

รูปแบบการเสริมพลังอำนาจสตรีเพื่อการอนุรักษ์สิ่งแวดล้อม

Model of Women Empowerment for Environmental Conservation

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Abstract

The objective was to develop a model of women empowerment and psychological state affecting environmental conservation behavior through inspiration of public mind. The populations were 19,844 women committees of Maha Sarakham Province. The Multi-stage random sampling technique was employed to collect the sample of 400 women committees from different district and sub-district of Maha Sarakham Province. Questionnaire was used for data collection. Structural Equation model (SEM) was used for model verification. Results revealed that when considering on structural model of confirmatory factors of Women Empowerment (WE) and Psychological State (PS) were able to explain the variation of endogenous factors of Inspiration of Public Mind (IPM) to cause Environmental Conservation Behaviors (ECB) at 85.00 percent. Moreover, confirmatory factors of WE was able to explain the variation of IPM at 75.00 percent.

Keywords: model, women empowerment, environmental education, public mind, environmental conservation behaviors

บทคัดย่อ

วัตถุประสงค์การวิจัยเพื่อพัฒนารูปแบบของการเสริมพลังอำนาจสตรีและจิตตามสถานการณ์ที่มีผลต่อพฤติกรรมการอนุรักษ์สิ่งแวดล้อมผ่านแรงบันดาลใจการมีจิตสาธารณะ ประชากรเป็นคณะกรรมการสตรีของจังหวัดมหาสารคาม จำนวน 19,844 คน ใช้เทคนิคการสุ่มตัวอย่างแบบหลายขั้นตอน เพื่อเก็บตัวอย่าง จำนวน 400 คน ใช้แบบสอบถามเป็นเครื่องมือในการเก็บรวบรวมข้อมูลจากกลุ่มตัวอย่างในตำบลต่างๆ โดยใช้รูปแบบสมการเชิงโครงสร้างในการพิสูจน์รูปแบบผลการวิจัยพบว่าเมื่อพิจารณาแบบโครงสร้างของปัจจัยองค์ประกอบเชิงยืนยันของการเสริมพลังอำนาจสตรี (WE) และจิตตามสถานการณ์ (PS) สามารถอธิบายความแปรปรวนของตัวแปรแฝงภายในแรงบันดาลใจการมีจิตสาธารณะ (IPM) ที่มีผลต่อพฤติกรรมการอนุรักษ์สิ่งแวดล้อมได้ร้อยละ 85.00 และปัจจัยองค์ประกอบเชิงยืนยันของการเสริมพลังอำนาจสตรี (WE) และจิตตามสถานการณ์ (PS) สามารถอธิบายความแปรปรวนตัวแปรแฝงภายในแรงบันดาลใจการมีจิตสาธารณะ (IPM) ได้ร้อยละ 75.00

คำสำคัญ: รูปแบบ, การเสริมพลังอำนาจสตรี, สิ่งแวดล้อมศึกษา, จิตสาธารณะ, พฤติกรรมการอนุรักษ์สิ่งแวดล้อม



Introduction

Empowerment could be defined as an incremental of spiritual, political, social, educational, gender, or economic strength of individuals and communities. Usually, empowerment in terms of methodological and process is frequently related to feminist concept. While, empowerment in sociological aspect usually applies in the groups of people who were discriminated from the social either by gender, race, ethnicity, religion, or disability. Empowerment also defined as a process to enhance these fundamental opportunities for those marginalized people. However, it also helps the non-marginalized others accessibility to these opportunities. Empowerment is also covered the encouragement and skill development for improving self-capacity with a focus on eradicating world inequality. Based on patriarchy society in Thailand, women are considered as a marginalized people, especially, the poor and uneducated women. However, it is not true for all women in the country because presently various women are business women and academic women. Women empowerment has been recognized as critical section in diverse facets including social, economic and environmental dimensions. Empowering women in developing countries is a significant factor to decrease global poverty. Additionally, they are an essential change agents because they take multiple roles as a wife, a mother and a housekeeper, they take care of the family in terms of food preparation, housekeeping, vis a vis related to environmental conservation in aspects of consumption behavior (optimum resources utilization), waste management behavior (reduce / reuse / recycle), and energy conservation behavior and so on (World Survey on the Role of Women in Development, 2009; Stein, 2009; Thiengkamol, 2011e; UNICEF, 2007). The nation economy is affected by eliminating women from a nation's work force while counting workforce based solely on men (Argawal, 2010). Female participation

in counsels, groups, and businesses are seen to extend women competency and reduction of inequality (Radovic-Markovic, 2012). There is a research evidence that empowered women have a tremendous effect on economic condition, a study revealed that fortune 500 companies pointed out that those with more women board directors had essentially higher financial returns. There are 53 percent higher returns on equity, 24 percent higher returns on sales and 67 percent higher returns on invested capital. This study illustrates that the women board of directors can increase the overall economic benefits of a company. If this concept is implemented on a global scale, women workforce in the formal workplaces (like a fortune 500 companies) can improve the economic output of a nation and global. Women, therefore can bolster business growth and economic prosperity, if they gone through appropriate changing process so they are enabling and equipped with proper knowledge and skills in their careers (OECD, 2008; United Nations Research Institute for Social Development, 2010; Thiengkamol, 2012h).

Psychologists are long searching and studying to understand human behavior, they tried several research methods and processes to understand and develop a large number of theories and models. Their main focus is to explaining how individual perceived and evaluated the external stimulants before making a decision then to express his behavior. The study on human perception and evaluation on stimulants and intervention factors from different stimulants must take place before the behavior expression afterward (Donkonchum, 2012; Thiengkamol, 2012d; Kamin, 2014; Dejkunchorn, 2014). Conversely, in studying of human geography, it discovered that both physical and biological are significant stimulants to make people express their behavior in diverse approaches including place of present, surrounding people, and their past experience. Since human and environment are extremely and strongly related to each

other, while environment plays as a stimulant that urge human to perform different and numerous activities. While these activity expressions are in turn causes change in the environment vice versa (Donkonchum, 2012; Thiengkamol, 2012d; Kamin, 2014; Dejkunchorn, 2014).

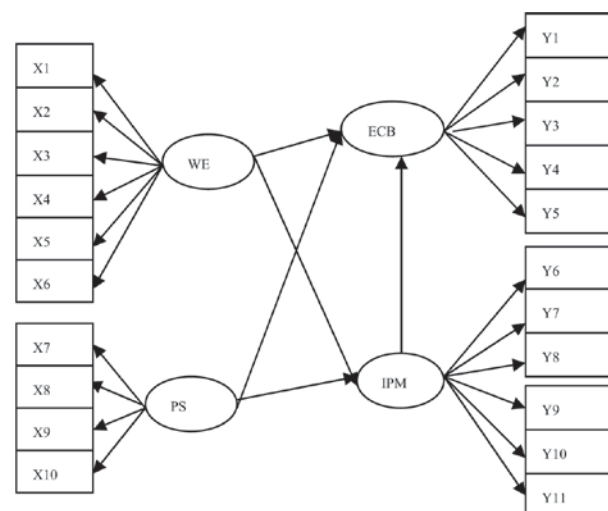
Inspiration of public mind for environmental conservation was proposed by Thiengkamol [3], she and her colleagues had examined about the imperative approach to creating the inspiration of public mind or public consciousness of environmental conservation because numerous people do not realize the environmental problems occurring on daily living activities. In everyday living, they face with other different situations, particularly, learning, working and other hurry events. They will not recognize its importance until it comes near to their backyards and affects their quality of life until the problems or diverse pollutions is directly contact with them or people around them. This harmful condition will make them to pay attention to the environmental problems (Donkonchum, 2012; Thiengkamol, 2012d; Kamin, 2014; Dejkunchorn, 2014; Srikaewtoom, 2014; Srichaimool, 2014). Further studies revealed that inspiration is entirely different from motivation because one who do, act or practice driven by internal stimuli with desire to do for public, especially, for environmental conservation and it may be happened from the intuition of good role model of person, event, environment and various media that inspire him/her to do for other without the requisite of rewards, money, honor or admiration, but only because one feel pleased to carry out good things for others (Thiengkamol, 2011e; Donkonchum, 2012; Thiengkamol, 2012d). It was rarely operated on environmental conservation behavior being affected by women empowerment and inspiration of public mind. Women empowerment are predicted and composed by know and understand herself, team building and team working,

opportunity received, leadership building, participate in decision making and inspiration building (World Survey on the Role of Women in Development, 2009; Stein, 2009; Thiengkamol, 2011e; UNICEF, 2007; Argawal, 2010; Radovic-Markovic, 2012). Moreover, another exogenous variable of psychological state is also play an important factor that correlate to people behavior.

Objective

The objective of research was to develop a model of Women Empowerment (WE) and Psychological State (PS) affecting Environmental Conservation Behavior (ECB) through Inspiration of Public Mind (IPM).

Conceptual Framework



Methodology

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

1. The populations were 19,844 women empowerment committees of Maha Sarakham Province. The Multi-stage simple random sampling technique was employed to collect the sample of 400 women empowerment committees from different district and sub-district of Maha Sarakham Province. Questionnaire was

used as a tool for data collection. Structural Equation model (SEM) was used for model verification. The objective was to develop a causal relationship model of women empowerment affecting environmental conservation behavior through inspiration of public mind.

2. The research instrument used in this study is questionnaire. The questionnaire composed of 160 questions applying Likert's 5 rating scales. Structural Equation Model (SEM) was used for model verification by LISREL programming. The content and structural validity were determined by Item Objective Congruent (IOC) with 5 experts from the following field of expertise environmental education, psychology, social science and social research methodology. The reliability test was done by collecting the sample group of 50 women empowerment committees of Kalasin Province.. The questionnaire reliability was determined by Cronbach's Alpha. The reliability of women empowerment, psychological state, inspiration of public mind, environmental conservation behavior and the whole questionnaire were 0.919, 0.792, 0.938, 0.934 and 0.967 respectively (World Survey on the Role of Women in Development, 2009; Stein, 2009; Thiengkamol, 2011e; Argawal, 2010; Thiengkamol, 2012d; Kamin, 2014; Dejkunchorn, 2014).

3. The inferential statistics used in this study was Structural Equation Model (SEM) analyzing by LISREL version 8.30, the model verification will be determined by Chi-Square value, MSEA (Root Mean Square Error Approximation) value and RMR (Root Mean Square Residual), including index level of model congruent value, GFI (Goodness of Fit Index) and critical number, and index level of model congruent value, AGFI (Adjusted Goodness of Fit Index) should fall between 0.90-1.00.

Results

The results of this study were as the followings.

1. General characteristics of sample group

The sample group of 400 women empowerment committees from different district and sub-district of Maha Sarakham take a position in 2013. Most of them age between 20-78 years, average age of 42.38 years and paid respect for Buddhism at 99.09%, personal monthly income between 500-57,000 bath with average income of 9,620.58 bath, had nuclear family with 68.95%, and 94.29% of them had own house.

2. Results of effect among variables in model in terms of direct effect

2.1 Confirmatory factors showed that Women Empowerment (WE) had direct effect to Inspiration of Public Mind (IPM) with statistically significant at level of 0.01 with effect of 0.50 and Environmental Conservation Behavior (ECB) with effect of 0.36. Moreover, confirmatory factors in aspect of Women Empowerment (WE) had indirect and total effects to Environmental Conservation Behavior (ECB) with statistically significant at level of 0.01 with effect of 0.40 and 0.76 respectively.

2.2 Confirmatory factors of Psychological State (PS) had direct effect to Inspiration of Public Mind (IPM) with statistically significant at level of 0.01 with effect of 0.56 and Environmental Conservation Behavior (ECB) with statistically significant at level of 0.01 with effect of 0.29. Moreover, confirmatory factors in aspect of Psychological State (PS) had indirect and total effects to Environmental Conservation Behavior (ECB) with statistically significant at level of 0.01 with effect of 0.45 and 0.74 respectively.

2.3 Confirmatory factors of Inspiration of Public Mind (IPM) had direct effect to Environmental Conservation Behavior (ECB) with statistically significant at level of 0.01 with effect of 0.80.

2.4 Considering on structural model confirmatory factors of Women Empowerment (WE) and Psychological State (PS) were able to explain the variation of endogenous factors of Inspiration of Public Mind (IPM) to cause Environmental Conservation Behavior (ECB) with 85.00 percent as the following in equation (1).

$$ECB = 0.80*IPM + 0.36*WE + 0.29*PS.....(1)$$

$$(R^2 = 0.85)$$

Moreover, confirmatory factors Empowerment (WE) and Psychological State (PS) were able to explain the variation of confirmatory factors of Inspiration of Public Mind (IPM) with 75.00 percent. Therefore, the equation can be written as the following equation (2).

$$IPM = 0.50*WE + 0.56*PS.....(2)$$

$$(R^2 = 0.75)$$

Equation (2) the factor that had the most effect Inspiration of Public Mind (IPM) was Psychological State (PS) with the effect of 0.56 and subsequence was Women Empowerment (WE) with the effect of 0.50. These were able to explain the variation of Inspiration of Public Mind (IPM) with 75.00 percent.

2.5 Considering on Chi-Square value at 1.304 considered less than 5, therefore it was accepted that hypothetical model of research was congruent to empirical data. Moreover, it was considered on other statistical values to verify the congruence including Goodness of Fit Index (GFI) and Adjust Goodness of Fit Index (AGFI) were 0.95 and 0.92 respectively ($GFI > 0.90$ and $AGFI > 0.90$), RMSEA and RMR were 0.043 and 0.13 ($RMSEA$ and $RMR < 0.05$) and critical number = 236.04 which was more than 200. It indicated that model was congruent to empirical data.

The results of analysis of causal relationship model and analysis of path effect as presented in figure 1 and table1.

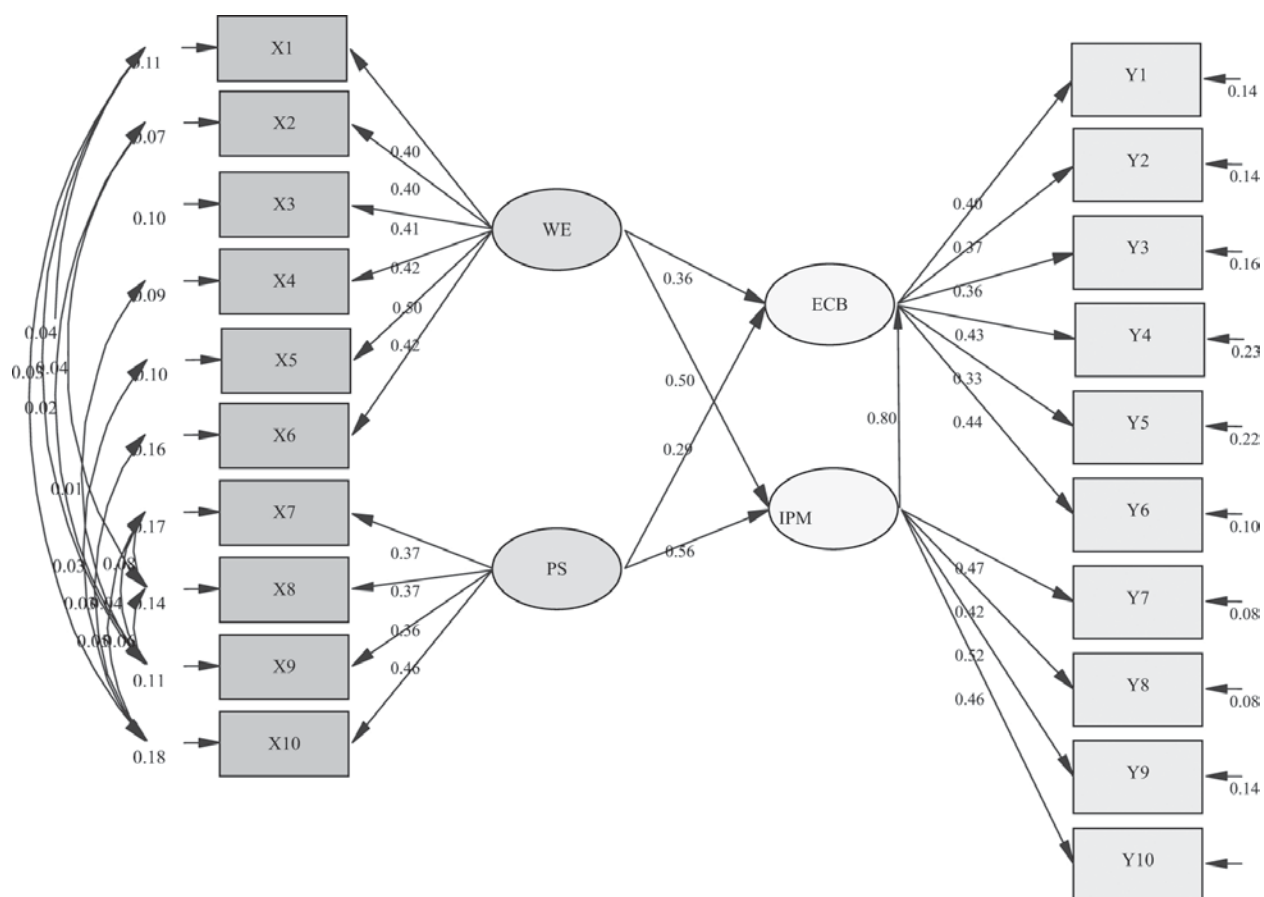


Figure 1 Causal relationship model of WE and PS affecting ECB through IPM

Table 1

Direct, indirect and total effects of WE and PS affecting ECB through IPM

Causal variable	Result variables					
	IPM			ECB		
	TE	IE	DE	TE	IE	DE
WE	0.50** (0.082)	-	0.50** (0.082)	0.76** (0.072)	0.40** (0.056)	0.36** (0.062)
PS	0.56** (0.081)	-	0.56** (0.081)	0.74** (0.061)	0.45** (0.062)	0.29 (0.054)
IPM	-	-	-	0.80** (0.065)	-	0.80** (0.065)
$\chi^2 = 203.56; df = 156$						
CN = 236.04						
$\chi^2 / df = 1.304$						
GFI = 0.92; AGFI = 0.95						
RMSEA = 0.043						
RMR = 0.013						

From table 1, it showed that the WE and PS had direct effect to IPM. IPM had direct effect to ECB. had direct, indirect and total effect to ECB and it also

Discussions

The results revealed that the exogenous variable of Women Empowerment (WE) had direct effect to Inspiration of Public Mind (IPM) with effect of 0.50 and Environmental Conservation Behavior (ECB) with effect of 0.36. Concurrently, the exogenous variable of Psychological State (PS) had direct effect to Inspiration of Public Mind (IPM) with effect 0.56 consequently, Inspiration of Public Mind (IPM) had direct effect to Environmental Conservation Behavior (ECB) with effect of 0.80. These results are in the line with to Thiengkamol and her colleagues studies. In particular, psychological state and inspiration of public mind had direct effect to Environmental Conservation Behavior (Thiengkamol, 2011e; Thiengkamol, 2012d; Dejkunchorn, 2014; Srikaewtoom, 2014; Srichaimool, 2014) that the results illustrated that psychological state influencing through inspiration of public mind to have a good practice on environmental conservation behaviors in terms of consumption behavior, energy conservation behavior, waste management behavior, traveling behavior and knowledge transferring and supporting for environmental conservation when they had genuine action via environmental conservation with inspiration of public mind.

From the study, it was revealed that Women Empowerment (WE) had direct effect on Environmental Conservation Behavior (ECB), while women empowerment also had indirect effect to Inspiration of Public Mind (IPM) which in turn effected to Environment Conservation Behavior (ECB) as well. The study repeatedly confirm that empowered woman tend to practice higher environmental conservation behavior compare to un-empowered one. Though the scope of this study is resided in Maha Sarakham Province, but the research findings are fruitful and worth for repeat study in other provinces in Thailand even in other country especially in developing countries.

Besides, it needs to challenge women to understand and realize their competencies to participate in the family and national development process and take part for natural resources and environment conservation. If they realize and gain more knowledge and raise their awareness, they will take a participation, and responsibility in environmental conservation and solving environmental problems with public mind for environmental conservation. The endogenous variables of Inspiration of Public Mind composed of observed variables; person as role model, impressive event, different media reception, and impressive environment. Theoretically, theses observed variables can be integrated and embedded in the women empowerment process to assist them to accomplish better environmental behavior to achieve fruitfully sustainable development (Donkonchum, 2012; Thiengkamol, 2012d; Kamin, 2014; Dejkunchorn, 2014; Srikaewtoom, 2014; Srichaimool, 2014).

Lastly, it might be concluded that WE, PS and IPM latent variables are an important functions to cause environmental conservation behaviors of consumption behavior, energy conservation behavior, waste management behavior, traveling behavior and knowledge transferring for environmental conservation in women committees of Maha Sarakham Province.. Therefore, the model of WE and PS influencing through IPM to ECB was at least verified in the study area, the statistics figures of the proposed model were fitted with all observed variables in accordance with the following statistical criteria, Chi-Square value differs from zero with no statistical significant at 0.01 level, degree of freedom (df) value less or equal to 5, RMSEA (Root Mean Square Error Approximation) value with less than 0.05, index level of model congruent value, GFI (Goodness of Fit Index) and index level of model congruent value, AGFI (Adjust Goodness of Fit Index) between 0.90-1.00 are proven the soundness and healthiness of the model.



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