Women’s Environmental Literacy As Social Capital In Environmental Management For Environmental Security of Urban Area

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Abstract: This study is about experience of women's role in environmental management to raise environmental security and form of women's emancipation movement. Environmental concerns conducted by residents of urban women who become environmental activists based on environmental literacy. Because of that, women’s experience in interacting with both physical and social environment have differences in managing the environment including managing household waste by applying the principles of the 3Rs (reduce, reuse, recycle) and their persuasive efforts on their communities. This is the key to achieving sustainable development by anticipating environmental problem and preserving the environment. This study is conducted qualitative research method and its type is descriptive-explanative. The result of this study is environmental literacy of women activist on pro-environment action in their community that has achieved spiritual environmental literacy. Environmental literacy may differ due to internal and external condition of each individual. Pro-environment activities conducted as a form of responsibility of environmental concern such as eco-management, educational, and economic action, by persuading residents to proactively and consistently continue to do environmental management and develop a sense of community in shaping the networks of environmental concern in local context for global effect.

Keywords: environmental literacy, women activist, environmental management, environmental security

1. Introduction

In the context of environmental awareness, women have an important role to achieve environmental justice. Environmental security should be achieved globally through environmental management activities locally and regionally. Efforts to prevent women from becoming victims of environmental issues require collaborative action through the ability to develop women's networking. The women activists also contributed greatly as a force for peace movements in conflict areas around the world [1-3].

Environmental contamination that occurs in urban area at the present day is very concern. Environmental problem cause air pollution, clean water issues, waste issues, and environmental sanitation. To overcome the environmental crisis, it requires action from the whole society to act...
environment friendly. Environment friendly can be performed by planting and maintaining environmental hygiene that can reduce pollution or waste that can harm human’s health.

Human is an actor who decides how to act and change the situation but the choice to act is influenced by social and ecological condition of its environment. Access and control over natural resources must also be owned by women as part of human rights. Therefore, the empowerment of women will be enhance the ability of women to participate in environmental management. Behavioral and responsibility in environmental management will be achieved by increasing individual environmental literacy. Individual environmental literacy will underlie and strengthen individual motivation and environmental concern action in preserving the environment. Individual who has ability in environmental literacy will have more sensitivity to the environment. This individual will be able to identify environmental problem in their community and find its solutions. Additionally, this individual is able to actively participate in maintaining and preserving the environment.

The ability of society to do environmental concern is a solution in dealing with environmental issues that will improve the quality of people’s life and environment. The study was conducted in DKI Jakarta, Indonesia, where the environment pollution happening in the areas of Jabodetabekpunjur (Jakarta and its satellite cities/suburbs) nowadays is very worrying. To deal with the environment crisis, it is necessary to have a concrete act from all the community to have an environmentally-friendly behaviour, by doing greening and maintaining the cleanliness of environment to reduce the threat of pollution or waste.

Behavioral change in environmental management often requires block leaders. Block leaders is a name for people who volunteer themselves (work without getting a wage or payment) to distribute information of environmental conservation [4]. Block leaders served as a major motivator for people, by directly delivering information and inviting people who become people mover to participate in environmental management in their community. In Jakarta, independent environmental management has been started to do by mobilization that is performed by people’s motivation. At several locations in Jakarta, people’s mover is conducted by a group of woman or housewife who later on persuade people to participate actively in managing their environment. The action that carried out by woman is a social capital to achieve sustainable environmental management. Individual environmental literacy will be different depending on the ability to understand and intensity of individual interaction with the artificial environment in the city. The condition of artificial environment in Jakarta is not just a matter of open land limitations in high populated residence areas but is also a pollution problems that more increasing. The environmental literacy and the ability of women in their role to manage environment, especially in the household waste management independently as local knowledge is need to elaborated as part of the individual behaviour ecology. As a role model in environmental management actions, it needs to be noted that environmental literacy on women activist is caused by experience of their activity that has contribution on the preservation of Jakarta area.

This study is to give a picture of human capital mapping socially existing in the society in environmental management based on environmental literacy of women. For the environment policy and its relation to the gender aspect, this research contributes to give a picture of the household waste management which can be replicated in other communities through granting access and woman empowerment where the environmental literacy of women can support the ecological continuity and human resources in the urban ecosystem.

2. Theoretical review
In this study to explore the power of women with a unique interaction with the natural environment, used the concept of environmental literacy. Environmental literacy has a wider understanding than ecological literacy. Environmental literacy is not only related to ecological understanding but also understanding between human interaction with physical/nature and social environment. The emphasizing in environmental literacy is based on ecological principle including inter-relation between nature environment and social system. Ecological knowledge is not only to discover environmental issue. Environmental literacy consists of several integrated constituent elements,
namely: awareness, knowledge, attitudes, skills, and behaviors [5-7]. In this study, the element skill differentiates from attitude element because of personal skill. Related to the integration of forming elements of environmental literacy, the individual ability can be divided into several stage/level as follow:

- Nominal environmental literacy as a basic ability in realizing and understanding environmental issue and problem that are communicated in the form of environmental information.
- Functional environmental literacy as a concept knowledge that is related to ecology and environmental issue. Individual is also able to think critically and deliver environmental message to other parties both oral and written.
- Operational environmental literacy as knowledge and skill of environmental concern in daily life. Individual is also able to collect and evaluate information in order to plan action and act environmental concern [8].

The concept of environmental literacy is positioned in the same level with the local knowledge. The concept of local knowledge is assumed as knowledge about environment that belongs to individual as a common citizen. The concept of local knowledge is knowledge about environment and territory, related to information about neighborhood. Environmental literacy has not been defined specifically based on the types of information and also specific context level [9].

In this study, environmental literacy redefinition is performed. Environmental literacy is individual ability in understanding physical environment and making concept of environmental problem and solution, also taking decision, environmental concern behavior, as a learning process result and exercise from the interaction with the physical and socio-culture environment. Environmental literacy context is related with gender, urban resident and the participation in environmental management. Knowledge element in individual environmental literacy is related to knowledge of environmental ethic. Alternative environmental ethic in this study is associated with eco-feminism. Eco-feminism becomes an alternative in the way of thinking of environmental ethic aspect that examines relation of masculine social institution and the destruction on physical environment [10]. Women’s close relationship with nature is based on historical condition on the pressure of patriarchy institution and western culture domination in identifying women and nature related with women biological attribute that is a result of social construction [11-12].

Related with the individual’s environmental literacy, determine several form of responsible behavior toward environment, namely:

- Eco-management (physical action) refers to the direct environmental action to physical/nature environment to take precautions and seek solution to environmental problem that occurs.
- Consumer/economic action refers to environmental action by using financial/aid support in taking precautions and finding solution to environmental problem.
- Persuasion refers to environmental action that is performed by individual or groups by approach other side to prevent environmental problem and seek its solution.
- Political action refers to politically environmental action (political process through activity of party, company, etc) to prevent environmental problem and seek its solution.
- Legal action refers to environmental action that support and implement law/policy that is valid and plan policy to prevent environmental problem and seek its solution.

Environmental management will support sustainable society achievement [13]. Environmental management has to be accompanied by society’s awareness to keep learning and seek a change in a way of thinking and understanding ecosystem life value. Value that has to be possessed by society is related to love for future generation through partnership and cooperation. Human needs to develop their self realization to understand their self existence and seek a balance and safe condition; it is not only for themselves but also for the ecosystem. Woman is also able to motivate their surrounding society in local scale in their community to preserve environment in practical and concrete way. Woman’s closeness with environment causes woman to become watcher to keep environment preservation in root grass level in local area [14]. Related to environmental literacy, as in Beijing
Declaration 1995, on 11th critical area of woman and environment, it needs knowledge digging and woman participation in environmental management and achieve sustainable healthy environment.

3. Methodology

This study is conducted with qualitative research methods, performed with field research to dig experience and insight of female mover on pro-environment action. Data collected with method that is used is in-depth interview method to 6 (six) participant and used participant observation method to join participant’s activities. Beside of that, documentary study from newspaper clipping and other study/research on environmental management based on community to support the data. Extracting data with in-depth interviews conducted with probing and always recorded with a recording tools, researchers also made a record of all the events on the field notes from observations and the additional information when at the study site.

Sampling techniques were conducted to obtain participants by snowball technique and the technique in choosing informant is purposive with the criterion female mover on pro-environment action based on assumption of independent and proactively in environmental management by citizen and woman’s ability in forming a networking in their community which can develop healthier and more comfortable environment quality. This study have 6 participant which is using saturation principle, sampling not continues until the researcher recognises that no new data were forthcoming or information redundancy [15]. The location of this study is Jakarta; informant residence which is located in Lebak Bulas, Banjarsari-Cilandak, Rawajati-Pancoran South Jakarta area, Klender-East Jakarta, Rawasari-Central Jakarta, and Warakas-North Jakarta.

Analytical techniques used in this study is using thematic analysis to find pattern or theme on information of the transcript of interview. Analysis is performed through process of coding data and complex indicator (from participant's statement in verbatim transcript), then made relation between indicators, defining and naming theme, then generated descriptive themes, after that wrote integral elements into a form of conceptual scheme/diagram. This conceptual result is gained inductively from field data and deductively from previous theory and study. In this analysis process, no statistical analysis used [16-17]. The way to maintain the validity or feasibility studies done by triangulation through member checking and triangulation of data collection methods (interviews, observation and document study).

4. Results and discussions

Based on the analysis found a theme that shows indicators of literacy and environmental elements after confirmation of concepts and theories, it is known that the participants already have the ability to achieve spiritual environmental literacy. This capability exceeds the knowledge and skills because the participants have been able to make alternative solutions and choice of activities to address environmental problems. Commitment and responsibility underlying due to their ability to be part of the worship of God and do good for God's creation. This key words is known from the coding process in the verbatim transcript follows:

Participant number 1: "... this is our responsibility as a creature of God …. God entrusts the environment to be maintained ....."

Participant number 6: "... to preserve God's creation is worship"

The capability exceeds the element of operational environmental literacy described in the review of the previous theory section.

Women’s environmental literacy led them to do pro-environment activities and persuade people to sustainably manage the environment. Their always want to share knowledge and experience to other citizen which is also under lied by spiritual values that they believe. Women’s orientation of the pro-environment action are prioritizing their activity to maintain the viability of the family, that family became prosperous and healthy are the ones that underlie women's awareness and sensitivity to the environment. Women has a value of altruism, empathy, sympathy, and care to preserve the environment by making changes for the better and more respectful of the surrounding environment. In
this study, the activity of environmental management that is performed by the participants is more focus on the management of the physical/nature environment (eco-management). It is known that there are differences in the environmental literacy of women activist; this is due to the internal and external conditions of woman. Urban area typology condition, which is in this study is the city neighborhoods and housing complex, also has relation with the establishment of environmental literacy.

In the context of Indonesian, environmental literacy of women also motivated by situational conditions which is external thing for women, the condition of the community in a social environment, perspectives on the environment, and implementation of various policies in both the PKK program (PKK stands for Pendidikan Kesejahteraan Keluarga-Family Welfare Education), as well as laws on the environment and waste management. While the personal circumstances of women is related to the individual’s characters or value such as self-concept and self-efficacy (an individual's capability to assess and decide to perform certain actions), the value of religiosity, and orientation on family life. External and internal conditions as the description above, cause individual environmental literacy will be different. However, sense of caring, compassion, empathy, and sense of brotherhood to share each other, owned by each female informant instinctively. Various changes in both nature and artificial environmental that caused by policy in citizen housing arrangement that is not integrated in dealing with population density becomes a shaper of awareness for the informant to prevent environment degradation.

Compliance of the condition of the physical/nature environment with personal necessity will form the different experience and knowledge, and also different sense of place in forming environmental literacy. This difference can be optimized by personal empowerment with a local behavioral approach. This is because condition/situational factors that may cause environmental literacy do not achieve behavior of environmental concern. Increasing environment knowledge will not directly cause the behavior to be concerned about the environment because there is access, control, benefits, and will strengthen the participation of environment responsibility. The basic thing in environmental literacy is the skill in reading and writing so that it is easy in receiving information, particularly environment information. Information and its source access are important things to be considered in forming the individual environmental literacy.

Meanwhile, the empowerment effort that is performed by women activist who made the social cohesion that strengthen social security in the community of the citizen socially will be the social capital to achieve ecological sustainability. Mitchell explains there are three conditions that make social cohesion; it is the individual's commitment to follow the value that is contained in the society to change environmental condition, the desire to share and feel to become a part of the community. Participation of female citizens as actor of pro environment action is an important social capital for sustainable community[18]. The ability of woman is social capital where individual resource is able to mobilize others through relationships with others (community citizen) through the establishment of interpersonal networks in the context of community empowerment will be more success with an approach that adjusted with the type of residence (related to the condition of the physical/nature and social environment).

5. Conclusion
The fundamental thing from environmental literacy element is woman’s knowledge, attitudes, and behavior of environment concern. Their focus on environmental problems and issues that occur is more specialize in the neighborhood where they live. Women who have spiritual environmental literacy has the ability not only the skills but also the commitment and managerial skills to solve environmental problems. Underlying condition of spiritual environmental literacy in the context of the findings of this study are the traditional values of the herbs and how to grow crops, religion, profession, and the condition of living environment including the type of settlement that is densely populated. Although the findings of this study in a local context, however, has indicated that women have the experience and the power to form a network to improve the environmental issues to achieve environmental security and sustainable development globally.
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