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The Development of the Training Model for Community Environmental Leaders on Forest Resource Conservation According to Sufficiency Economy Philosophy

Thawatchai Traithip, Sunthorn Kohtbantau and Pairote Baojai
Faculty of Environment and Resource Studies, University of Mahasarakham, Mahasarakham, Thailand

Abstract: Forests are natural resources that are extremely essential in both of material values and by-products obtained from them for use. The effects of deforestation consequently lead to soil quality degradation, water scarcity and many more other natural disasters. It is important to have a potential method in helping protect and solve the deteriorated conditions of the forests to return to their fertility. The purposes of this doctoral research were to develop the training model for Community Environmental Leaders (CELs) on Forest Resource Conservation (FRC) according to Sufficiency Economy Philosophy (SEP), to study and compare knowledge, attitude and practices on FRC before and after training. The sample consisted of 30 CELs. The instruments used for collecting data included the training model and lesson plans, the test on knowledge, the attitudes scale and the questionnaire pertaining the FRC. The research design, was the one-group pretest and posttest design. The colleted data were analyzed by the uses of percentage, mean, standard deviation and t-test. The results of the study were as follows: The developed training model for CELs on forest resource conservation according to SEP comprised of seven steps: past and present situation analysis, future situation forecast, problem identification and prioritization, problem-cause analysis, solution recommendation, collaboration task-role agreement and collaborative learning lesson summarization. The community environmental leaders had knowledge, attitudes and practices after training at the high level, which were higher than before training ($p<0.05$).

Key words: Training model, Community Environmental Leaders (CELs), Forest Resource Conservation (FRC), Sufficiency Economy Philosophy (SEP), knowledge, attitudes, practices

INTRODUCTION

Forests are natural resources that are extremely essential in both of material values and by-products obtained from them for use. If forests are effectively managed and trees are planted to replace those having been cut down, or destroyed by other causes, it would be of great use in the long run. In addition, forests also help in maintaining other natural resource in return. It is therefore, imperative that forest resource be protected and conserved in an appropriate manner, because the forests are source of rivers that nature all living things, moisten soil surfaces and provide benefits for human being, both directly and indirectly. They also, render environmental condition suitable for existence of all living things (Ratanaphianthamma, 2005).

The forests in Thailand have been destroyed so rapidly in the past 5 decades. The forest area approximate one half have been trespassed and destroyed for colleting lumbers and wood and cultivating land for agricultural purposes. According to the forest survey, in 1988 (BE 2531), it was found that Thailand had the forest areas of approximately 90 million rais (circa 20 mill acres), or accounting for 28% of the total land areas in the country. The rate of forest trespassing and destroying is about 1.5 million rais (circa 0.34 million acres) annually. There are, especially in the northeastern part without being destroyed about 14 million rais (circa 1.56 million acres), or accounting for 14% of the total land area of the Northeast. This make the Northeast become most barren region of the whole country (Veeravatnanond, 1998). In addition, according to the forest area assessment in 2003 (BE 2547) there were only 32.67% of forest areas left in the whole country (Loke Si Khiew Foundation, 2005). The effects of deforestation consequently lead to soil quality degradation, water scarcity and many more other natural disasters.

Solving environmental problems can be carried out in two means, namely, causal protection, or solving causes of the problems and conservation, or solving the effects

Corresponding Author: Thawatchai Traithip, Faculty of Environment and Resource Studies, University of Mahasarakham, Muang District, Mahasarakham 44000, Thailand

of the problems. The former emphasizes on dealing with human-beings. It is certainly, believed and assured that environmental problems and even all other problems, be create by man. It is therefore, imperative that solving environmental problems be dealed with those who are likely to cause them. In regard to latter, the problems may have been already existed in the environment. It is the recommended that environmental management be emphasized (Suwan, 2006).

To provide knowledge pertaining to environment, or environmental education, is an important measure for forest protection and reforestation. It is a means to solve, environmental problems at the causes and effects, which is a kind of learning that assist in building an awareness, attitude and values relating to environment, realizing the forest values and understanding how to live in harmony with the forests and mutually depend upon one other forever (Suwan, 2006).

To train the community members in order to make them have good consciousness of forest resource is regarded as away to develop community members, especially those who are among the leader groups. The have important roles in leading society and communities through exemplary behaviors in conservation of natural resources and environment. These, in turn, will provide them with opportunities for local people to take part in environmental management. It is also, a means to conserve natural resources and environment in order to make community members become attached, affected, concerned and cherished and see real benefits of natural resource and environment for there own communities (Technical Department, 1999).

The Sufficiency Economy Philosophy (SEP) is the concept in management of environment emphasized by His Majesty the King of Thailand on solving problems at their causes. They save the cost, rely on knowledge at the local level, called the local wisdom and they were highly practical (Suwan, 2006).

This research there fore, emphasized the development of the Community Environmental Leaders (CELs) on Forest Resource Conservation (FRC) and reforestation. The aim was to have them help in restoring forest conditions to resume their abundance, through the development of the training model for CELs on FRC as of SEP. The outcome goal was to have the community leaders who keep on possessing appropriate environmental behaviors.

Purposes of the research:

- To develop the training model for CELs on FRC according to SEP.
- To study and compare knowledge in FRC according to SEP.
- To study and compare attitude toward FRC according to SEP.
- To study and compare practices on FRC according to SEP.

Hypothesis:

- The CELs had knowledge in FRC according to SEP after training higher than before training.
- The CELs had attitudes toward FRC according to SEP after training higher than before training.
- The CELs had practices on FRC according to SEP after training higher than before training.

MATERIALS AND METHODS

This research was an experimental one, with the one group pretest-posttest design.

- Population and sample, as follows:
  - Population, 150 community leaders, in Tambon Seng Badan, Somdet district, Kalasin province, who were willing to take part in training.
  - Sample, 30 community leaders, derived through the sample size determination criterion and the cluster sampling technique, chosen from 2 villages.
- Research instruments, including the following:
  - The training program for CELs on FRC according to SEP.
  - The test of knowledge in FRC according to SEP for CELs.
  - The questionnaire of attitude towards FRC according to SEP for CELs.
  - The questionnaire of practice on FRC according to SEP for CELs.
- Data Collection, there was the step as follows:
  - Step 1, colleting pre-training data from the sample, by the test of knowledge and attitudes and the questionnaire of practices on FRC on the first day of training
  - Step 2, collecting the immediate post-training data from the same sample, by the same instruments, namely, the tests of knowledge and attitudes toward FRC.
  - Step 3, collecting the data, one month after the training, from the same sample, by the questionnaire of practice on FRC.

- Data analyses, the statistics use for analyzing the data included percentage, mean ($\bar{X}$), standard deviation (SD) and t-test.

RESULTS AND DISCUSSION

The development of the training model for CELs on FRC according to SEP comprised of seven steps: Past and present situation analysis, future situation forecast, problem identification and prioritization, problem-cause analysis, solution recommendation, collaboration task-role agreement and collaborative learning lesson summarization (Fig. 1).

Comparison of knowledge in FRC according to SEP, it was found that the CELs had knowledge in FRC after training higher than before training with statistically significant difference at the 0.05 level.

Comparison of attitude toward FRC according to SEP, it was found that the CELs had attitudes toward FRC after training higher than before training with statistically significant difference at the 0.05 level.

Comparison of practices on FRC according to SEP, it was found that the CELs had practice in FRC after training higher than before training with statistically significant difference at the 0.05 level (Fig. 2).

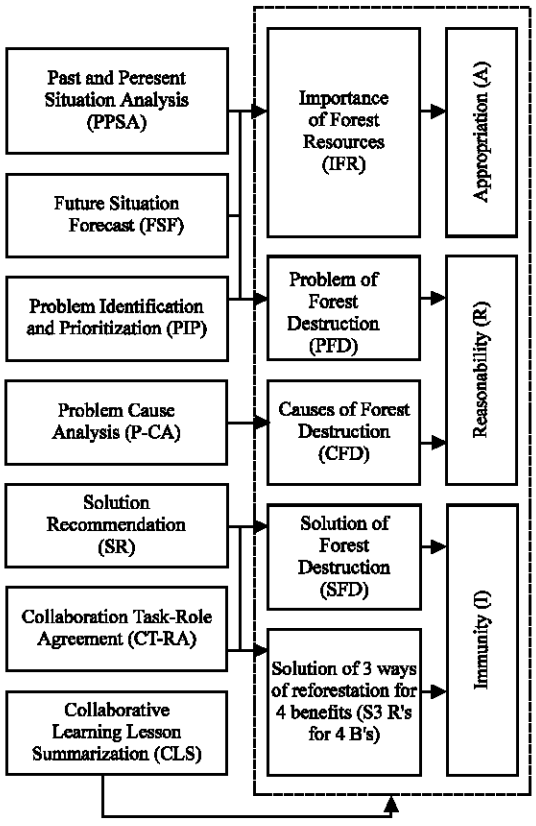

Fig. 1: Relationships between steps of the learning process, FRC content and SEP

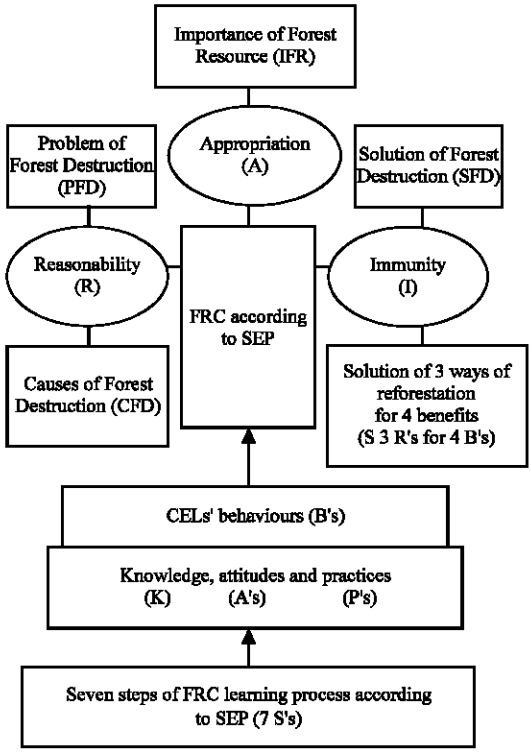

Fig. 2: Relationship between learning process, CELs' behaviors and FRC according to SEP

CONCLUSION

- The training model for CELs on FRC according to SEP, constructed by the researcher, comprised of seven steps, namely, past and present situation analysis, future situation forecast, problem identification and prioritization, problem-cause analysis, solution recommendation, collaboration task-role agreement and collaborative learning lesson summarization.
- The CELs had knowledge in FRC according to SEP after training higher than before training with statistically significant difference at the 0.05 level., in line with the set hypothesis.
- The CELs had attitudes toward FRC according to SEP after training higher than before training with statistically significant difference at the 0.05 level, in line with the set hypothesis.
- The CELs had practices on FRC according to SEP after training more than before training with statistically significant difference at the 0.05 level, in line with the set hypothesis.

In conclusion, the training model for CELs on forest resource conservation according to SEP, could better change the behaviors of the CELs, in knowledge, attitudes and practices and the research results could be used in developing the CELs in the future.

From this research it was found that knowledge, attitudes and practices of CELs on FRC according to SEP were statistically significant difference at the 0.05 level, whereby the coverage score after training were more than before training. This showed that the CELs had more knowledge, attitudes and practices on FRC. This would be because the training program on FRC had the process that could create cooperation in learning that helping participants have better knowledge and attitudes related to the forest resource development. In addition, a small group, technique was use in the training process that help in developing intellectual skill at the higher level (Kohtbantau, 1992).

This research finding was in line with Cornell (2007) who conducted research with creating environmental stewardship: evidence from a community-based adult education program and found that the experimental groups had better knowledge and attitudes after training with statistical significance. However, it was against Woodword (2004) who studied on changes in knowledge attitudes and behaviors of students and found that such change did not exist.

The research findings showed that the training model for CELs on FRC according to SEP could change the CELs' behaviors, in knowledge, attitudes and practices. It could be concluded that the training model was a highly efficient training model.

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