

A PRELIMINARY STUDY OF ECOLOGICAL WORLDVIEW: THE STRATEGIES IN DEVELOPING ENVIRONMENTAL RESPONSIBILITY BEHAVIOR

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ABSTRACT: *This study is one of the activities of research and development which aim to develop strategies in developing environmental responsibility behavior. The preliminary study is the study of ecological worldview. The objectives are: (1) to identify environmental responsibility behavior; (2) to identify the contribution of psychological factors as the background; and (3) to develop hypothetical model strategies in developing environmental responsibility behavior. The method employed in this study is survey to find tendencies of ecological worldview with the psychological factors as the background. Data were collected by interviewing respondent using four instruments to measure ecological worldview, innovativeness, locus of control and environmental issues knowledge. The data analyzed by using descriptive statistics to find the tendencies and simple correlation statistics. The result of this study indicates that tendencies of communities ecological worldview in the phase of human centered worldview in which environmental issues knowledge is one of the variables which gives the significant contribution in developing ecological worldview. Finally, internalization on society in developing an effective strategy to participate in developing ecological sense of care is expected, so that they are not turning back to arbitrary exploit natural resources under the cloak of increasing prosperity*

KEY WORDS: *ecological worldview, model strategies, environmental issues knowledge, and environmental responsibility behavior.*

INTRODUCTION

According to Daniel D. Chiras, the environmental damage that occurred today is caused by a cycle from many man' views that applied at daily life (Chiras, 1991:454-465). *First*, religion view in which its teaching suggest human to maintain their generation by giving descendant as many as possible. *Second*, biological imperialism in which it is proposed that every man will fight for his self and his progeny to sustain his life. It gives an effect to the hoarder of properties as a stock for his posterity later. *Third*, derived self view which refers to man' desire to be others who have more capability than he had. *Fourth*, "I versus not I" view that discerns surrounding area as a part of himself. As the result, everything man done would not give an effect to his viability.

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Those views above generate frontier mental that see human as a part of nature which is more superior than others living things. The prominent characteristic of mental frontier are: (1) Earth is unlimited resources, (2) Life will be better if we accumulate our wealth continually, (3) Cost of many projects is only determined by matter, energy and worker, (4) Nature will always be available, (5) New technologies and role can solve environmental problems, (6) man is a part and lord over nature, and (7) Every man's efforts will continually generate waste. The application of these views at daily life, definitely, can give an impact to environmental damage.

Ecological worldview is a concept that being viewed as a new perspective of ecological norms that is considered in natural resources management. Naess, as cited by Frank B. Golley (1987:45), proposed the characteristic of ecological norms as the following: (1) the imagination about the relation between man and environment; (2) equivalence principle in biosphere; (3) the combination between symbiosis principle and diversity; (4) anti-class attitude; (5) removing the pollution and resources scarcity; (6) complexity; and (7) decentralization and local autonomy.

These things depict the characteristics above as ecological ethics concerning deep ecologist, which is closely related into two things. *First*, organism area can be viewed as a structure. It is interacted and acted directly with various factors, such as physical, chemist matter, and biological organism. *Second*, ecology is developed by a number of physical components, such as energy current, matter, and periodically information in physical organism and structure.

Those ecological system views are strictly related to attitude and behavior that give significant contribution into environmental continuity and problem. It is caused by attitude as a continuation from the view expressed (Fishbein & Ajzen, 1975:216). Positive and negative tendencies in responding an object will be affected into building and destructive behavior to those objects. Internal (belief and expectation) and external determinant (award and punishment) is a part of system, which is interacted and influenced into attitude (Burger, 1986:11).

Based on the idea above, this research focuses on the ecological worldview map as a basis in the developing of environmental responsibility behavior strategies. It is conducted because one's opinion will influence the attitude he/she is expressed. Afterward, it is responsible to environmental that is a combination from various factors as background, such as act skill, knowledge of act strategies and environmental issues, and individual factors, which consist of attitude, control locus, and individual responsibility (Hungerford & Volk, 1990:3-15).

THEORETICAL FOUNDATION

Ecological worldview is an individual view about ecological world system included individual role in that system (Audesirk & Audesirk, 1997). This view is a combination from belief and values of dimensions: (1) the use of natural area, (2) the concern of natural are, (3) the conservation of natural area, (4) the immolation of natural area, (5) the belief of science and technology, (6) the awareness of economical growth, and (7) the conservation of natural resources (Blaikie, 1993:14).

There are two concepts of ecological worldview. *First*, it is stated that human as human centered of worldview is followed by most of society who perceive that they can take a control over the existent natural resources. In this concept, man is viewed as an important and dominant creature in this world. Besides, they are also presumed as creature who should manage this earth for their own benefit. The basic principles as background of this concept are: (1) Man is important creature who are separate from nature; (2) Earth and its contains is always available and all of them is dedicated or man; (3) High economical growth with infinite potential will be better; (4) Health environmental depend on health economic; and (5) Man success is determined by how far they can understand, control, and manage this planet for their own advantages.

Second, it is stated that ecological worldview is oriented in life or life centered worldview. It is also called biocentrism worldview; belief that nature has its own law provision in the cycle of life. Here, the global knowledge that is oriented in life have various dimension, such: (1) Nature existence is not only offered for man but also for all creature that are a part of the nature itself; (2) Nature existence is moderate and having limitation; (3) Economical growth provides not only advantages but also loss; (4) Health economics depend on health environmental; and (5) Man success depend on their cooperation with other creatures in this world. In this concept, man along with other creature is assumed as biocentrism equivalence braided. As an example, ecosystem has identified and proliferate characteristic because it has exchange structure and long-term interaction between man and other creatures.

Behavior is expressed attitude components (Fishben & Ajzen, 1975:351). If one's attitude is determined by the setting of where he/she lives, then, it can be categorized as behavior all setting. This pattern can differentiate one's behavior with others to the object at certain places and times (Krech *et al.*, 1988:15). Eureka Janse van Rensburg (1994:28) stated also that behavior is directly correlated with the intention to act. Nevertheless, some factors influence it before it comes up into act decision. They are: (1) the readiness to act, (2) the knowledge of act strategies, and (4) personality factors, such as attitude, locus control, and individual responsibility. Theoretically, one will learn somebody else's behavior to be adopted in his/her behavior later.

RESEARCH METHODOLOGY

This study employed survey method by considering it investigated ecological view and physiologist factors (innovation level, control locus, and the knowledge of environmental issues) deeply and specifically.

The population in this study is Bandung society. Sukasari district was purposively taken as sample area since it has the following characteristics: (1) urban society, (2) high mobility, and (3) having and access for communication and social information. Meanwhile, sixty respondents were chosen by multistage random sampling from three sub-districts: Isola, Gegerkalong and Sukarasa.

To gain the data needed for the research, this study used interview technique which is using four instruments to measure: (1) innovation level or X_1 with $\alpha=$

0,81; (2) control locus or X_2 with $\alpha=0,83$; (3) environmental issue knowledge or X_3 with $\alpha= 0,72$; and (4) ecological worldview or Y with $\alpha=0,76$.

In analyzing the data, this study applied descriptive statistic in order to investigate the characteristics of society ecological worldview. Correlational statistic is also conducted to examine the correlation between society ecological worldview and psychologist factors as background, like innovation level, control locus, and knowledge of environmental issues.

FINDINGS, DISCUSSION AND LIMITATION OF THE RESEARCH: **A. RESEARCH FINDINGS**

The research findings show that the obtained maximum score is 64, while the minimum score is theoretically 72. The obtained modus is 54, 53, 29 on the average, 53 on median, and 8.74 on variance. The highest score achieved is between 53-55 or at the equivalent of 40.5%. The next scores are between 50-52, about 30.3%. While the lowest scores are only 0.6% of the highest score of 62-64. This indicates that ecological worldview possessed by the society is on the middle and lower area. It means that the society subjected in this study tends to be in the level of human centred worldview in which they consider themselves as the most important and the most dominant creature on earth. They can control the existed ecological system as well.

Some psychological factors behind the ecological worldview such as the innovation level, control locus, and the knowledge of ecological issues are shown by the correlation either classically or partially. The analytical result indicates that correlated coefficient between ecological worldview and the innovation level is 0.16 at the $\alpha < 0.01$. In other words, the relationship among them is significant. Contribution of the innovation towards ecological worldview variation is 2.5%. However, if the management both of control locus and of the knowledge of ecological issues are done either individually or totally, the relationship will be insignificant. This is shown by the result on each $r_{y1.2}=0.07$ ($p>0.05$), $r_{y1.3}=0.09$ ($p>0.05$), and $r_{y1.23}=0.05$ ($p>0.05$). This indicates that the relationship between ecological view and the innovation level will not exist if both of control locus and of the knowledge of ecological issues are managed either individually or totally. In this relationship, therefore, the role of the control locus and the knowledge of ecological issues cannot be ignored.

The relationship between ecological view and the control locus is significant with the correlated coefficient of 3.38 on $\alpha < 0.01$. Contribution of the control locus towards the variation of ecological view is 6.1%. In this relationship, both innovation level and the knowledge of ecological issues are still significant that is in $r_{y2.1}=0.20$ ($p<0.05$), $r_{y2.3}=0.16$ ($p<0.05$), and $r_{y2.13}=0.14$ ($p<0.05$) although the management of them is already done either individually or totally. This indicates that the strong relationship between ecological view and the control locus still exists even though the management of the innovation level and the knowledge of ecological issues is done.

The relationship between ecological view and the knowledge of ecological issues is indicated by the correlated coefficients of 0.31 on $\alpha < 0.01$. It means that the relationship is very significant. The knowledge of ecological issues contributes on the existence of ecological worldview variation of 9.3%. Although the management of the innovation level and the control locus is already done, the relationship is still consistent. This is shown by each correlated coefficient of $r_{y3.1} = 0.28$ ($p < 0.01$), $r_{y3.2} = 0.24$ ($p < 0.01$), and $r_{y3.12} = 0.24$ ($p < 0.01$).

In this relationship, based on the acquisition of correlated coefficient and the management of the innovation level, control locus, and the knowledge of ecological issues, it is indicated that the relationship between ecological worldview and the knowledge of ecological issues has the strongest relationship rather than the other. The knowledge of ecological issues, thus, not only be the main variable but also gives the most contribution to the formation of ecological worldview.

B. DISCUSSION

The research findings that indicate the tendency of the society in viewing ecological view is at the level of human centred worldview. This is influenced by some psychological factors, which in this research includes innovation level, control locus and knowledge of ecological issues.

With respect to the level of innovation, it is said that although the variables of control locus and the knowledge of ecological issues are managed, the relationship will not exist but still contributes on the ecological worldview variation. It is because that innovation level is a constraint in which someone adopts a new concept faster than other people in the same social system (Burger, 1986).

It consists also of five categories, those are: (1) innovator, (2) beginner adaptor, (3) early follower, (4) last follower, and (5) the conservative. The insignificance of the relationship between innovation level and ecological worldview is closely related to the factors behind the innovation itself. Roger's research of Columbian society shows that literacy index variation (0.27), mass media range (0.32) and cosmopolitan (0.14) contributes on the existence of innovation variation (in Krech *et al.*, 1988). Innovation is a common indication among the modern-advancing society in which the society view to every development will possibly exist (van Rensburg, 1994). This is shown by Lucia Siu and Keith Chau's research towards the difference of ecological view between Hong Kong people and USA people (Siu & Chau, 1996:2). The average value of Hong Kong people is 2.95. It is less than the average value of USA people that is 3.65. This indication shows that as an innovation, ecological worldview is differently adopted by the society based on their economic level, personality factor and communication attitude (Fishbein & Ajzen, 1975).

Control locus as one of psychological variables that related to ecological worldview indicates correlated coefficient with a high significance. The high significance because of that control locus is one of personality components on which dimension related with how someone beholds either him/herself or other judgment

about him/herself is correlated with a cause and effect perception (Mark, 1994). Thus, someone's action could be predicted based on his/her values and expectations. While according to N.W.H. Blaikie, ecological worldview is a value and expectation to ecological preservation. It is also a form of intention to act, while control locus is a personality factor (Blaikie, 1993:14). Thus, a positive relationship produced in this research is in line with a model developed by H.R. Hungerford and Trudi L. Volk (1994:27) where intention to act is influenced, for example, by personality factors such as attitude, control locus and individual responsibility. In other hand, Jerry M. Burger research (1986:11) found that someone cognitively learns an attitude performed by other in which the attitude itself has external determinants such as appreciation and punishment that interacts and affects the attitude.

The last factor behind ecological worldview in this research is the knowledge of ecological issues that has the highest correlated coefficient and contribution. Knowledge as a subclass of a proper faith and vice versa (Soerjani, 1992; 1997; and 2000) is an action emphasized on memorizing processes such as expressing ideas, delivering materials, or revealing phenomenon on certain situation. Piaget, as cited by Robert K. Gable (1966), stated also that knowledge of a concept is important for the next intellectual development. It is because of that in constructing a cognitive structure, a transformation and implementation are needed. Interaction between an individual and his/her surrounding will continually occur as the knowledge and a new perception on the surrounding is present (Hayati, 1999; 2001; and 2003). As an action is lied on the process of expressing ideas, delivering materials, or revealing phenomenon on certain situation, someone's ecological worldview is interconnected with a knowledge she/he possessed, in this case is the knowledge of ecological issues. While control locus is one of personality factors, the knowledge of ecological issues is one of variables that directly correlate with someone's attention to act (Hungerford & Volk, 1990:27). It means that before someone intends to act ecologically, s/he must have the knowledge of ecological issues as the main requirement at first. Thus, the knowledge of ecological issues is a foundation of ecological worldview development.

C. LIMITATION OF THE STUDY

Interview technique as one of research instruments has some weaknesses although reliability and validity analysis has provided a proper instrument of a research and the preparation steps for equalizing perception of the observer has been done. Those weaknesses are: (1) instrument transformation trough an interviewer could disrupt the instrument validity; (2) if there is a respondent who does not understand the standard language, the interviewer's translation could also disrupt the instrument validity; (3) respondent's understanding to the statements delivered by the interviewer will be different one another, so that the instrument reliability could be disrupted; and (4) interaction between respondent and the interviewer could direct the answers of a interviewee into what the interviewer desired.

Furthermore, a reluctance of a respondent at the interviewer makes the given answers tend to direct at good response set only, so that they do not present the right answer. In other hand, the answers given by a respondent will be influenced by his/her own desirability that is, of course, different one another (social desirability).

IMPLICATION OF THE STUDY:
A. THEORETICAL IMPLICATION

Based on the findings and the discussion of the study, it could be explained that theoretical implication are as follows:

First, the knowledge of ecological issues is important in constructing ecological worldview. Theoretically, it provides an implication on which the relationship of the two is formed in synergic linear. This means that if the knowledge of ecological issues are raised, ecological worldview will automatically raise to life centred worldview. Hence, Lucia Siu and Keith Chau stated that ecological worldview is constructed based on the development of thinking that is practically called systemic or holistic. It is used for the sake of viability of ecology and nature (Lucia & Chau, 1996). In this case, the knowledge of ecological issues is related with a development of ecological worldview clarification and adoption that could make either an opinion about world ecology or series of assumptions that is related with reality and ecology. Changing of norms, ethics and values that belongs to ecological worldview component needs an alteration to knowledge paradigm. Thus, as a process, learning is a foundation in developing the knowledge of ecological issues that advances on awareness of world ecology and of a change of more ecologic-responsible attitude (Baharudin, 1985:214-217).

Second, because the research findings show that the level of innovation and ecological worldview does not have a significant relationship if control locus and the knowledge of ecological issues are managed, then the relationship of them is an indirect relationship. Based on the phenomenon, the theoretical implication in this research is done by making an assessment using line analysis in which control locus and the knowledge of ecological issues are mediator variables. Thus, it is known that a dominant factor that affects ecological worldview is an occurred inter-variable intervention as well.

**B. PRACTICAL IMPLICATION: CONSTRUCTION STRATEGIES OF
ECOLOGIC-RESPONSIBLE ATTITUDE**

Based on the research findings, construction strategies of ecologic-responsible attitude is a practical implication. Because the knowledge of ecological issues is the main variable in forming ecological worldview, the construction is carried out by developing it in accordance with Oram's assumption that process of cognitive development is emphasized on the interaction between society and information and fact occurred in their surroundings (in Blaikie, 1993). Thus, it is expected that the expressed ideas, concepts and generalizations will be adopted as well as the

social cognitive structure will be developed into ecological worldview. Furthermore, it is directed into more ecologic-responsible attitude. The construction strategies include as follows:

First, Dissemination of Ecological Issues through Mass Media. Dissemination of ecological issues through mass media is expected to develop social knowledge of problems related to the ecology. In this case, some mass media can be utilized, for example print media, electronic and billboard media. The delivered topic can be made like other advertisement of society services, daily conversations, structured discussions, or urges on keeping the ecology safe.

Second, Production of Ecological Issues Serial Book. Production of ecological issues serial book is social orientation in doing daily activities in order to be more oriented on ecology. In other hand, this serial book is an idea that may increase social perception on ecology. Thus, it is expected that social ecological worldview will be more oriented on life centred worldview. In order to make the ideas included in this serial book accepted by the society, the book is consisted of either the language of easy-understandable daily conversation or illustration of more concrete things. The form of the book may be in a popular knowledge series, social stories and children stories.

Third, Dissemination of Ecological Issues through Elucidation. On its implementation, elucidation is done by three components, those are society, experts and LSM (*Lembaga Swadaya Masyarakat* or Non-Governmental Organization). Initially, the elucidation is directed to social group that has strong influence to the other. The members of the group may include informal figures such as Muslim scholar and prominent citizen, youth cadre and woman cadre. Because this group is the pioneer one, then they not only absorb information of ecological issues but also receive a learning method. Materials and method of the elucidation are given based on the purpose planned by the initiators; those are LSM or NGO and the government.

Fourth, Dissemination of Ecological Issues through Self-Supporting Learning. These are continuation strategies and in the same time applications of classroom learning on the elucidation. This program is directed more on local content or *MULOK (Muatan Lokal)* that is emphasized on self-supporting learning that agree with social activities characteristics and the local ecological problems. Module is a main media in this activity in which the students are expected to be able to explore by themselves. In certain periods, meetings are done to monitor what the students have been achieved as well as investigate problems related with their ecology in which it will be discussed later.

Fifth, Observation of Social Based Ecological Preservation. Observation of social based ecological preservation is a monitoring done by the society, government and related institution. It is planned in order to achieve the purpose of monitoring development well, thus there are no overlap either individually, in-group, or in institute. In addition, there are clarities on inter-institution authority related with the monitoring of ecological preservation. Social participation in this activity is needed in order to ensure that decisions they have been taken are both the best one and supported by all parties.

Sixth, Supporting Social Creativity to Preserve Ecology Individually. This activity is social creativity in preserving local ecology to support the development of program carried out by the society. This activity is in respect of accessibility to source, right to participate in decision making, and right to education and training that allows the society to fulfil their needs chronically as well as preserving the ecology.

Seventh, Intervention of Ecological Worldview Concept in Developing Basic Educational Level Curriculum. The importance of intervention of ecological worldview concept is on paradigm changing about imagination of relationship between human and the ecology, human equality in biosphere, and war against pollution and natural resources scarcity. Thus, it is related not only with the learning materials but also with the strategy of more effective conceptual planning by paying attention on the development of student's intellectuality.

CONCLUSION

Based on the research findings, it is concluded that the society commonly has the ecological worldview tendency on the level of human centred worldview. It means that there is more time needed in order to reach the ecologic-responsible attitude. Because the knowledge of ecological issues is the main variable so that affects the construction of ecological worldview concept, intervention on paradigm changing to alternate social view that is from human centred worldview to life centred worldview is needed. Thus, the efforts of developing ecological issues through the social utilization program and the intervention of education environment ecological worldview concept on the level of basic education are the main suggestion in this research.

Furthermore, on the implementation of social utilization, it is suggested that they have to be involved first, so that they feel that they are an important part on the system. Society, as the subject, has to receive not only a proportional role to participate in the activities but also an opportunity to consider a decision toward the information they received. Finally, internalization on society in developing an effective strategy to participate in developing ecological sense of care is expected, so that they are not turning back to arbitrary exploit natural resources under the cloak of increasing prosperity.

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