

# Factors Affecting Villagers Participation in Community Environment Development

**Chuleewan Praneetham**

*Department of Environmental Education  
Faculty of Environment and Natural Resources Studies  
Maharakham University, Maharakham 44150, Thailand*

**Dr. Nongnapas Thiengkamol**

*Major Advisor, Department of Environmental Education  
Faculty of Environment and Natural Resources Studies  
Maharakham University, Maharakham 44150, Thailand  
Email: mahidol@gmail.com*

**Assoc. Prof. Dr. Kongsak Thathong**

*Co- Advisor, Department of Environmental Education  
Faculty of Education, Khon Kaen University, Thailand*

**Dr. Tanarat Thiengkamol**

*Co- Advisor, School of Management, Assumption University  
Hua Mak Campus, 592/3 Ramkhamhaeng 24  
Hua Mak, Bangkok 10240, Thailand*

**Doi:10.5901/mjss.2012.v3n11p535**

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**Abstract** *The objectives of this research were to develop a prototype network of community environment with integration of environmental education principle and the principle of self-sufficiency economy and study factors affecting of villagers participation in community environment development in Khon Kaen Province, Thailand. The population was villagers in the Khon Kaen Province, Thailand. The simple random sampling technique was employed to collect 400 villagers for this research. The questionnaire was used as research instrument for data collection. The content and structural validity were determined by Item Objective Congruent (IOC) with 5 experts in the aspects of environmental education, psychology, social research methodology and philosophy of self-sufficiency economy. The reliability was determined by Cronbach's Alpha. Reliability of knowledge about environment, awareness, attitude towards environment, behavior towards environment and self-sufficiency economy practice and the whole questionnaire were 0.884, 0.874, 0.893, 0.900, 0.942 and 0.934 respectively. The descriptive statistics used were frequency, percentage, mean and standard deviation. The inferential statistics used was the Canonical Correlation Analysis for statistical analysis. The results revealed that the best model of canonical correlation for the prototype village of sufficiency economy and the ordinary village sample group were the models had canonically correlation with .36136 and .39126 respectively between the set of independent variable of canonical correlation between knowledge, awareness and attitude towards environment and the set of dependent variables included behavior towards environment and self-sufficiency economy practice.*

**Keywords:** *Development/ Prototype Network of Community Environment/ Environmental Education Principle/ Principle of Self-sufficiency Economy*

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## 1. Introduction

Human negligence and human activities of livelihood often cause the environmental impacts and environmental degradation (Jamaluddin Md. Jahi et al., 2009: 258; Thiengkamol, N., 2011e: 22). People's participation is the most important issue of affecting in protecting the environment and natural resource because people lacked of knowledge and understanding, awareness, consciousness, attitude and failing to see the benefits directly applicable to them and their

community. Moreover, they do not realize that they are an important part to take a responsibility for natural resource and environmental conservation (Thathong, 2009:8 – 13; Thiengkamol, N., 2011e: 15-16).

Environmental education is an effective learning process to help achieve sustainable development. Because it's learning process helps people to understand the relationship between human and environment that human actions will affects directly and indirectly to the environment. This education can help create public consciences within people and stimulate them to have responsible behavior by using appropriate technological education to develop the quality of life and the environment (Stapp & Dorothy, 1981: 1; Schmieler & Allen, 1977a: 25; Thathong and Sukriyapong, 1988; Chunkao, K., 1993: 715; Thiengkamol, N., 2005a; Thiengkamol, N., 2005b; Jamaluddin Md. Jahi et al., 2009; Thiengkamol, N., 2010b; Thiengkamol, N., 2011e). Environmental education can increase people's knowledge and understanding, and support people to have good attitude, raise their awareness on environmental problem, develop problem – solving skills and evaluation for challenging, fostering attitudes, belief, and value, motivate people to commit and take responsible action for environmental conservation including strengthening his competency for self, family and community (Stapp et al., 1969; UNESCO, 1978; Thiengkamol, N., 2005a; Thiengkamol, N., 2005b; Thiengkamol, N., 2011c; Thiengkamol, N., 2011e). Environmental education process must be implemented at all agents regarding local, country, region, and international level with the public awareness raising, attitude and behavior changing, public consciousness and responsibility building (Thiengkamol, N., 2011e: 22-25).

The self-sufficiency economy concept is to lead people to a balanced way of life with a self-sufficiency economy in mind, guide the livelihood and behavior of people on matters concerning sustainable development at all levels, from the family to the community to the country (Punthasaen, 2007; Sukwat, et al, 2012). Community takes an important role to promote and support environment conservation and sustainable development. People in community are an important force in solving the environmental crisis because they would be a prototype of community environment for other province in the same region or other region of Thailand. It could be concluded that environmental education principle and principle of self-sufficiency economy have the same goal which is sustainable development. Therefore, the researcher is interested to study on develop the prototype network of community with integration of environmental education principle and the principle of self-sufficiency economy.

## 2. Objective

The objective of this research was to develop the prototype network of community environment with integration of environmental education principle and the principle of self-sufficiency economy and study factors affecting of villagers participation in community environment development in Khon Kaen province, Thailand.

## 3. Methodology

The research design was implemented in steps by step as followings:

The population was villagers in the Khon Kaen Province, Thailand. The simple random sampling technique was employed to collect 400 villagers; 200 villagers from villages which were selected by Ministry of Interior, Thailand, as the prototype village of sufficiency economy and 200 villagers from the ordinary villages. The research instrument was questionnaire and it was used for data collecting.

The content and structural validity were determined by Item Objective Congruent (IOC) with 5 experts in the aspects of environmental education, psychology, social research methodology and philosophy of self-sufficiency economy. The reliability was determined by Cronbach's Alpha. Reliability of knowledge about environment, awareness, attitude towards environment, behavior towards environment and self-sufficiency economy practice and the whole questionnaire were 0.884, 0.874, 0.893, 0.900, 0.942 and 0.934 respectively.

The descriptive statistics used were frequency, percentage, mean and standard deviation (S.D). The inferential statistics used was the Canonical Correlation Analysis used for statistical analysis (Hair, J.F., et al, 1998: 442-462).

## 4. Results

### 4.1 General Characteristics of Sample Group

The sample group of this study was 200 villagers from villages which were selected by Ministry of Interior, Thailand, as the prototype village of sufficiency economy and 200 villagers from ordinary villages in Khon Kaen Province, Thailand.

Most of them were female with 58.50 % and had average of age with 42.52 years old. Most of them had education level at primary school with 43.00 % and had occupation as farmer with 36.30 %, as shown in table 1.

**Table 1:** Demographic Characteristics of Sample Group

Characteristics		
Sex	Frequency	Percent
Male	166	41.5
Female	234	58.5
Total	400	100.0
Age	Year	S.D.
Minimum	18	
Maximum	65	
Average	42.52	9.8
Education Level	Frequency	Percent
Primary school	172	43.0
High school	85	21.3
Secondary school or equal level	62	15.5
Diploma or equal level	14	3.5
Bachelor	45	11.3
Higher than Bachelor	22	5.5
Occupation	Frequency	Percent
Farmers	145	36.3
Agriculturist	64	16.0
Salesmen	33	8.3
General hire	43	10.8
Housewives	15	3.8
Official	51	12.8
Employees	42	10.5
Un-identification/Students	7	1.8
Total	400	100.0

#### 4.2 Correlation among Environmental Education Variables and Behavior towards Environment and Self-sufficiency Economy Practice Variables of Villagers Sample Group

From table 2, the results illustrated knowledge of ordinary village sample group correlated only to behavior towards environment with statistically significant at .05 while awareness of the prototype village of sufficiency economy sample group correlated to behavior towards environment and self-sufficiency economy with statistically significant at .01. Meanwhile, awareness of ordinary village sample group correlated only to self-sufficiency economy with statistically significant at .01. Additionally, attitude of prototype village of sufficiency economy sample group correlated to behavior towards environment and self-sufficiency economy practice with statistically significant at .01 while, attitude of ordinary village sample group correlated only to self-sufficiency economy practice with statistically significant at .01.

**Table 2:** Pearson Correlation between Independent and Dependent Variables

Variable	Prototype Village of Sufficiency Economy		Ordinary Village	
	Behavior towards Environment	Self-sufficiency Economy	Behavior towards Environment	Self-sufficiency Economy practice
Knowledge	.066	.091	-.168*	-.058
Awareness	.256**	.359**	.134	.353**
Attitude	.226**	.257**	.071	.298**

\* Correlation significant at the .05 level, \*\* Correlation significant at the .01 level.

#### 4.3 Multivariate Tests of Significance among Independent and Dependent Variables

From table 3, the results of the different techniques of Multivariate Tests of Significance as Pillais, Hotellings, and Wilks showed that these were highly statistical significance ( $p < .01$ ) which all indicated that the canonical function taken collectively, were statistically significant at the .01 level. Expected only Roy techniques illustrated with .13058 for the prototype village of sufficiency economy sample group and .15309 for the ordinary village sample group, which an alternative technique was called step-down procedure, it was a test of significance and simultaneous confidence-bound on a number of "deviation-parameters". The essential point of the step-down procedure in multivariate analysis is that the variates were supposed to be arranged in descending order of importance

**Table 3:** Multivariate Tests of Significance among Independent and Dependent Variables

Prototype Village of Sufficiency Economy Sample Group						
Variables	Value	Approx.	F Hypoth.	DF	Error DF	Sig. of F
Pillais	.13650		4.78553	6.00	392.00	.000***
Hotellings	.15615		5.04872	6.00	388.00	.000***
Wilks	.86427		4.91775	6.00	390.00	.000***
Roy's	.13058					
Ordinary Village Sample Group						
Variables	Value	Approx.	F Hypoth.	DF	Error DF	Sig. of F
Pillais	.19243		6.95515	6.00	392.00	.000***
Hotellings	.22171		7.16863	6.00	388.00	.000***
Wilks	.81360		7.06248	6.00	390.00	.000***
Roy's	.15309					

\*\*\* Correlation is significant at the .001 level (2-tailed).

#### 4.4 Canonical Correlation

Canonical correlation between the set of independent variables included knowledge, awareness and attitude towards environment and the set of dependent variables included behavior towards environment and self-sufficiency economy, the finding revealed that they canonically correlated with .36136 and Eigenvalue was .15020 for the prototype village of sufficiency economy sample group and they canonically correlated with .39126 and Eigenvalue was .18076 for the ordinary village sample group. This is the best model to explain canonical correlation between two set of variate as shown in table 4.

**Table 4:** Eigenvalue and Canonical Correlations

Prototype Village of Sufficiency Economy Sample Group					
Root No.	Eigenvalue	Pct	Cum. Pct.	Canon Cor.	Sq. Cor.
1	.15020	96.18968	96.18968	.36136	.13058
2	.00595	3.81032	100.00000	.07691	.00591

Dimension Reduction Analysis was done, the finding revealed that every pair of roots was statistically significant at level .000 and .559 respectively.					
Ordinary Village Sample Group					
Root No.	Eigenvalue	Pct	Cum. Pct.	Canon Cor.	Sq. Cor.
1	.18076	81.52907	81.52907	.39126	.15309
2	.04095	18.47093	100.00000	.19835	.03934
Dimension Reduction Analysis was done, the finding revealed that every pair of roots was statistically significant at level .01 and .020 respectively.					

#### 4.5 Correlations between Dependent and Canonical Variables Function Numbers

From table 5, the finding revealed that for the prototype village of sufficiency economy sample group, the highest weight of function number 1 was awareness with -.99316, the highest weight of function number 2 was attitude towards environment with -.68943. For the ordinary village sample group, the highest weight of function number 1 was awareness with -.92527, the highest weight of function number 2 was knowledge with .86265.

**Table 5:** Correlations between Dependent and Canonical Variables Function No.

Type of Variable	Name of Variable	Prototype Village of Sufficiency Economy Sample Group		Ordinary Village Sample Group	
		Canonical Variables Function No.		Canonical Variables Function No.	
		No. 1	No 2	No. 1	No 2
Independent Variable	Knowledge	-.25154	.00722	.07711	.86265
	Awareness	-.99316	.10159	-.92527	.10568
	Attitude towards environment	-.71990	-.68943	-.80061	.33994

## 5. Discussion

The result of quantitative approach findings revealed that the independent variables of knowledge, awareness and attitude towards environment affected to behavior towards environment and self-sufficiency economy practice. This related to survey of Sukwat, et al, (2012) revealed that environmental education regarding to knowledge, awareness and attitude related to behavior towards environment and sufficiency economy practice. Moreover, environmental behavior changing would be influenced by environmental education principles in term of knowledge, attitude and awareness (Thiengkamol, N., 2011g; Thiengkamol, N., 2011h; Thiengkamol, N., 2012a; Thiengkamol, N., 2012b; Thiengkamol, N., 2012c; Ngarnsang, K, Thiengkamol, N., and Thiengkamol, C., 2012).

Moreover, the results also discovered that villagers from the prototype village of sufficiency economy are able to act as environmentalist because they could be inspired attitude and behavior changing for participation including taking responsibility daily life activity in environmental conservation. They might be a good prototype of community environment to stimulate and encourage other villages to conserve environment and natural resource.

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