

## **A Study and Development on Knowledge, Attitude and Practice in Forest Conservation and Reforestration of Youth in Ban Khao Phra Community Nakhon Nayok Province**

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**Abstract:** This research aims at developing the knowledge, the attitude and the practice in the forest conservation and revival of the youths in Baan Khao Phra community, Nakhon Nayok Province employing the mixed method (qualitative and quantitative). The subjects in this research consisted of the leaders of the community who are both officials and villagers knowledgeable and having real practices in the forest area. The 30 officials involved from the Office of Natural Resource and Environment in Nakhon Nayok province are obtained by means of snow ball sampling and the sample group for the training course is 30 youths who are students studying in a secondary school level. The package of the training course was evaluated by means of enquiry, interview and group talk. The data derived are analyzed by means of descriptive statistic; percentage, mean, standard deviation and inferential statistic; testing the hypotheses using ANNOVA with repeated measure: one between two within. The results were found accordingly. The problems happened to the forest in Baan Khao Phra community are mostly caused by the actions of the villagers: forested items collecting, animals hunting, forest area pioneering and deforestation. These yield both the indirect and indirect effects on the forest itself but the most important cause for deforestation is attributed to human beings' lack of knowledge, understanding, mutual participation and responsibility to conserve the forest. Despite the accumulated and passed over wisdom of the community to sustain lives on the benefits from the forest, the mutual participation of the villagers who tie to the forest is necessary to be enhanced to strengthen community for self-reliance. The package of the training course for forest conservation and revival of the youths in Baan Khao Phra community, Nakhon Nayok province, comprises the knowledge, the attitude and behavioral practice to conserve and revive the forest undergone the development based on the studies on thinking, a related theory, a local wisdom for forest resource management and a participatory action research with a try-out to assure a high reliability. The youths' knowledge in the forest conservation and revival before the training is rated moderate and after the training is rated high. By a comparison, the knowledge in the forest conservation and revival of the youth after the training is rated higher than before the training at a significantly statistical level of 0.01. The youth with different genders show no difference in terms of knowledge in overall. The youths' attitude towards the forest conservation and revival is rated at a moderate level and after the training is rated at the same level. By a comparison, the attitude towards the forest conversation and revival after the training is rated higher than before the training at a significantly statistical level of 0.05. The youth with different genders show no difference in terms of knowledge in overall. The youths' behavioral practice in the forest conservation and revival before the training is rated at a moderate level and after the training is rated at the same level. By a comparison, the behavioral practice in the forest conversation and revival after the training is rated higher than before the training at a significantly statistical level of 0.01. The youths with different genders show no differences in terms of knowledge in overall. To sum, the developed package of the training course yielded efficiency, making the youths increase the knowledge, the attitude and leading them to the behavioral practice to conserve and revive the forest. This could be used as a guidance to develop the youths in the terrain of environment studies. Therefore, it should be enhanced and adopted and be applied to another group of youth in other areas.

**Key words:** Knowledge, attitude, practice, behavior, conservation, forest and revival, community

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### **INTRODUCTION**

Forest is the vitally important natural resource yielding necessarily basic benefits obtainable directly and

indirectly for human beings. Despite the importance and a great number of benefits of the forest, the forest along with its animals at present is considerably destructed. In 2006, it revealed that the forest area decreased to 30.92%

of the entire area throughout the country. Tracing back to 1961, the entire area of the forest was 53.33% throughout the country. This indicated that during 45 years ago the forest area of Thailand was destructed for 71,864,038 rai which could be calculated in average for 1,596,979 to human's behaviors causing by inappropriate knowledge and understanding, unconsciousness as well as wrong value. As such, the proper solution to the forest problem is to change human's behaviors by giving appropriate knowledge, raising proper values and attitudes using education process in relation to environment as a key measure to permanently solve the problem.

However, it consumes a great deal of time to solve the forest resource problems so as to obtain effective results by means of developing because the forest and human beings have to rely on to one another. To raise the people's consciousness of the benefits of the forest and to conserve it need participation from all the people in the local who have knowledge, good understanding, realization, self-consciousness as well as proper practice (Chuchai, 2006).

These depend on the continuity of the real learning process. Specifically, when considering systemic education, the entire educational institutes in all levels have to educate students to have insight knowledge, understanding and realization of the value of the forest resource and at the same time to have an affection for it, conserve it and express a sense of belonging for it as it is a public treasure of the local community to be protected. There is research pertaining to knowledge evaluation of the primary school students in terms of environment and also the evaluation of secondary school students' knowledge, attitudes and behavioral practice in terms of environment in Israel. The findings reveal that the study yielded ineffective results because the students' knowledge and their behavioral practice are not interrelated.

That is to say, those with good knowledge tend to have negative behavioral practice for natural resource conservation. In terms of ethic and participatory natural resource consuming, students are considered to have a moderate level of ethic and participatory natural resource consuming because the environment exercises the influence on the behavioral practice and living condition of the human beings whereas the human beings' activity itself is a key variable for environmental changes (Daphne and Bela, 2009) studies the youths considered the important human resource in every country in the aspects of the social development and the device for social changes.

The study involves giving at training to the strong negative behavioral practice manifestation. If students

lacked appropriate knowledge and understanding regarding natural resource including its value in their communities, the forest resource might be destructed and then disappear.

Therefore, the researcher is interested in undertaking this research in order to develop the youths who later are the people changing the community regarding the forest conservation and revival using the training to increase knowledge, attitude and behavioral practice in the forest conservation and revival. This would be a technique and method to teach the people about the forest conservation and revival in order to obtain the most effective outcome.

In brief, the training activity relevant to the forest conservation and revival should give the consideration on accordingly: let the youths be the doers, thinkers and the performers to a great extent so as to bring appropriate changes, knowledge, attitude and self behavioral practice in the forest conservation and revival sustainably (Janjira, 2006).

#### **The research's purposes:**

- To study states and problems of the forest, the effects of deforestation on the forest as well as the folk wisdom for the forest conservation and revival in Khao Phra community, Nakhon Nayok province
- To develop the training package in the forest conservation and revival of the youths in Khao Phra community, Nakhon Nayok province
- To study the effect of the training package on the knowledge, the attitude and the behavioral practice to conserve and revive the forest of both male and female youths

#### **Hypotheses:**

- Ho<sub>1</sub>: The youths have the increment of the knowledge, the attitude and behavioral practice to conserve and revive the forest after the training
- Ho<sub>2</sub>: The youths with different genders show no difference in terms of the knowledge, the attitude and the behavioral practice to conserve and revive the forest after the training

#### **MATERIALS AND METHODS**

This study is an action research with the mixed method: quantitative and qualitative methods and with one group pretest-posttest design.

**Population and sample:** The population in this research in the first phase are people living in Khao Phra District comprising 10 villages close to forest borders. Those

villages are Moo 2-13 and the second phase consists of 254 secondary school students studying in the first semester in the academic year of 2010 at Watsomboonsamakkhee School.

The 20 samples used in this research in the first phase are elders, heads of the district, heads of the villages and officers working in the Office of Natural Resources and Environment, Nakhon Nayok province and also 10 elders with folk wisdom in the forest conservation and revival in Khao Phra community, Nakhon Nayok province. The entire samples are 30 selected by means of snow ball sampling. In the second phase, the samples are 30 secondary school students, 15 males and 15 females, studying at Watsomboonsamakkhee School in the second semester in the academic year of 2010.

**Research instrument:** The instruments employed in the training process are the training package and the lecturer's manual. The activity of participatory learning is implemented with the group process in the forest conservation and revival according to the following stages:

**Stage 1:** Study the states and problems of the forest including the effects of deforestation on the forest and also the indigenous knowledge used to conserve and revive the forest in Khao Phra community, Nakhon Nayok province.

**Stage 2:** Develop the training package for the forest conservation and revival.

**Stage 3:** Study the effects of the training package in the forest conservation and revival on the knowledge, the attitude and the behavioral practice to conserve and revive the forest of both male and female youth.

The instrument is considered by 5 experts and yields mean score at 4.5, IOC value at 0.8 and then it is tried out with the practitioners who are not the samples in the study. The trying out yields effective index at 0.07.

The instrument used to collect data in this research is the questionnaire comprising 4 sections: focus group interview, forest conservation and revival knowledge test, attitude towards forest conservation and revival test, forest conservation and revival practice questionnaire. The instrument's reliability is considered by 10 experts and the IOC value is found at 0.8. The learning proficiency test yields the item difficulty at 0.20-0.75, the discrimination at 0.21-0.37 and reliability at 0.91. The attitude towards the forest conservation and revival test yields the item-total Correlation at 0.02-0.72 with the reliability of (KR20) at 0.91 and the behavioral practice in

the forest conservation and revival yields Item-total Correlation ranging from 0.39-0.80 with the reliability (a-Coefficient) at 0.84.

**Data collection:** There was a step as follow: preparation stage, hold a meeting for 20 officers from the Office of Natural Resource and Environment and also from the Wild Life Development and Conservation Promotion Station so as to review the roles for being trainers in the group-based participation.

#### **Training stage**

**Stage 1:** Collect the data before the training using interview pertaining to population, states and problems, effects of deforestation on the forest, the indigenous knowledge for the forest conservation and revival and the samples selected by means of snow ballsampling.

**Stage 2:** Give the training in the area studied using the training activity based on group participation with 30 participants who are 15 males and 15 females. The duration of the training lasts 3 days as planned and the researcher is the instructor giving lecture to officers from the Office of Natural Resource and Environment and also from the Wild Life Development and Conservation Promotion Station in Nakhon Nayok province.

**Data analysis:** Qualitative research method is used to analyze data derived from focus interview, observation, enquiry and diary entry. The data are analyzed qualitatively in the form of content analysis in terms of description.

**Quantitative research:** The scores derived from Learning proficiency test, knowledge, attitude and practice in the forest conservation and revival test are calculated for percentage, mean and standard deviation.

The scores from hypothesis testing is analyzed by means of repeated measure: one between two within. The average scores from the pretest and the posttest are compared using paired t-test. The scores derived are analyzed for hypothesis testing using F-test for one-way MANCOVA.

## **RESULTS AND DISCUSSION**

The researcher proposes the results in this research in three aspects in order to draw a framework for conclusion. A study of states and problems of the forest, the effects of deforestation on the forest and the indigenous knowledge in forest conservation and revival in Khao Phra community in Nakhon Nayok province.

The study of states and problems of the forest in Khao Phra community indicates that the cause of deforestation is due to the forest invasion of the people in the community, the forest fire, the wood cutting smuggling and the economy expansion and development. The effects of the deforestation problem in Khao Phra community are drawn from the environment and economy affects.

The indigenous knowledge in the forest conservation and revival in Khao Phra community is derived via damming up, bamboo crafting, the herbs use in the forest, forest wetting as well as beliefs and religious rites.

The development of the training package for the forest conservation and revival in Khao Phra community in Nakhon Nayok province.

The creation of the training package in the forest conservation and revival using relevant documents revision helps analyze theoretical concepts in relation to knowledge, attitude, training behavior in the natural resource conservation and revival, local knowledge in forest resource management and participatory action research.

These theoretical concepts are used to interrelate to the forest conservation and revival and comprise the four aspects in terms of main contents: the aspect of states and problems of the forest in Khao Phra community, the aspect of the affect of deforestation, the aspect of forest fire and protection and the aspect of local knowledge for the forest conservation and revival.

The results of the pilot study indicates that the forest conservation and revival questionnaire used for data collection from the secondary school students yields the internal reliability at the level of 0.80, the attitude towards the forest conservation and Revival test at the level of 0.82 and the behavioral practice test in the forest conservation and revival at the level of 0.91.

The study of the effects of the training in the forest conservation and revival on knowledge, attitude and the behavioral practice in the forest conservation and revival for both male and female are found accordingly.

In data analysis using Multivariate based on an analysis of variance (On-Between Two within) to test the variables of the knowledge, the attitudes and the behavioral practice in the forest conservation and revival in Khao Phra community in Nakhon Nayok Province before and after the training is as follows:

The test result of the basic agreement of Multivariate using Mauchly's test in order to reveal the same level of relationship of each measurement and also to reveal

Table 1: The test of level of relationship of each measurement and the level of variation using mauchly's test

Within subjects effect	Mauchly's test of sphericity			
	Mauchly's W	Approx-Chi-square	Df	Sig.
Kap	0.98	0.51	2	0.777
Testing	1.00	0.00	0	-
Kap *testing	0.73	8.33	2	0.016

Table 2: An analysis of one way variance in relation to the scores of the knowledge, the attitude and the behavioral practice during the different times of data collection

Sources of variance	Sum of squares	Df	Mean square	F	Sig.
Between groups	49.12	5	9.82	71.23	0.000
Within groups	23.99	174	0.14	-	-
Total	73.11	179	-	-	-

the same level of variation including the statistics of Mauchly's W = .98, Approx. Chi-square = 0.51 with Sig. = 0.777 indicates that the level of relationship of each measurement is the same and also the level of variation is too. Thus, the researcher chooses the F-test from Huynh-Felt (Table 1). The result of an analysis of variance pertaining to the knowledge, the attitude and the behavioral practice in the forest conservation and revival within the group (Within-Subject effects) and between the groups (Between-Subjects effects) with a consideration on time duration and gender of the youths in Khao Phra community manifests that the scores of the knowledge, the attitude, the behavioral practice during the data collection as well as gender shows no interrelationship (F = 0.49, Sig. = 0.617). Also, the scores related to the knowledge, the attitude and the behavioral practice conserve and revive the forest of the youths in Khao Phra community are the same (F = 2.96, Sig = 0.096).

Considering the scores of the knowledge, the attitude and the behavioral practice in conjunction with the duration of the data collection, it reveals the interrelationship at a significantly statistical level of 0.01 (F = 84.77, Sig. = 0.000). As thus, the researcher tests the simple main effect (Table 2).

The results of the training of the youths (Table 3 and 4). In overall, the total scores of the knowledge regarding the forest conservation and revival before the training show a good level of knowledge (x = 2.54, SD = 0.41) and after the training show a very good level of knowledge (x = 4.09, SD = 0.34). Specifically, the scores of the knowledge in the forest conservation and revival after the training are higher than before the training at a significantly statistical level of 0.01.

In overall, the total scores of the attitude towards the forest conservation and revival before and after the training manifest a high level of attitude towards the forest conservation and revival (x = 3.05, SD = 0.36). Considering the scores of the attitude after the training, it

Table 3: Mean, standard deviation, levels of the scores of the knowledge, attitude and the behavioral practice before and after the training in the forest conservation and revival of the youths in khao phra community (N = 30)

	Male (15 person)		Female (15 person)		Total (30 person)	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
The forest conservation and revival	----- $\bar{X} \pm SD$ -----					
The knowledge of the forest conservation and revival	2.44±0.37	2.63±0.44	4.09±0.30	4.08±0.38	2.54±0.41	4.09±0.34
The attitude towards the forest conservation and revival	2.99±0.33	3.12±0.38	3.40±0.29	3.29±0.31	3.05±0.36	3.05±0.36
The behavioral practice in the forest conservation and revival	2.91±0.48	2.98±0.46	3.74±0.24	3.86±0.41	2.95±0.46	2.95±0.46

Table 4: Before after comparison of the difference of paired scores of the knowledge, the attitude and the behavioral practice in the different time of data collection

Groups	Mean difference	Sig.
The knowledge of training	1.55	0.00
The attitude of training	0.30	0.04
The behavioral of training	0.85	0.00

indicates a high level of the attitude towards the forest conservation and revival ( $x = 3.05$ ,  $SD = 0.36$ ). Obviously, the scores of the attitude towards the forest conservation and revival after the training are higher than before the training at a significantly statistical level of 0.05. In overall, the total scores of the behavioral practice in the forest conservation and revival before and after the training show a high level ( $x = 2.95$ ,  $SD = 0.46$ ).

Considering the scores after the training, it reveals that the behavioral practice scores are higher than before the training at a significantly statistical level of 0.01. The results of the study indicate that the scores of the knowledge and the behavioral practice after the training in the forest conservation and revival are higher than before the training at a significantly statistical level of 0.01. Also, the scores of attitude in the forest conservation and revival after the training in the forest conservation and revival are higher than before the training at a significantly statistical level of 0.05. As thus, it shows the achievement of participatory learning activity and the concept of experiential learning comprising 2 learning principles: experiential learning and group process. Adopting these principles as a primary help and support to make people achieve or have expected behaviors using group process leads to the knowledge and experience sharing of the people involved and the motivation to one another (Ganjana, 2006). This can work out for the solution of the problems using group influence and experience broadening, causing all the members in the group to learn, create the concept and attitude as well as to change the self behavioral practice (Malee, 1987).

### CONCLUSION

The training package for the participatory learning activity using group process based on the activity to conserve and revive the forest helps the 30 secondary

school students in the second semester in the academic year of 2010 at Watsomboonsamakkee School accordingly develop the knowledge, yielding the scores in the forest conservation and revival after the training higher than before the training at a significantly statistical level of 0.01 develop the attitude towards the forest conservation and revival yielding the scores after the training higher than before the training at a significantly statistical level of 0.05 develop the behavioral practice in the forest conservation and revival, yielding the scores after the training higher than before the training at a significantly statistical level of 0.01.

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