Joint practice guidelines of teamwork	3.84	.543	3.85	.464	-.046	223	.964
5. Importance, meaning, and benefits of the network	3.82	.662	3.81	.451	.128	93.725	.898
6. Network components	3.70	.587	3.60	.482	1.034	223	.302
7. Methods of working together as the network	3.55	.689	3.44	.596	1.018	223	.310
8. Network activities for sustainable development of the network	3.64	.685	3.56	.709	.620	223	.536
Total	**3.78**	**.467**	**3.74**	**.352**	**.652**	**83.923**	**.516**

According to the table 12, if the training participants' sex was different, the training participants' knowledge and understanding after the training in general was not different.

***Remark** Training topics no. 1, 5 and in general were analyzed by using t-test without using the basic agreement that variance value of male and female populations were not equal. While, the remaining topics used the agreement that variance value of male and female populations was equal.

Table 13 Comparison of the level of knowledge and understanding of the training participants after the training presented in various aspects classified by the training participants' age

(n = 225)

Training topics	แหล่งความแปรปรวน	df	SS	MS	F	P
1. Importance, meaning, and benefits of teamwork	Among group	3	.170	.057	.244	.865
	Within group	221	51.082	.231		
	Total	224	51.251			
2. Teamwork components	Among group	3	.024	.008	.056	.982
	Within group	221	31.211	.141		
	Total	224	31.235			
3. Teamwork methods	Among group	3	.102	.034	.088	.966
	Within group	221	84.667	.383		
	Total	224	84.768			
4. Joint practice guidelines of teamwork	Among group	3	.080	.027	.094	.963
	Within group	221	62.304	.282		
	Total	224	62.384			
5. Importance, meaning, and benefits of the network	Among group	3	.839	.280	.711	.546
	Within group	221	86.922	.393		
	Total	224	87.761			
6. Network components	Among group	3	.357	.119	.511	.675
	Within group	221	51.430	.233		
	Total	224	51.787			
7. Methods of working together as the network	Among group	3	1.594	.531	1.180	.318
	Within group	221	99.539	.450		
	Total	224	101.133			
8. Network activities for sustainable development of the network	Among group	3	1.679	.560	1.182	.317
	Within group	221	104.599	.473		
	Total	224	106.278			
Total	**Among group**	**3**	**.136**	**.045**	**.248**	**.862**
	Within group	**221**	**40.190**	**.182**		
	Total	**224**	**40.325**			

According to the table 13, if the training participants' age was different below 30 years old, 30-40 years old, 41-50 years old, and over 50 years old, the training participants' knowledge and understanding after the training in general were not different.

Table 14 Comparison of the level of knowledge and understanding of the training participants after the training presented in various aspects classified by the training participants' education

(n = 225)

Training topics		df	SS	MS	F	P
1. Importance, meaning, and benefits of teamwork	Among group	2	.308	.154	.671	.512
	Within group	222	50.943	.229		
	Total	224	51.251			
2. Teamwork components	Among group	2	.322	.161	1.155	.317
	Within group	222	30.913	.139		
	Total	224	31.235			
3. Teamwork methods	Among group	2	.231	.116	.304	.739
	Within group	222	84.537	.381		
	Total	224	84.768			
4. Joint practice guidelines of teamwork	Among group	2	.269	.135	.481	.619
	Within group	222	62.114	.280		
	Total	224	62.384			
5. Importance, meaning, and benefits of the network	Among group	2	2.114	1.057	2.739	.067
	Within group	222	85.647	.386		
	Total	224	87.761			
6. Network components	Among group	2	.198	.099	.426	.653
	Within group	222	51.589	.232		
	Total	224	51.787			
7. Methods of working together as the network	Among group	2	.115	.057	.126	.882
	Within group	222	101.018	.455		
	Total	224	101.133			
8. Network activities for sustainable development of the network	Among group	2	.032	.016	.034	.967
	Within group	222	106.246	.479		
	Total	224	106.278			
Total	**Among group**	**2**	**.277**	**.139**	**.768**	**.465**
	Within group	**222**	**40.048**	**.180**		
	Total	**224**	**40.325**			

According to the table 14, if the training participants' education was different (below the bachelor degree, the bachelor degree, and over the bachelor degree, the training participants' knowledge and understanding after the training in general was not different.

Table 15 Comparison of the level of knowledge and understanding of the training participants after the training presented in various aspects classified by the training participants' position

(n = 225)

Training topics		df	SS	MS	F	P
1. Importance, meaning, and benefits of teamwork	Among group	2	.387	.194	.845	.431
	Within group	222	50.864	.229		
	Total	224	51.251			
2. Teamwork components	Among group	2	.489	.245	1.767	.173
	Within group	222	30.746	.138		
	Total	224	31.235			
3. Teamwork methods	Among group	2	.172	.086	.225	.799
	Within group	222	84.597	.381		
	Total	224	84.768			
4. Joint practice guidelines of teamwork	Among group	2	.186	.093	.332	.717
	Within group	222	62.197	.280		
	Total	224	62.384			
5. Importance, meaning, and benefits of the network	Among group	2	.703	.351	.896	.410
	Within group	222	87.058	.392		
	Total	224	87.761			
6. Network components	Among group	2	.778	.389	1.694	.186
	Within group	222	51.008	.230		
	Total	224	51.787			
7. Methods of working together as the network	Among group	2	1.499	.749	1.670	.191
	Within group	222	99.634	.449		
	Total	224	101.133			
8. Network activities for sustainable development of the network	Among group	2	.616	.308	.647	.525
	Within group	222	105.662	.476		
	Total	224	106.278			
Total	**Among group**	**2**	**.429**	**.215**	**1.194**	**.305**
	Within group	**222**	**39.896**	**.180**		
	Total	**224**	**40.325**			

According to the table 15, if the training participants' position was different (officials of the local administrative organization, mine operators, and officials of the Primary Industries and Mines Section), the training participants' knowledge and understanding after the training was not different.

Table 16 Comparison of the training participants' application of the knowledge to duty performance after the training presented in various aspects classified by the training participants' sex

(n = 225)

Training topics	Male (n=181)		Female (n=44)		t	df	p
	$\bar{X}$	S.D.	$\bar{X}$	S.D.			
1. Importance, meaning, and benefits of teamwork	3.84	.626	3.90	.604	-.626	223	.532
2. Teamwork components	3.69	.594	3.76	.520	-.740	223	.460
3. Teamwork methods	3.62	.778	3.69	.615	-.569	223	.570
4. Joint practice guidelines of teamwork	3.67	.598	3.74	.590	-.651	223	.516
5. Importance, meaning, and benefits of the network	3.64	.769	3.69	.641	-.402	223	.688
6. Network components	3.50	.702	3.46	.646	.387	223	.699
7. Methods of working together as the network	3.38	.828	3.31	.782	.540	223	.590
8. Network activities for sustainable development of the network	3.42	.805	3.35	.835	.469	223	.639
Total	**3.60**	**.575**	**3.61**	**.522**	**-.186**	**223**	**.852**

According to the table 16, if the training participants' sex was different, the training participants' application of the training knowledge to duty performance was not different.

Table 17 Comparison of the training participants' application of the knowledge to duty performance after the training presented in various aspects classified by the training participants' age

(n = 225)

Training topics		df	SS	MS	F	P
1. Importance, meaning, and benefits of teamwork	Among group	3	2.207	.736	1.930	.126
	Within group	221	84.211	.381		
	Total	224	86.418			
2. Teamwork components	Among group	3	.335	.112	.329	.804
	Within group	221	74.925	.339		
	Total	224	75.260			
3. Teamwork methods	Among group	3	.306	.102	.180	.910
	Within group	221	125.143	.566		
	Total	224	125.449			
4. Joint practice guidelines of teamwork	Among group	3	1.032	.344	.970	.408
	Within group	221	78.375	.355		
	Total	224	79.406			
5. Importance, meaning, and benefits of the network	Among group	3	1.550	.517	.931	.426
	Within group	221	122.601	.555		
	Total	224	124.151			
6. Network components	Among group	3	.615	.205	.427	.734
	Within group	221	106.117	.480		
	Total	224	106.732			
7. Methods of working together as the network	Among group	3	.664	.221	.328	.805
	Within group	221	149.138	.675		
	Total	224	149.802			
8. Network activities for sustainable development of the network	Among group	3	.817	.272	.413	.744
	Within group	221	145.819	.660		
	Total	224	146.636			
Total	**Among group**	**3**	**.503**	**.168**	**.523**	**.667**
	Within group	**221**	**70.825**	**.320**		
	Total	**224**	**71.328**			

According to the table 17, if the training participants' age was different (below 30 years old, 30-40 years old, 41-50 years old, and over 50 years old), the training participants' application of the training knowledge to duty performance was not different.

Table 18 Comparison of the training participants' application of the knowledge to duty performance after the training presented in various aspects classified by the training participants' education

(n = 225)

Training topics		df	SS	MS	F	P
1. Importance, meaning, and benefits of teamwork	Among group	2	.188	.094	.242	.785
	Within group	222	86.230	.388		
	Total	224	86.418			
2. Teamwork components	Among group	2	.555	.277	.824	.440
	Within group	222	74.705	.337		
	Total	224	75.260			
3. Teamwork methods	Among group	2	.552	.276	.490	.613
	Within group	222	124.897	.563		
	Total	224	125.449			
4. Joint practice guidelines of teamwork	Among group	2	.484	.242	.681	.507
	Within group	222	78.922	.356		
	Total	224	79.406			
5. Importance, meaning, and benefits of the network	Among group	2	1.750	.875	1.587	.207
	Within group	222	122.401	.551		
	Total	224	124.151			
6. Network components	Among group	2	.778	.389	.815	.444
	Within group	222	105.954	.477		
	Total	224	106.732			
7. Methods of working together as the network	Among group	2	.791	.396	.590	.555
	Within group	222	149.011	.671		
	Total	224	149.802			
8. Network activities for sustainable development of the network	Among group	2	1.705	.852	1.306	.273
	Within group	222	144.931	.653		
	Total	224	146.636			
Total	**Among group**	**2**	**.440**	**.220**	**.689**	**.503**
	Within group	**222**	**70.887**	**.319**		
	Total	**224**	**71.328**			

According to the table 18, if the training participants' education was different such as the education below the bachelor degree, the bachelor degree, and over the bachelor degree, the training participants' application of the training knowledge to duty performance was not different.

Table 19 Comparison of the training participants' application of the knowledge to duty performance after the training presented in various aspects classified by the training participants' group

(n = 225)

Training topics		df	SS	MS	F	P
1. Importance, meaning, and benefits of teamwork	Among group	2	.764	.382	.990	.373
	Within group	222	85.654	.386		
	Total	224	86.418			
2. Teamwork components	Among group	2	.361	.181	.536	.586
	Within group	222	74.899	.337		
	Total	224	75.260			
3. Teamwork methods	Among group	2	.175	.087	.155	.856
	Within group	222	125.274	.564		
	Total	224	125.449			
4. Joint practice guidelines of teamwork	Among group	2	.229	.114	.320	.726
	Within group	222	79.178	.357		
	Total	224	79.406			
5. Importance, meaning, and benefits of the network	Among group	2	1.284	.642	1.160	.315
	Within group	222	122.867	.553		
	Total	224	124.151			
6. Network components	Among group	2	.918	.459	.963	.383
	Within group	222	105.813	.477		
	Total	224	106.732			
7. Methods of working together as the network	Among group	2	1.310	.655	.979	.377
	Within group	222	148.493	.669		
	Total	224	149.802			
8. Network activities for sustainable development of the network	Among group	2	1.603	.802	1.227	.295
	Within group	222	145.033	.653		
	Total	224	146.636			
Total	**Among group**	**2**	**.556**	**.278**	**.873**	**.419**
	Within group	**222**	**70.771**	**.319**		
	Total	**224**	**71.328**			

According to the table 19, if the training participants' position was different such as the positions of officials of the local administrative organization, mine operators, and officials of the Primary Industries and Mines Section, the training participants' application of the training knowledge to duty performance was not different.

Table 20 Correlation between the training participants' knowledge and understanding of the course and application of the training knowledge to duty performance

	n	Knowledge and understanding	Application of knowledge
Knowledge and understanding	225	1.000	.660
Application of knowledge	225	.660	1.000

According to the table 20, the training participants' knowledge and understanding correlated with application of the knowledge after the training at the significant level of 0.001.

Table 21 Percentage of the opinion on teamwork and network administration after the training

(n = 225)

Studied issues	Opinion Level		
	High	**Medium**	**Low**
1. You have better attitude toward teamwork and network administration after the training	**159 (70.7)**	61 (27.1)	5 (2.2)
2. You have preparedness to jointly work with network members after the training	**145 (64.4)**	75 (33.3)	5 (2.2)
3. You have more preparedness to perform duties after the training	**155 (68.9)**	65 (28.9)	5 (2.2)
4. You have better leaders for teamwork and network administration	89 (39.6)	**113 (50.2)**	23 (10.2)

According to the table 21, the training participants' opinion on teamwork and network administration after the training could be concluded as follows; the training participants considerably had good attitude toward teamwork and network administration. There were 159 respondents (70.7%). After the training, the training participants considerably had preparedness in jointly working with network members. There were 145 respondents (64.4%). After the training, the training participants considerably had more preparedness in performing duties. There were 155 respondents (68.9%). After the training, there were moderate leaders in teamwork and network administration. There were 133 respondents (50.2%).

Table 22 Percentage of the opinion on teamwork and network administration after the training

(n = 225)

Studied issues	Behavior	
	Coordinate	**Non-coordinate**
5. Coordination among 3 groups who are officials of the local administrative organization, officials of the Primary Industries and Mines Section, and mine operators after the training	**134 (59.6)**	91 (40.4)
6. You consult network members when you have working problems	**119 (52.9)**	106 (47.1)
7. The network meeting after the training	35 (15.6)	**190 (84.4)**
8. You receive any convenience in mutual coordination after the training	**165 (73.3)**	60 (26.7)
9. You apply the meeting knowledge to duty performance after the meeting	**165 (73.3)**	60 (26.7)

According to the table 22, after the training, the training participants coordinated (59.6%). When the training participants had the working problems, they consulted network members (52.9%). After the training, the training participants did not arrange the network meeting (84.4%). After the training, the training participants received convenience in coordination (73.3%). After the training, the training participants applied the meeting knowledge to duty performance (73.3%)

Section 4 Compilation of opinion on development of the tri-partite seminar course for environmental surveillance

Table 23 Opinion on development of the tri-partite seminar course for environmental surveillance on the problems of application of the knowledge of teamwork

Item	Details	Frequency
1	The training participants were used to being responsible for their work only. They still depended on command system.	29
2	Personnel unequally had knowledge and capacity, seldom gave cooperation, and did not accept other people's opinion.	22
3	Personnel argued and lacked harmony due to different thought and concept.	19
4	Personnel seldom had time and slightly worked together.	14
5	Personnel did not continuously work together as a team.	14
6	Personnel were mutually considerate due to several agencies and different duties.	12
7	Personnel late made decision and late saw performance.	12

As for the training participants' opinion on development of the tri-partite seminar course for environmental surveillance for the problems of application of the knowledge of teamwork, 29 training participants still had the problems of teamwork and participation due to the following reasons; The training participants were used to being responsible for their work only. They still depended on the command system. 22 training participants expressed their opinion that personnel unequally had knowledge and capacity. They seldom gave cooperation. And they did not accept other people's opinion. 19 training participants expressed their opinion that personnel argued and lacked harmony due to different thought and concepts.

Table 24 Opinion on development of the tri-partite seminar course for environmental surveillance for the problem of application of the knowledge on network administration

Item	Details	Frequency
1	There were no leaders. There was no coordination and communication among the networks.	32
2	As it was far from the community, communication was not convenient.	17
3	There was no cooperation.	15
4	Network members seldom had time to mutually meet because they had their own work.	13
5	The networks did not mutually contact and interact with the organizations.	13
6	As personnel did not have the knowledge of network, they were not interested.	12
7	There was no establishment of the network due to lack of coordinators or leaders.	12
8	As it was in the initial stage, members did not clearly face problems.	11
9	Personnel slightly had duties and time to perform duties in the area.	11

The training participants' opinion on development of the tri-partite seminar course for environmental surveillance on the problems of application of the knowledge of network administration was as follows; 32 training participants expressed their opinion that there were no leaders, coordination, and communication among the networks. 17 training participants expressed their opinion that as it was far from the community, communication was not convenient. 15 training participants expressed their opinion that there was no cooperation.

Table 25 Opinion on development of the tri-partite seminar course for environmental surveillance on recommendations about application of the knowledge of teamwork

Item	Details	Frequency
1	The meeting should frequently be held for exchanging problems in order to create understanding among the organizations which performed duties and coordinated.	31
2	People's attitude and understanding should be adjusted to be consistent. Goals should be clearly determined so that everybody had the same goals.	28
3	Members had to be brave to express opinion. They had to know to accept other people's opinion. They had to be mutually sincere. And they should not be mutually biased.	25
4	Practice guideline framework and practice time should be clearly determined.	23
5	Members had to have good human relation and honestly work.	22
6	Members had to clearly communicate.	17
7	Members had to mutually coordinate and hold the meeting in order to know problems and problem-solving guidelines.	12
8	Members had to determine legal articles and working regulations to be consistent with participation principles.	12
9	Members should select suitable people for the right job so that these people successfully worked according to the specified goals.	12
10	Members should have time to practice teamwork and understand the problem of teamwork.	11
11	Members should always and continuously worked.	11

The training participants' opinion on development of the tri-partite seminar course for environmental surveillance on recommendations about application of the

knowledge of teamwork was as follows; 31 training participants expressed their opinion that the meeting should be frequently held for exchanging problems in order to create understanding among the organizations which performed duties or coordinated. 28 training participants expressed their opinion that people's attitude and understanding should be adjusted to be consistent. Goals should be clearly determined so that everybody could have the same goals. 25 training participants expressed their opinion as follows; Members had to be brave to express opinion. They had to know to accept other people's opinion. They had to be mutually sincere. They should not be mutually biased.

Table 26 Opinion on development of the tri-partite seminar course for environmental surveillance on recommendations about application of the knowledge of network administration

Item	Details	Frequency
1	The central organization/ leaders should connect among the networks.	35
2	Network activities should be continuously arranged.	31
3	The meeting should be more considerably held to meet the networks in order to create knowledge, help solve problems, and more create more familiarity.	29
4	The networks gathered together to exchange knowledge, meet, know problems and jointly find solution. This made the networks knew problems and need which would lead to solution.	24
5	Good relationship had to be mutually created.	23
6	Mutual help should be willingly given.	21
7	It was a good working method which people could exchange problems and obstacles in each area in order to be applied to duty performance.	19
8	The knowledge and understanding of network should be first given.	18

The training participants' opinion on development of the tri-partite seminar course for environmental surveillance on recommendations about application of the knowledge of network administration was as follows; 35 training participants expressed their opinion that the central organization/ leaders should connect among the networks. 31 training participants expressed their opinion that network activities should be continuously arranged. 29 training participants expressed their opinion that the meeting should be more considerably held to meet the networks, create knowledge, help solve problems, and create more familiarity.

Table 27 Opinion on development of the tri-partite seminar course for environmental surveillance on mutual coordination after the training

Item	Details	Frequency
There was no coordination due to the following reasons;		
1	There was no coordination due to lack of leaders.	21
2	There was no mining in the area.	18
3	Problems did not occur.	16
4	There was no response or recommendations from the Primary Industries and Mines Section.	11
5	There was not the Primary Industries and Mines Section in the area.	7
6	The local administrative organization had a lot of duties.	5
There was coordination in the following issues;		
1	Compliance with the duty of transfer and environmental impacts surveillance.	44
2	The problems of impacts of operators, the local administrative organization, and people	36
3	Making appointment for mobile meeting	32
4	Application for the concession card for mining	26
5	Report	22
6	License renewal	21
7	Information on operators	15
8	Networks and other local administrative organization	12

Table 27 Opinion on development of the tri-partite seminar course for environmental surveillance on mutual coordination after the training (Cont.)

Item	Details	Frequency
9	Storing the rock exploding object	10
10	Complaint (examining the environmental problems)	7

The training participants' opinion on development of the tri-partite seminar course for environmental surveillance on mutual coordination after the training. For the issue of "There was no coordination", 21 training participants expressed their opinion that there was no coordination due to lack of leaders. 18 training participants expressed their opinion that there was no mining in the area. 16 training participants expressed their opinion that the problems did not occur. For the issue of "There was coordination", 44 training participants expressed their opinion on compliance with the duties of transfer and environmental impact surveillance. 36 training participants expressed their opinion on the problems of impacts of operators, the local administrative organization, and people. And 32 training participants expressed their opinion on making appointment for mobile meeting.

Table 28 Opinion on development of the tri-partite seminar course for environmental surveillance on recommendations about course development

Item	Details	Frequency
1	There should always be the training or meeting such as once a year in order to better the working system. There should be mutual help and solution in each area.	35
2	The mining knowledge should be increased. There should be the study tour at the mine.	27
3	Group of the training participants should be diversely increased.	19

Table 28 Opinion on development of the tri-partite seminar course for environmental surveillance on recommendations about course development (Cont.)

Item	Details	Frequency
4	There should be opening of the course in the province in order to bring about easier coordination in the province.	13
5	The meeting should be frequently held. The community representatives should be allowed to jointly observe/ meet every time.	12
6	Conscience should be instilled to every related parties in order develop capacity by using the training knowledge.	11
7	The topics of creation of strong teamwork and a follow-up study on coordination between teamwork and networks should be increased.	10

The training participants' opinion on development of the tri-partite seminar course for environmental surveillance on recommendations about the course development was as follows; 35 training participants expressed their opinion that there should always be the training or meeting such as once a year in order to better the working system. There should be mutual help and solution in each area. 27 training participants expressed their opinion that the knowledge of mining should be increased. There should be the study tour at the mines. 19 training participants expressed their opinion that group of the training participants should be diversely increased.

Table 29 Opinion on development of the tri-partite seminar course for environmental surveillance on opinion on course development

Item	Details	Frequency
1	There should be the training every year. The training time should be increased.	37
2	The contents of mining should be increased.	26
3	There should be training of the environmental agency 1-2 times per year. Villagers in each region should be allowed to participate in the training.	24
4	The meeting should be held every year in order to know problems and develop the course.	21
5	Companies should send staff to receive the training so that these staff could apply the knowledge in the companies and better the environment.	18
6	There should be review or training of the course review.	15
7	There should be continuous training for stimulating the local administrative organization to see importance of the environment.	11

The training participants' opinion on development of the tri-partite seminar course for environmental surveillance on opinion on course development was as follows; 37 training participants expressed their opinion that there should be the training every year. And the training time should be increased. 26 training participants expressed their opinion that the contents of mining should be increased. 24 training participants expressed their opinion that there should be training of the environmental agency 1-2 times per year. Villagers in each region should be allowed to participate in the training.

CHAPTER V

DISCUSSION

The objective of this research was to follow up the tri-partite seminar course training for environmental surveillance of the local administrative organization having the concession card and the concession card application, the Primary Industries and Mines Section, and mine operators. These 3 groups consisted of 225 people who were the sample group. The research results covered the interesting issues for discussion as follows;

Discussion

1. Results of studying the training participants having different sex by comparing with knowledge and understanding and application of the knowledge to duty performance after the training

As for the research results of this part, if the training participants' sex was different, the training participants' knowledge and understanding and application of the knowledge to duty performance after the training were not different. The research results were not consistent with the specified research hypothesis. The male and female training participants' knowledge and understanding and application of the knowledge after the training were not different. Different sex was not an obstacle of learning. Both sex could equally work by depending on each person's working capacity, chance, and intention. As the training participants had the same objectives to create team and administrate the mine networks, their knowledge and understanding and application of the knowledge were not different. Such research results were consistent with the researches of Waraphorn Damrongrat (2003), Wilailak Phinitbunphakorn (2003), and Jessadaphorn Wiriyasakulthorn (2004) but were not consistent with the research of Jutamas Jaiprom (2003) who found that sex affected application of the knowledge after the training.

2. Results of studying the training participants having different age by comparing with knowledge and understanding and application of the knowledge to duty performance after the training

As for the research results of this part, if the training participants' age was different, the training participants' knowledge and understanding and application of the knowledge to duty performance after the training were not different. The research results were not consistent with the specified research hypothesis. The research result conclusion found that if the training participants' age was different, the training participants' knowledge and understanding of the training contents and application of the training knowledge were not different. This was because the training participants were adults, had preparedness, could well control emotion, had high responsibility, had leadership, could solve various problems, had preparedness of behavior and experience, therefore, opinion in general was not different. Such research results were consistent with the researches of Suchart Angsuchote (2003), Waraphorn Damrongrat (2003), and Praphee Khaphrikthai (1996) but were not consistent with the research of Kriengsak Liengwanphorn (2003) who found that age affected the training participants' knowledge and understanding.

3. Results of studying the training participants' different education by comparing with knowledge and understanding and application of the knowledge to duty performance after the training

As for the research results of this part, if the training participants' education was different, the training participants' knowledge and understanding and application of the knowledge to duty performance after the training were not different. The research results were not consistent with the specified research hypothesis. The research result conclusion found that if the training participants' education was different, the training participants' knowledge and understanding after the training was not different. As most training participants graduated with the bachelor degree, they well learnt the training. As they worked in the organization for several years, they had experience so they could understand the training course. As the knowledge obtained from this course would be beneficial to working of the training participants in every education levels, the training participants intended to learn in order to receive the

highest benefits. Such research results were consistent with the researches of Waraphorn Damrongrat (2003), Suchart Angsuchote (2003), Praphee Khaphrikthat (1996), and Prathuang Sapkerd (1998 : 289; cited from Day. 1971) who said that an important component of adults' learning was that valuable experience helped people utilize such knowledge. However, such research results were not consistent with the research of Jutamas Jaiprom (2003) who found that education affected application of the knowledge after the training.

4. Results of studying different groups of the training participants by comparing with knowledge and understanding and application of the knowledge to duty performance after the training

As for the research results of this part, if the training participants' group was different, the training participants' knowledge and understanding and application of the knowledge to duty performance after the training were not different. The research results were not consistent with the specified research hypothesis. The research result conclusion found that if the training participants' group was different, the training participants' knowledge and understanding of the training contents and application of the knowledge were not different. As the course contents were arranged from easy contents to difficult contents, different groups of the training participants could well understand the contents. Most training participants were officials of the local administrative organization. They would directly receive benefits of this training because they had to cooperate with officials of the Primary Industries and Mines Section and the mine operators by working together as a team and administrating the networks in order to consult about the problems of working in the transferred duty. Mine operators would be examined and followed up by the local administrative organization. Officials of the Primary Industries and Mines Section were also willing to give help and consultation. The research results were consistent with the researches of Wilailak Phinijbunphakorn (2003), Jessadaphorn Wiriyasakulthorn (2004), and Waraphorn Damrongrat (2003) who found that if the position was different, duty performance was not different. However, the research results were not consistent with the researches of Korbsuk Atthi (2000) and Prathuang Sapkerd (1998) who found that group of the training participants affected application of the knowledge to duty performance after the training.

5. Results of studying the training participants' knowledge and understanding of the tri-partite seminar course for environmental surveillance and application of the training knowledge to duty performance

As for the research results for this part, the training participants' knowledge and understanding of the tri-partite seminar course for environmental surveillance correlated with application of the training knowledge to duty performance at the significant level of 0.001. The research results were consistent with the specified research hypothesis. This was because the contents of the training course were beneficial and could be really applied. There were several activities for the training participants to mutually exchange experience on the working problems and obstacles. If the training participants applied the training knowledge to duty performance, this would bring about effective working. As officials of the local administrative organization changed their roles to perform duty about the mine which was a new issue for the organization and had to contact other agencies such as mine operators and the Primary Industries and Mines Section, 3 groups of the training participants intended to learn the learning process of the training course in order to apply the training results which were the network working guidelines after the training. Such research results were consistent with the researches of Sumalee Amphairat (2003) and Waraphorn Damrongrat (2003) who found that knowledge and understanding of the training course on administration of the sub-district administrative organization correlated with application of the training knowledge to duty performance.

The training participants considerably had knowledge and understanding in every aspect due to the following reasons;

1. Most training participants graduated with the bachelor degree – over the bachelor degree. This indicated that knowledge brought about good learning. Moreover, 3 groups of the training participants intended to learn the course contents in order to apply the knowledge to real duty performance. Both factors made the training participants considerably had knowledge and understanding of the course contents.

2. The training models consisted of arrangement of the learning activities, relationship group activities, and sub-group meeting. There were arrangement of the

activities which were diversified and suitable for the course contents. Therefore, the training participants interacted, had basic skills of teamwork and network administration, and determined guidelines of working as the network before real practice.

The training participants considerably applied the knowledge of teamwork. They moderately applied the knowledge of network administration because they had to do a lot of work after the training so they did not coordinate as the networks. They had no leaders. Communication in some area was not convenient. Personnel did not understand about the networks so they were not interested.

The networks occurred due to members' joint goal determination. Members had different roles and duties. After members perceived joint goals or problems, members of each section adjusted and expressed roles according to their potential in order to respond to the network goals by creation of cooperation and coordination without waiting for any command.

The network working problems and obstacles after following up the course training were as follows;

1. There were no leaders and coordination among the networks.
2. As it was far from the community, communication was not convenient.
3. Members did not mutually cooperate and understand.
4. Members seldom had time to meet each other because they had to be responsible for their work.
5. The networks lacked interaction.
6. Personnel in the agency did not have the knowledge of network so they were not interested.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The objective of this research was to follow up the tri-partite seminar course training for environmental surveillance of the local administrative organization having the concession card and the concession card application, the Primary Industries and Mines Section, and mine operators

Research Result Conclusion

The tri-partite seminar course training for environmental surveillance was suitable for giving the information in various aspects as follows;

1. Teamwork

The study results found that the training participants who were the sample group were consistent with the specified objectives. The training participants had knowledge and understanding of the training course contents and applied the training knowledge to duty performance after the training in various aspects as follows; importance, meaning, and benefits of teamwork, teamwork components, teamwork methods, and joint practice guidelines of teamwork. This training stimulated the training participants to more considerably work together as a team. The training participants might use these training models to create the organization culture on teamwork in order to more considerably strengthen their organization.

2. Creation of the mine environmental management network

The study results found that the training participants who were the sample group were consistent with the specified objectives. The training participants had knowledge and understanding of the training course contents and applied the training knowledge to duty performance after the training in various aspects as follows; importance and benefits of the networks, network components, methods of working together as the networks, and network activities for sustainable development of the

network. This training stimulated the training participants to create the mine environmental management network. This was because network creation encouraged members to mutually accept opinion, arrange roles and duties of the networks, and jointly learnt. Moreover, it created good relationship and created their network to be wider.

3. General information

225 training participants were the sample group. 181 training participants were male (80.40%). 44 training participants were female (19.60%). 93 respondents were 30-40 years old (41.30%). 70 respondents were 41-50 years old (31.10%). 32 respondents were over 50 years old (14.20%). 30 respondents were below 30 years old (13.30%). 136 respondents' education was bachelor degree (60.40%). 56 respondents' education was below the bachelor degree (24.90%). 33 respondents' education was over the bachelor degree (14.70%). As for group of the training participants, there were 153 officials of the local administrative organization (68.0%), 44 mine operators (19.60%), and 28 officials of the Primary Industries and Mines Section (12.40%).

4. Comparison of the mean of knowledge and understanding and application of the training knowledge to duty performance after the training

The training participants considerably had knowledge and understanding and application of the knowledge in general (X = 3.67). As for consideration of each aspect, the training participants most had knowledge and understanding of importance, meaning, and benefits of teamwork (X = 4.12). The training participants considerably had knowledge and understanding of joint practice guidelines of teamwork (X = 3.84). The training participants considerably had knowledge and understanding of importance, meaning, and benefits of the networks (X = 3.82).

5. Comparison between knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training classified by sex, age, education, position

5.1 According to comparison results, if the training participants' sex was different, the training participants' knowledge and understanding of the contents

of the tri-partite seminar training course for environmental surveillance was not different. According to the research results, the training participants had knowledge and understanding of importance, meaning, and benefits of teamwork, teamwork components, teamwork methods, joint practice guidelines of teamwork, importance, meaning, and benefits of the networks, network components, methods of working together as the networks, and network activities for sustainable development of the networks. If the training participants' sex was different, the training participants' knowledge and understanding in various aspects was not different.

5.2 Results of comparing the training participants' different age and knowledge and understanding of teamwork and network administration were as follows; if the training participants' age was different, the training participants' knowledge and understanding in various aspects was not different.

5.3 Results of comparing the training participants' different education and knowledge and understanding of teamwork and network administration were as follows; if the training participants' education was different, the training participants' knowledge and understanding was not different.

5.4 Results of comparing the training participants' different groups and knowledge and understanding of teamwork and network administration were as follows; if group of the training participants was different, the training participants' knowledge and understanding in various aspects was not different.

5.5 Results of comparing the training participants' different sex and application of the training knowledge and experience to duty performance on teamwork and network administration were as follows; if the training participants' sex was different, the training participants' application of the training knowledge and experience to duty performance was not different.

5.6 Results of comparing the training participants' different age and application of the training knowledge and experience to duty performance on teamwork and network administration were as follows; if the training participants' age was different, the training participants' application of the training knowledge was not different.

5.7 Results of comparing the training participants' different education and application of the training knowledge and experience to duty performance on teamwork and network administration were as follows; if the training participants' education was different, the training participants' application of the training knowledge was not different.

5.8 Results of comparing the training participants' different group and application of the training knowledge and experience to duty performance on teamwork and network administration were as follows; if the group of the training participants was different, the training participants' application of the training knowledge was not different.

5.9 According to comparison results, the training participants achieved the training objectives by having opinion on teamwork and network administration after the training and having more coordination. The training participants expressed opinion after the training as follows; they considerably had preparedness in performing duties. They considerably had good attitude toward teamwork and network administration. And they considerably had more preparedness in performing duties.

According to the research results, the training participants achieved the training objectives by having attitude and behavior after the training. The training participants more considerably coordinated and worked together as the networks

6. Correlation between the training participants' knowledge and understanding of the tri-partite seminar course for environmental surveillance and application the training knowledge to duty performance

The research results found that the training participants' knowledge and understanding of the tri-partite seminar course for environmental surveillance correlated with application of the training knowledge to duty performance at the significant level of 0.001.

7. The training participants' opinion / recommendations

7.1 The training participants' opinion on the problems of application of the knowledge of teamwork was as follows; The training participants still had the problems of teamwork and participation because they were used to being responsible

for their duties and still depended on the command system. Personnel had unequal knowledge and capacity. They seldom gave cooperation. They did not accept other people's opinion. They argued and lacked harmony due to different thought and concepts.

7.2 The training participants' opinion on the problems of application of knowledge of network administration was as follows; There were no leaders. There was no coordination and communication among the networks. As it was far from the community, communication was not convenient. And there was no cooperation.

7.3 The training participants' opinion on recommendations about application of the knowledge of teamwork was as follows; the meeting should be frequently held for exchanging problems in order to create understanding among the organizations which worked or coordinated. People's attitude and understanding should be first adjusted. Goals should be clearly determined so that everybody had the same goals. Members had to be brave to express opinion. They had to accept other people's opinion. They had to be mutually sincere. And they should not be mutually biased.

7.4 The training participants' opinion on recommendations about application of the knowledge of network administration was as follows; the central organization / leaders should connect among the networks. Network activities should be continuously arranged. The meeting should be more considerably held to meet the networks in order to create knowledge, help solve problems, and create more familiarity.

7.5 The training participants' opinion on coordination after the training was as follows; as for the issue of "There was no coordination", the training participants expressed opinion that there was no coordination due to lack of leaders. There was no mining in the area. Problems did not occur. As for the issue of "There was coordination", the training participants expressed opinion that there were coordination on compliance with the duty of transfer and environmental impact surveillance, problems about impacts of operators, officials of the local administrative organization, and people, and making appointment of mobile meeting.

7.6 The training participants' opinion on recommendations about course development was as follows; There should always be training or meeting once a year in order to better the working system. There should be mutual help and solution in each area. The knowledge of mining should be increased. There should be the study tour at the mines. Group of the training participants should be increased.

7.7 The training participants' opinion on opinion on course development was as follows; there should be training every year. The training time should be increased. The mining contents should be increased. The training of environmental agency should be arranged 1-2 times per year. Villagers in each region should be allowed to participate in the training.

Opinion / recommendations about the training were as follows; there should be more training. The group meeting should always be held. According to such results, the training participants thought and intended to work together as a team and were ready to create the working network. If the training arrangers arranged the meeting and follow up the training participants, this enabled the training participants to expand the obtained knowledge and create more benefits to their organization.

Recommendations

As for the study of the research results of " A Follow-up Study on the Tri-partite Seminar Course Training for Environmental Surveillance" which was an important topic of the research, the training follow-up was beneficial to the tri-partite seminar course training for environmental surveillance and was perfect according to the technical principles because it covers creation, use, and training follow-up. Moreover, it was the information for the local administrative organization's 2005 participation promotion program on mineral management and environmental conservation to improve and develop the training to be more efficient. Presentation of training follow-up is a guideline for people who are interested to follow up the training in similar program. A part of implementation this time was satisfying. The training participants had good attitude and well gave cooperation in the training in general. The researcher had the following recommendations;

1. This training follow-up indicated that the training participants considerably had knowledge and understanding of the training course contents and considerably applied the training knowledge to duty performance after the training. This meant that the training participants worked together as a team and created more working networks. This was the beginning of being a model for various agencies and organizations to work together as a team and create the network in the future.

2. As for the training of this course, the training time should be increased. As there were a lot of training participants, the training participants had little time to know each other. There should be more groups of the training participants.

3. As for the training of this course for the next time, there should be increase of the topics of creation of strong team, team – network coordination follow-up, and problems and obstacles of working together as the networks.

4. Villagers in each region should be allowed to participate in the training. As villagers live near the mining area, the villagers should be allowed to jointly perceive, listen to opinion in order to mutually help solve various problems. This creates cooperation to every party.

5. Giving the training information is an important part for creating good understanding of objectives and practice policy in order to bring about perception and capacity to apply the knowledge to duty performance after the training. Related people should widely and continuously give information.

6. Coordination in every section should be clear and is in the same direction. Creation of good understanding of implementation brings about successful implementation according to the specified objectives.

Recommendation for the Further Studies

1. There should be the study that how much the course is suitable for the training participants and the community in order to be improved for the next chance.

2. There should always be training participant follow-up in order to study that how much the training participants apply the knowledge to duty performance and how much the training participants change behavior after the training.

3. This kind of research should be done again by studying suitable dependent variables such as position, working duration, working area and the level of achievement of the course objectives, independent variables of sustenance of the learning results after the training, and impacts which the society derives from the training.

4. This kind of research should be done again by using the research methods which are more efficient. For example, there should be more interviews for data collection. As for design of the research tool, the tool should be tried out with more groups.

5. This kind of research should be done again by quantitative research. Statistical data should be analyzed by thinking of data suitability. For example, size of the sample group classified by dependent variables should have approximate number. Statistical methods should be used by thinking of basic agreement.

6. This kind of research should be done again by emphasizing qualitative research such as using anthropological methods

BIBLIOGRAPHY

Beryl Morris. (1993). Training and Development for Women. Library Association Publishing Ltd. London WC1E7AE.

Good, C.V. (1973). Dictionary of Education. (3rd ed.) New York : McGraw-Hill Book.

Gronlund, Norman E. (1971). Measurement and Evaluation in Teaching. (2nd ed.) New York : Macmillan.

Michael Maginn. (2005). Making Teams Work : 24 Lessons for Working Together Successfully. McGraw-Hill International Enterprises, Inc.

Micheal J. Jucius. (1971). Personnel Management. Illinois : Richard D.Irwin.Inc.

Tony Pont. (1991). Developing Effective Training Skills. London : McGraw-Hill Book Company (UK) Limited.

Tracey, William R. (1971). Designing Training and Development System. New York : American Management Association, Inc.

Available URL: http://www.cdd.go.th/chumchon/total_knowledge.htm.

Available URL: http://www.hrcenter.co.th/HRKnowView.asp?id=367

Available URL: http://www.southnfe.go.th/management_03.htm

เกรียงศักดิ์ เจริญวงศ์ศักดิ์. (2543). การจัดการเครือข่าย : กลยุทธ์สำคัญสู่ความสำเร็จของการปฏิรูปการศึกษา. กรุงเทพมหานคร : ซัคเซส มีเดีย.

เกรียงศักดิ์ เลี้ยงวัณพร. (2546). ความรู้ความเข้าใจและทัศนคติของเจ้าของรถที่มีต่อการประกันภัยตามพระราชบัญญัติคุ้มครองผู้ประสบภัยจากรถ พ.ศ.2535 เขตจังหวัดนครปฐม. ปริญญาศิลปศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย สถาบันราชภัฏนครปฐม.

เกษม ปิยะทรงสุทธิ์. (2546). การติดตามผลการดำเนินงานโครงการส่งเสริมเยาวชนดีเด่นด้านกีฬามหาวิทยาลัยมหิดล. วิทยานิพนธ์ปริญญาศิลปศาสตรมหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล.

กอบสุข อัตถิ. (2543). การติดตามผลการนำความรู้ไปใช้ของผู้ผ่านการอบรมหลักสูตรวิชาชีพระยะสั้นจากวิทยาลัยสารพัดช่าง. ปริญญาศึกษาศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยศิลปากร.

เจษฎาภรณ์ วิริยะสกุลธรณ์. (2547). การติดตามผลผู้เข้ารับการฝึกอบรม ขั้นหัวหน้าผู้ให้ การฝึกอบรมวิชาผู้กำกับลูกเสือ ของสำนักงานคณะกรรมการบริหารลูกเสือแห่งชาติ. สารนิพนธ์ปริญญาการศึกษามหาบัณฑิต บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒ ประสานมิตร.

จุฑามาส ใจพรหม. (2546). การติดตามผลการนำความรู้ไปใช้ของผู้บริหารระดับต้นเขต 4 ที่ผ่านการอบรมหลักสูตรผู้บริหารการสาธารณสุขระดับต้น. วิทยานิพนธ์ปริญญาศึกษาศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล.

จุรีวรรณ อัตตสัมพันธ์. (2539). การศึกษาความคิดเห็นของนักศึกษาเกษตรครบวงจร และผู้เกี่ยวข้องที่มีต่อโครงการอบรมเกษตรครบวงจร ของศูนย์ฝึกและพัฒนาอาชีพราษฎรไทยบริเวณชายแดน จังหวัดปราจีนบุรี. ปริญญานิพนธ์ปริญญาการศึกษามหาบัณฑิต บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒ ประสานมิตร.

โฉมเพ็ญ สนธยานนท์. (2527). การติดตามผลการฝึกอบรมผู้บังคับบัญชาระดับกลาง หลักสูตรการบริหารงานเพื่อพัฒนาองค์การของโรงงานยาสูบ กระทรวงการคลัง. สารนิพนธ์ปริญญารัฐศาสตร์มหาบัณฑิต, มหาวิทยาลัยธรรมศาสตร์.

ชาญ สวัสดิ์สาลี. (2540). คู่มือการประเมินและติดตามผลการฝึกอบรม (พิมพ์ครั้งที่ 3). กรุงเทพมหานคร : สวัสดิการสำนักงาน ก.พ.

_____. (2544). คู่มือการนักฝึกอบรมมืออาชีพ : การจัดดำเนินการฝึกอบรมอย่างมีประสิทธิผล (พิมพ์ครั้งที่ 3). กรุงเทพมหานคร : สวัสดิการสำนักงาน ก.พ.

เชียรศรี วิวิธศิริ. (2534). จิตวิทยาการเรียนรู้ผู้ใหญ่. ภาควิชาการศึกษาผู้ใหญ่ คณะศึกษาศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ.

ณัฏฐพันธ์ เขจรนันทน์. (2543). การประเมินผลงานฝึกอบรม : การตรวจสอบความสำเร็จของการพัฒนาทรัพยากรมนุษย์ในองค์กร. กรุงเทพมหานคร : ธีระป้อมวรรณกรรม.

_____. (2544). การประเมินผลงานฝึกอบรม. กรุงเทพมหานคร : ธีระป้อมวรรณกรรม.

ณัฐวุฒิ เพ็ชรพรหมศร. (2536). การติดตามผลการฝึกอบรมของนักศึกษา หลักสูตรนักปกครองระดับสูง วิทยาลัยการปกครองรุ่น 25 26 และ 27. สารนิพนธ์ปริญญารัฐศาสตร์มหาบัณฑิต, มหาวิทยาลัยธรรมศาสตร์.

เต็มจิต จันทคา. (2539). การประเมินผลหลักสูตรฝึกอบรมศึกษาธิการอำเภอ ของสถาบันพัฒนาผู้บริหารการศึกษา สำนักงานปลัดกระทรวงศึกษาธิการ. วิทยานิพนธ์ปริญญาครุศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย.

นักรบ ระวังการณ์. (2540). การจัดการอบรมและการเป็นวิทยากร. นครปฐม : โครงการศึกษาต่อเนื่อง มหาวิทยาลัยมหิดล.

_____. (2548). เอกสารประกอบการอบรม หลักสูตรการประชุมสัมมนาไตรภาคีเพื่อการเฝ้าระวังสิ่งแวดล้อม.

นิพัทธ์ กานตอัมพร. (2548). เอกสารประกอบการอบรม หลักสูตรการประชุมสัมมนาไตรภาคีเพื่อการเฝ้าระวังสิ่งแวดล้อม.

นุปกรณ์ จันทราปกรณ์. (2533). การติดตามผลโครงการฝึกอบรมเจ้าหน้าที่ฝึกอบรมในหน่วยงานของสถาบันทรัพยากรมนุษย์ มหาวิทยาลัยธรรมศาสตร์. วิทยานิพนธ์ปริญญาครุศาสตร์มหาบัณฑิต, จุฬาลงกรณ์มหาวิทยาลัย.

บุญธรรม กิจปรีดาบริสุทธ์. (2527). ระเบียบวิธีการวิจัยทางสังคมศาสตร์ (พิมพ์ครั้งที่ 4). กรุงเทพมหานคร : การพิมพ์พระนคร.

ประเทือง ทรัพย์เกิด. (2541). การศึกษาความคิดเห็นของผู้ผ่านการฝึกอบรมในการนำความรู้ไปใช้จากหลักสูตรฝึกอบรมผู้บริหารสถานศึกษาระดับสูง ของศูนย์ฝึกอบรมประจำเขตการศึกษาในภาคกลาง. ปริญญานิพนธ์ปริญญาการศึกษามหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒ.

ประพีร์ ค้าพริกไทย. (2539). ความคิดเห็นของผู้เข้ารับการอบรมเกี่ยวกับโครงการฝึกอบรมครูควบคุมงานก่อสร้างโรงเรียนสังกัดกรมสามัญศึกษา. ปริญญานิพนธ์ปริญญาการศึกษามหาบัณฑิต บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒ ประสานมิตร.

ประยุทธ ใจเสงี่ยม. (2527). การติดตามผลการอบรมของครูตามโครงการอบรมครูประชากรศึกษาระดับมัธยมศึกษาตอนต้น. วิทยานิพนธ์ปริญญาศิลปศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล.

พร้อมพรรณ อุดมสินและคณะ. (2545). การติดตามผลครุศาสตรบัณฑิต สาขามัธยมศึกษา วิชาเอกคณิตศาสตร์. กรุงเทพมหานคร : คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย.

รจนา พิมพ์กรรณ. (2539). การศึกษาความคิดเห็นของผู้บริหารสถานศึกษาระดับสูงสังกัดกรมสามัญศึกษาที่มีต่อหลักสูตรการฝึกอบรมเตรียมผู้บริหารสถานศึกษาระดับสูง. ปริญญานิพนธ์ปริญญาการศึกษามหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒ.

เรวัตร์ ชาตรีวิศิษฎ์. (2546). การทำงานเป็นทีม. [CD-ROM]. กรุงเทพมหานคร : เธิร์ดเวฟ เอ็ดดูเคชั่น จำกัด.

ลักขณา พานิชศุภผล. (2530). การติดตามผลการดำเนินการฝึกอบรมโดยวิธีการสอนทางไกลหลักสูตรความรู้พื้นฐานในการปฏิบัติราชการสำหรับข้าราชการบรรจุใหม่ในส่วนภูมิภาค. วิทยานิพนธ์ปริญญาครุศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย.

ล้วน สายยศ และอังคณา สายยศ. (2536). เทคนิคการวิจัยทางการศึกษา. พิมพ์ครั้งที่ 3. กรุงเทพฯ : ศูนย์ส่งเสริมวิชาการ

วราภรณ์ ดำรงรัตน์. (2546). การติดตามผลการนำความรู้ไปปรับใช้ในการปฏิบัติงานภายหลังการฝึกอบรมทางไกล หลักสูตร การบริหารงานองค์การบริหารส่วนตำบล. วิทยานิพนธ์ปริญญาศึกษาศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยเกษตรศาสตร์.

วิจิตร อาวะกุล. (2540). การฝึกอบรม (พิมพ์ครั้งที่ 2). กรุงเทพมหานคร : ศูนย์หนังสือจุฬาลงกรณ์มหาวิทยาลัย.

วิชัย ดิสสระ. (2535). การพัฒนาหลักสูตรและการสอน. กรุงเทพมหานคร : สุวีริยาสาส์น.

วิไลลักษณ์ พินิจบุญภากร. (2546). การศึกษาเจตคติที่มีต่องานของพนักงานในบริษัทเอกชนอุตสาหกรรมเคมีแห่งหนึ่งในกรุงเทพมหานคร. สารนิพนธ์ปริญญาการศึกษามหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยศรีนครินทรวิโรฒ.

สงวน ช้างฉัตร. (2542). รายงานการวิจัย เรื่อง การพัฒนาทีมงานที่ส่งผลกระทบต่อประสิทธิผลในการดำเนินธุรกิจขนาดย่อม. พิษณุโลก : สถาบันราชภัฏพิบูลย์สงคราม.

สมคิด บางโม. (2544). เทคนิคการฝึกอบรมและการประชุม (พิมพ์ครั้งที่ 3). กรุงเทพมหานคร : วิทยพัฒน์ จำกัด.

สมคิด พรมจุ้ย. (2544). เทคนิคการประเมินโครงการ (พิมพ์ครั้งที่ 3). นนทบุรี : สำนักพิมพ์มหาวิทยาลัยสุโขทัยธรรมาธิราช.

สมชาติ กิจยรรยง. (2544). นักฝึกอบรมมืออาชีพ. กรุงเทพมหานคร : เอ็กซ์เปอร์เน็ต.

สมชาย หาญหิรัญ. (2538). ทรัพยากรธรณีกับการพัฒนาอุตสาหกรรม. กรุงเทพมหานคร : Thailand Development Research Institute Foundation.

สมประสงค์ ปิ่นจินดา. (2527). การประเมินผลการศึกษา. กรุงเทพมหานคร : สำนักพิมพ์ รุ้ง.

สมหวัง พิธิยานุวัฒน์. (2520). หลักการวัดและประเมินผล. คู่มืออาจารย์ : ด้านการเรียนการสอน. กรุงเทพมหานคร : โรงพิมพ์จุฬาลงกรณ์มหาวิทยาลัย.

สิทธิโชค วรานุสันติกูล. (2536). การพัฒนาทีมงาน. กรุงเทพมหานคร : อักษราพิพัฒน์.

สุนันทา เลาหนันทน์. (2540). การสร้างทีมงาน. กรุงเทพมหานคร : ดี.ดี. บุ๊คสโตร์.

สุนีย์ ภู่พันธ์. (2546). แนวคิดพื้นฐาน การสร้างและการพัฒนาหลักสูตร. เชียงใหม่ : สำนักพิมพ์ The Knowledge Center.

สุนทร ช่วงสุวนิช และคณะ. (2547). การประเมินและติดตามผลหลักสูตรครุศาสตรบัณฑิต (หลักสูตรปรับปรุง พ.ศ.2538) สาขามัธยมศึกษา วิชาเอกวิทยาศาสตร์. กรุงเทพมหานคร : คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย.

สุรชัย ควรเตชะคุปต์. (2532). ปัจจัยที่มีผลต่อความสำเร็จในการปฏิบัติหน้าที่สืบสวนจับกุมของเข้าหน้าที่สืบสวนชั้นประทวนในสถานีตำรวจนครบาล กรุงเทพมหานคร. วิทยานิพนธ์ปริญญาศึกษาศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยเกษตรศาสตร์.

เสน่ห์ จุ้ยโต. (2544). การฝึกอบรมเชิงระบบ. กรุงเทพมหานคร : โรงพิมพ์มหาวิทยาลัยสุโขทัยธรรมาธิราช.

หนูจันทร์ มาตา (2541). การติดตามผลการฝึกอบรมการผสมเทียมและปรับปรุงพันธุ์สุกรของเกษตรกรที่ผ่านการอบรมจากศูนย์วิจัยและฝึกอบรมการเลี้ยงสุกรแห่งชาติ. วิทยานิพนธ์ปริญญาวิทยาศาสตร์มหาบัณฑิต, บัณฑิตวิทยาลัย มหาวิทยาลัยเกษตรศาสตร์.

APPENDIX

แบบติดตามผลการฝึกอบรม
หลักสูตรการประชุมสัมมนาไตรภาคี เพื่อการเฝ้าระวังสิ่งแวดล้อม

<u>ส่วนที่ 1</u> สถานภาพของผู้ตอบแบบติดตามผลการฝึกอบรม

<u>คำชี้แจง</u> โปรดทำเครื่องหมาย ✓ ลงใน ☐ หรือเติมข้อความลงในช่องว่างที่กำหนดให้ตามความเป็นจริง

1. เพศ ☐ ชาย ☐ หญิง
2. อายุ ☐ ต่ำกว่า 30 ปี ☐ 30 – 40 ปี ☐ 41 – 50 ปี ☐ มากกว่า 50 ปี
3. การศึกษา ☐ ต่ำกว่าปริญญาตรี ☐ ปริญญาตรี ☐ สูงกว่าปริญญาตรี
4. กลุ่มของผู้เข้ารับการอบรม ☐ เจ้าหน้าที่ขององค์กรปกครองส่วนท้องถิ่น ☐ เจ้าหน้าที่ฝ่ายอุตสาหกรรมพื้นฐานและการเหมืองแร่ ☐ ผู้ประกอบการเหมืองแร่

<u>ส่วนที่ 2</u> สอบถามความรู้ความเข้าใจในเนื้อหาวิชาของหลักสูตรฝึกอบรม และการนำความรู้จากการฝึกอบรมไปปรับใช้ในการปฏิบัติงานในหน้าที่ ภายหลังการฝึกอบรมไปแล้ว

<u>คำชี้แจง</u> โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับความเห็นของท่านมากที่สุดในแต่ละข้อ

เนื้อหาวิชา	ความรู้ความเข้าใจ					การนำความรู้ไปปรับใช้				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
<u>ตอนที่ 1</u> ความสำคัญ ความหมาย และประโยชน์ของการทำงานเป็นทีม 1.1 ความสำคัญของการทำงานร่วมกันเป็นทีม										
1.2 ความหมายของการสร้างทีมงาน										
1.3 ประโยชน์ของการทำงานร่วมกันเป็นทีม										

เนื้อหาวิชา	ความรู้ความเข้าใจ					การนำความรู้ไปปรับใช้				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
<u>ตอนที่ 2</u> องค์ประกอบของการทำงานเป็นทีม										
2.1 กำหนดเป้าหมายร่วมกัน										
2.2 กำหนดบทบาทหน้าที่										
2.3 ระบบในการทำงาน										
2.4 การสร้างบรรยากาศในการทำงานร่วมกัน										
<u>ตอนที่ 3</u> วิธีการทำงานร่วมกันเป็นทีม										
3.1 เสนอความคิดในการวิเคราะห์ปัญหา										
3.2 รวบรวมข้อมูลและให้ข้อมูลซึ่งกันและกัน										
3.3 วิเคราะห์และกำหนดแนวทางในการแก้ปัญหา										
3.4 วางแผนในการปฏิบัติงาน										
3.5 ดำเนินการตามแผนงานที่กำหนดไว้										
3.6 ประเมินและติดตามผล										
<u>ตอนที่ 4</u> แนวทางปฏิบัติร่วมกันของการทำงานร่วมกันเป็นทีม										
4.1 ยอมรับความคิดเห็นของสมาชิกในทีม										
4.2 มีการติดต่อสื่อสารซึ่งกันและกัน										
4.3 มีการประสานความร่วมมือกัน										
4.4 เข้าใจและรับผิดชอบต่อบทบาทหน้าที่										
4.5 มีความรักและสามัคคี										
4.6 มีความเสียสละและเห็นแก่ประโยชน์ส่วนรวม										
4.7 มีการสร้างขวัญและกำลังใจ										
4.8 มีการให้อภัยซึ่งกันและกัน										
<u>ตอนที่ 5</u> ความสำคัญ ความหมายและประโยชน์ของเครือข่าย										
5.1 ความสำคัญของเครือข่าย										
5.2 ความหมายของเครือข่าย										
5.3 ประโยชน์ของเครือข่าย										

เนื้อหาวิชา	ความรู้ความเข้าใจ					การนำความรู้ไปปรับใช้				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
<u>ตอนที่ 6</u> องค์ประกอบของเครือข่าย 6.1 การรับรู้มุมมองร่วมกัน										
6.2 การมีวิสัยทัศน์ร่วมกัน										
6.3 การมีผลประโยชน์และความสนใจร่วมกัน										
6.4 การมีส่วนร่วมของสมาชิกเครือข่ายอย่างกว้างขวาง										
6.5 การเสริมสร้างซึ่งกันและกัน										
6.6 การพึ่งพิงกัน										
6.7 การปฏิสัมพันธ์เชิงแลกเปลี่ยน										
<u>ตอนที่ 7</u> วิธีการทำงานร่วมกันเป็นเครือข่าย 7.1 จัดบทบาทหน้าที่ของสมาชิกในเครือข่าย										
7.2 จัดระบบติดต่อสื่อสารระหว่างกัน										
7.3 จัดระบบการเรียนรู้ร่วมกัน										
<u>ตอนที่ 8</u> กิจกรรมภายในเครือข่ายเพื่อพัฒนาให้เครือข่ายยั่งยืน 8.1 จัดกิจกรรมร่วมอย่างต่อเนื่อง										
8.2 รักษาสัมพันธภาพที่ดีระหว่างสมาชิก										
8.3 สร้างระบบจูงใจ										
8.4 สนับสนุนทรัพยากร										
8.5 ช่วยเหลือ ช่วยแก้ปัญหา										
8.6 สร้างผู้นำรุ่นใหม่อย่างต่อเนื่อง										

9.1 ปัญหาเกี่ยวกับการนำความรู้เรื่องการทำงานเป็นทีมไปใช้ในการปฏิบัติงานตามภารกิจ

……

……

……

……

9.2 ปัญหาเกี่ยวกับการนำความรู้เรื่องการบริหารเครือข่ายไปใช้ในการปฏิบัติงานตามภารกิจ

……

……

10.1 โปรดให้ข้อเสนอแนะสำหรับการนำความรู้เรื่องการทำงานเป็นทีมไปใช้ในการปฏิบัติงานตามภารกิจ

……

……

10.2 โปรดให้ข้อเสนอแนะสำหรับการนำความรู้เรื่องการบริหารเครือข่ายไปใช้ในการปฏิบัติงานตามภารกิจ

……

……

……

<u>ส่วนที่ 3</u> ความคิดเห็นเกี่ยวกับการทำงานเป็นทีมและการบริหารเครือข่ายภายหลังการฝึกอบรม

1. ภายหลังการฝึกอบรมท่านมีทัศนคติที่ดีต่อการทำงานเป็นทีมและการบริหารเครือข่ายเพิ่มมากขึ้น

   ☐ มาก ☐ ปานกลาง ☐ น้อย

2. ภายหลังการฝึกอบรมท่านมีความพร้อมในการทำงานเป็นทีมร่วมกับสมาชิกในเครือข่าย

   ☐ มาก ☐ ปานกลาง ☐ น้อย

3. ภายหลังการฝึกอบรมท่านมีความพร้อมในการปฏิบัติงานในหน้าที่เพิ่มมากขึ้น

   ☐ มาก ☐ ปานกลาง ☐ น้อย

4. ท่านได้แกนนำในการทำงานเป็นทีมและบริหารเครือข่ายได้ดีขึ้น

   ☐ มาก ☐ ปานกลาง ☐ น้อย

5. ภายหลังการฝึกอบรมได้มีการติดต่อประสานงานระหว่างกันของทั้ง 3 กลุ่ม ได้แก่ องค์กรปกครองส่วนท้องถิ่น เจ้าหน้าที่ฝ่ายอุตสาหกรรมพื้นฐานและการเหมืองแร่และผู้ประกอบการเหมืองแร่หรือไม่

   ☐ ไม่มี (เพราะอะไร) .....

   ☐ มี (ติดต่อประสานงานกับ.....

   ในเรื่อง .....)

6. เมื่อท่านมีปัญหาในการทำงาน ท่านได้ปรึกษากับสมาชิกในเครือข่ายของท่านบ้างหรือไม่
   ☐ ไม่ปรึกษา (เพราะอะไร) .....
   ☐ ปรึกษา (เรื่องอะไร) .....

7. ภายหลังจากการฝึกอบรม ได้มีการจัดประชุมเครือข่ายกันบ้างหรือไม่
   ☐ ไม่มี
   ☐ มี จำนวน ..... ครั้ง

8. ภายหลังจากการฝึกอบรม ท่านได้รับความสะดวกในการติดต่อประสานงานระหว่างกันหรือไม่
   ☐ สะดวก ☐ ไม่สะดวก

9. ภายหลังการฝึกอบรมท่านได้นำสิ่งที่ได้ประชุมร่วมกันมาใช้ในการปฏิบัติงานหรือไม่
   ☐ ใช้ (อย่างไร) .....
   ☐ ไม่ใช้ (เพราะอะไร) .....

10. หากจะทำให้ผลที่ได้จากการประชุมกลุ่มในการอบรมสามารถนำไปปฏิบัติได้อย่างจริงจังควรมีวิธีการอย่างไร

.....
.....
.....

<u>ส่วนที่ 4</u> ความคิดเห็นเกี่ยวกับการพัฒนาหลักสูตรการประชุมสัมมนาไตรภาคีเพื่อการเฝ้าระวังสิ่งแวดล้อม

ข้อเสนอแนะในการพัฒนาหลักสูตรการประชุมสัมมนาไตรภาคีเพื่อการเฝ้าระวังสิ่งแวดล้อม

.....
.....
.....
.....

Item Discrimination and Reliability of the Questionnaire

Table 30 Showed discrimination of the questionnaire on knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training.

Studied Issues	Discrimination (t)	
	Knowledge and understanding	**Application of knowledge**
Section 1 Item 1	4.277	6.769
2	4.320	6.677
3	5.000	5.584
Reliability of the questionnaire = .8558		
Section 2 Item 1	4.232	5.508
2	4.627	4.243
3	4.550	5.584
4	3.618	6.177
Reliability of the questionnaire = .7875		
Section 3 Item 1	3.384	6.009
2	5.657	6.009
3	3.564	8.641
4	3.864	10.693
5	3.130	4.478
6	7.000	5.245
Reliability of the questionnaire = .7997		
Section 4 Item 1	5.000	9.899
2	2.824	4.243
3	5.227	5.461
4	5.657	3.416
5	3.121	4.292
6	4.277	5.612
7	3.989	7.172
8	3.864	6.481
Reliability of the questionnaire = .8832		

Table 30 Showed discrimination of the questionnaire on knowledge and understanding of the training course contents and application of the training knowledge to duty performance after the training. (Cont.)

Studied Issues	Discrimination (t)	
	Knowledge and understanding	**Application of knowledge**
Section 5 Item 1	5.641	8.078
2	5.657	7.128
3	6.769	7.128
Reliability of the questionnaire = .8429		
Section 6 Item 1	3.055	6.677
2	4.320	7.638
3	5.463	7.071
4	3.862	7.172
5	3.813	6.619
6	4.292	6.763
7	4.025	7.729
Reliability of the questionnaire = .8751		
Section 7 Item 1	6.677	6.242
2	7.638	7.729
3	5.657	6.859
Reliability of the questionnaire = .8790		
Section 8 Item 1	6.481	9.674
2	7.000	5.584
3	7.514	6.619
4	4.025	5.245
5	6.068	5.584
6	5.245	5.584
Reliability of the questionnaire = .9281		

BIOGRAPHY

NAME Miss Nasarin Niyomdej

DATE OF BIRTH May 16, 1978

EDUCATION Kasetsart University
Bachelor of Education (Business Education)
Mahidol University
Master of Education
(Adult and Continuing Education)

SCHOLARSHIPS Teaching Assistantships, Research Assistantships and Student Assistantships in the Academic Year 2003 Graduate Studies of Mahidol University
Activities Student for Graduate Studies of Mahidol University Alumni Association

HOME ADDRESS 104/164 Thungmongkorn Road, Chimplee, Talingchan, Bangkok 10170