The Importance of the Religious and Scientific Values-Based Knowledge in the Conservation of the Natural Resources and Environment in Indonesia

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Abstract
This present research was conducted in the locations in which the figures of Islam religion, the doers of the natural resources and environmental conservation, have received some awards at the local, national and international levels, in 2015 and 2016. A phenomenological qualitative approach with an emphasis on the events and symptoms the researcher interpreted was employed. The results of this research showed that the behaviors of the prominent figures of Islam in the natural resources and environmental conservation were heavily influenced by the knowledge and the values they possessed. The knowledge was gained from long and intensive training activities with various methods and approaches. The figures of Islam, the doers of the natural resources and environmental conservation, had more advanced thoughts than those who did not do activities of conservation and who merely focused on their worshipping activities in a narrow sense. Their patterns of acquiring the knowledge and values are expected to be able to be applied in the locations in which they or other ummah of Islam live, so that the ummah of Islam will have a better awareness of and show real behaviors in maintaining the natural resources and the environment in accordance with the teachings of Islam, namely human beings as the God’s caliphs.

Keywords: Knowledge, Values of Islam, Conservation.

INTRODUCTION
Knowledge plays the main roles in determining one’s behavior towards the environment (Kollmus, 2010). Some other theories and models are proposed by Burges, et all (1998); Stern (1993); and Schwartz (1977). Kollmus (2010) proposes that there are five variables that may influence, directly or un-directly, one’s behavior
towards the environment, namely knowledge, attitudes and values, namely something that makes it possible for someone act ecologically, produce behavioral incentives and have some feedbacks felt about an ecological behavior. The Kollmus model (2010) refers to the opinion given by Sten et all (1993) proposing an altruism model, that some attention to the environment is caused by a combination of three factors: egoistic, social, and biospheric orientations.

Knowledge is anything one knows about an object, including science. Therefore, science is part of knowledge human beings have besides other knowledge such as art and religion (Suriasumantri, 2001). Knowledge may be studied at the levels of individual, group or organization in the explicit or tacit, structured or unstructured forms. It covers among others insights, intuitions and experiences. To gain the knowledge, it needs intensive personal interactions and long time (Davenport, 2003).

Evans (2006) states that knowledge is an important aspect in conservation and it is needed to conduct the 1990 Indonesian Law on the Biodiversity Natural Resources Conservation covering: the protection of the life supporting system, biodiversity preservation and its ecosystem; and the utilization of the biodiversity and its ecosystem (Santoso, 2008).

Various research results showed that the knowledge and awareness of the people in Indonesia about the natural resources and the environmental conservation were still at a low level. Nurdianto, K (2016) suggested that it is merely 30% of the people, including the officials and the entrepreneurs, who had some knowledge about the forest protection. Sukarsono (2016) also found that the people’s knowledge about forest and water conservation was still minimal. Moreover, BP-DAS Brantas (2014) said that in their research results the people’s knowledge about the protection of watershed, especially the Brantas watershed was still little so that a priority should be given to solve this problem. Similar researches made in various places with various conditions were conducted in Yogyagarta by Utami et al (2015), in Bali by Paramita and Yasa (2015), in Boyolali, East Java by Sadono(2013), in Central Kalimantan by Akbar et al (2011), in Malang, East Java by Amri (2007), in Lampung by Ristianasari et all (2013) and also similar researches as documented by Ashar (2014). All the researches showed the same results that the people’s knowledge and about and their awareness of the natural resources and the environmental conservation are still low.

Such low knowledge and awareness of the people in various strata may be seen from various disasters continuously happened that resulted in loss of materials and environmental damages, even in deaths. For example, it is reported by the Indonesia BBC(2016) and daily paper Republika (2016) that the economic loss caused by the forest fire in 2015 was about Rp. 200 quintillion. The loss is from the burned plants, polluted water, air emission, flight business, and also the death. This also applied for the flood in urban or rural areas that not only caused economic loss up to billions rupiah, but also environmental damages, loss of and damages of the settlements, including the deaths.

The low knowledge and awareness also happen among the Ummah of Islam. Due rapid population growth and massive development process, from the planning to their
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operational activities, the importance of the environmental protection is not paid attention. The Ummah of Islam that should serve as the fore-runners in the environmental protection become powerless because of the pressure from the existing needs and social system. As a result, on the one hand, some possibility to act as the God’s order to protect the environment is ignored. On the other hand, some hindrances are arisen from the Ummah of Islam in Indonesia themselves: a paradigm of thoughts and actions growing so far which is limited by the rigid Islamic tradition of the Middle Age and is merely based on the theistic subjectivism concept as stated by Houroni (1966). This concept tends to be merely oriented on the struggle for reaching one’s own goodness in order to gain some forgiveness and goodness from God either in this world or hereafter, instead of working on the complex and tiring relations and problems of the ummah.

Up to now, various publications have driven the Ummah of Islam including the prominent figures, into a corner. As a result, the prominent figures are more known as the spiritual leaders who merely work on any business in the hereafter, even who promote any activities dealing with terrors. Some figures of Islam oppose the traditional pattern and involve themselves fully, even become leaders in various changes in thoughts and behaviors, including in the natural resources and environmental conservation.

Some experts propose a theory that knowledge is the most important requirement to build one’s attitudes and behaviors in anything, including in the activities of the environmental protection. Kollmus (2010); Evans, K. et. all (2006) assert that one’s behavior in the environmental protection is influenced by any knowledge one possesses, besides other supporting factors. It is in line with Sukarsono’s research results (2014; 2016) that knowledge becomes the main requirement for someone of a group of people to behave and to act friendly to the environment.

On the basis of the thought, it is very vital for the ummah of Islam to improve their mastery of knowledge and to internalize the values of Islam in conserving the natural resources and the environment in order to make them possess a better paradigm and to really contribute to the conservation and to prove that they are the real caliphs in the earth.

If the transfer of knowledge is an important activity to influence the brain and the thought, the internalization of a value is an effort to build an affective function. Winkler (2008) states that one experiences the value of an object to the full through the realm of feeling. As a result, the internalization of a value should involve one’s feeling, respect it and should also give a chance to reinforce one’s faith through the given internalization techniques.

Value is any thought or concept of what is considered to be important for someone in his/her life that may arouse some responses, appreciations, good or bad faiths (Ekosusilo, 2003; Schwartz, 2006; Evans, 2006; Titus, 1984; Robbins, 1992).

Schwartz (2006) groups a spiritual value as universal value for the welfare of the people and the (natural) environment. UNESCO (1991), however, states that the
spiritual value is the basic value human beings possess like the values of health, truth, social responsibility, nationalism and the essential value of economy. Moreover, Schwartz (2006) states that a value has played an important role, not only in the field of sociology, but also psychology, anthropology and other related disciplines. A value is used to characterize an individual and a society, to trace any changes from time to time, and to explain any basic motivation of one’s or society’s attitudes and behaviors.

Toha (1996) suggests that a value in Islam is an essence inherent in something which is meaningful for the life of Ummah of Islam. Ardiansyah (2010) explains that values of Islam are a normative pattern that may determined any desired behaviors for a system related to the surrounding environment. Values in Islam may be distinguished into essential and instrumental ones. Some values of Islam on the natural resources and environmental conservation are proposed by global figures of Islam. All of them agree that Islam has very important values to implement the conservation as the realization of the duty of the caliphs in maintaining the earth.

**METHODODOLOGY**

In this present research, a phenomenological qualitative approach with fixing model was employed (Winarno, 2007) since the collected data were qualitative in nature since the object was determined before. The emphasis of this research was given on the scientific situations in which the researcher was the main instrument. The researcher focused his attention on the phenomena or symptoms appearing in the research site as understood by the researcher (Lincoln YS & Guba, 1985). The data were collected through in-depth interviews, participant observations and library research. In the data analysis, a triangulation technique was used, consisting of data reduction, data presentation and data verification (Miles & Huberman, 1992).

This research was conducted in two locations in 2015 and 2016, where the prominent figures of Islam, the doers of the conservation did their activities: Sumenep regency, East Java province, and Lombok Barat regency, West Nusa Tenggara province, Indonesia. The figures and locations were determined on the basis of their achievement and the acknowledgement of the people either at the local, national and international levels towards their success in their activities of conserving the natural resources and the environment.

Knowledge and values of conservation the prominent figures in conservation have were identified through in-depth interviews method (Winarno, 2008). The interviews were instructed in nature to avoid any communication rigidity between the researcher and the prominent figures. In the interviews, no sheets and notes, but digital recorders were made use of. The results of the interviews were then transcribed as the research data. The data were then grouped into various types of, among others, strategies in the acquisition of knowledge and the internalization of the religious and scientific values in conservation.
RESULTS AND DISCUSSION

Research results showed that knowledge and value have a very important role in conservation education. Knowledge and value become drivers of sustainable conservation behavior in Indonesia. Two important aspects of knowledge and value in conservation education are knowledge must be built on values and behavior, knowledge transfer strategies and value internalization.

Knowledge Bases Values and Behaviors of Conservation

Research results showed that the prominent figures of Islam, the doers of the conservation, based their activities of conserving the natural resources and the environment on the knowledge they obtained not from the Islamic books they have studied so far, but from the trainings they joined in. It is in the trainings that they may improve their insights and build stronger Islamic values in themselves.

The prominent figures of Islam in the two locations had similar experiences in gaining the knowledge, namely through trainings of improving insights. The training conducted either in in-door activities or in simulations, surveys and six-month trainings on researches and being followed by practices under the team guidance in the locations in which they lived. The knowledge improvement was also made through various meetings either seminars, or workshops, and the like.

Scientific knowledge of the interactions among natural components (water, air, sunlight, human beings, and others) becomes a new scientific information that may be observed. This knowledge is then connected with the religious knowledge previously possessed. This knowledge will increase one’s belief in the truth in religious messages supported by the facts and scientific data in the field. On the basis of this knowledge, the awareness of the religious leaders would be constructed and result in behaviors which are considered by the society and their students as the extreme ones (Sukarsono, 2016).

The behaviors are considered to be extreme by the students students they are shown by the behaviors which are “out of the box” done the prominent figures. For example, in this present research an extreme behavior was shown by a prominent figure who conserved the barren land by planting the land with forest plants. The barren land was known to be the land that cannot be planted due to the lack of water and hot temperature which results in water evaporation that makes the land dry.

The failures in cultivating the barren land had not discouraged their desires to conserve it until they invented the best planting method. These efforts were made by the religious elders in the land which is far from their houses. The religious leaders by themselves or with some of their students went to the land and even they had to stay in the forest with limited foods.

The religious leaders’ conservation behaviors have constructed new knowledge and values which are not obtained in trainings. For instance, the leaders often planted trees but the trees could not grow because of water scarcity. A new knowledge was
obtained when it was found that there was a type of tree that is able to live under the shelter of a coconut shell in a barren environment. This discovery then constructed a new idea of an environmental requirement for a plant to be able to live in a barren land. One of the techniques applied was to place coconut shells around newly planted plants. This technique succeeded and created a new knowledge that may be applied in all locations belonging to the pesantren and the society. The behaviors of the religious leaders have resulted in a new knowledge but it should be admitted that training is a vital initial step in building values and behaviors. It is a fact that behavior may construct a knowledge has been proposes by experts in behaviors (Kollmus, 2010) and supported by Sukarsono (2016).

Theoretically, the prominent figures’ behaviors on the basis of the knowledge may be approach from the attribution theory proposed by Fritz Heider (1946-1958). On the basis of the knowledge they got, the figures analyzed and organized their thoughts under the cause-effect framework and adjusted it to the environment and the people around them. This phenomenon turns out the same with findings obtained by Deni (2011) where he studied the society in doing some conservation in Simpang Mountain at East Java. Their behaviors in the research sites was encouraged by external factors – activities made by an NGO working on its attention to the natural resources and environmental conservations. Its purpose is to help the society improve their understandings and internalized values on the natural resources and the environment.

**Strategies in Transferring Knowledge and in Internalizing Values**

Disasters, damages of the natural resources and the environment in the surrounding of the Ummah of Islam prove that the ummah of Islam cannot serve their function as the caliph in maintaining the earth. In order to commit the duties, it is necessary to master the knowledge that may be able to build strong Islamic values (Sukarsono, 2016; Ardiansyah, A. 2010; Elmubarok, Z. 2009; Maliki, Z. 2011)

The possession of knowledge and values in the prominent figures of Islam showed trainings or any other forms are the first and the main activities to do. Without any knowledge transfer or value internalization, any expectation of someone or a group of people to act something in conserving the natural resources and the environment would not be able to be realize and developed. The fact shows something that may be adopted as a strategy in transferring knowledge and in internalizing values of conservations among the people as a whole, especially the ummah of Islam.

Strategies in the transfer of knowledge and in the internalization of the conservation values are made by prominent figures through two types of educational activities namely to the students at school and pesantren and to the people through socio-religious groups. The ownership of knowledge and values and skills in the practices of conservation is combined information that may be able to assure the students and the people to do the same thing. The evidence of the success of the educational activities may be seen in pesantrens’ area in preparing the seeds that would be given
to the society. The success in planting trees in the society may be seen from the width of area planted and no empty land and the high number of the people who are able to send their children to school and to go on pilgrimage from the yields of planting trees given by the prominent figures.

**Intensive Trainings**

Training activities intended to transfer knowledge made by the doers of the natural resources and the environmental conservation often failed, especially they failure was caused by unserious committee in organizing the trainings, relatively short time, and less variations of the presentation methods.

Any training should be held intensively and continuously, without being interrupted by any other activities, except the training activities. Some trainings in conservation considered as successful are done at least for six-month or even one-year period. Such a long time may be used to present materials in the forms of theories, simulations and direct practices in the field. It is necessary to avoid presenting some information or insights through seminars and the like which may result in an impression of talking much, being a know-it-all to the participants, giving poor examples or actions.

Intensive training gives the impression of seriousness of the implementers with targets that are worth achieving. Different training targets are achieved using different methods and approaches. Training approaches and methods largely determine the success of achievement in training (Paramita, 2015; Sukarsono, 2016, Winarno, 2007).

**Involvement in Making Awareness**

It is impossible to educate prominent figures in religion and in society using the same way or approach as adopted to the students. The approach adopted should be adjusted to the age levels, situation, experiences and the status of the participants as the prominent leader in a society. The approach to internalizing values should be made through anandragogical approach. The prominent figures in religion and in society in general feel glad if their human values are acknowledge and respected. This will appear if the domain of affection in the figures is made alive.

In the internalization of value, the trainers should make personal rapports and try to become “models” for the participants on the basis of the feeling of love. Values will maximally develop if the training process happens in the atmosphere of love and understanding (Shihab, 1996; el-Mubarok, 2009). Some techniques of the value internalization developed by Majid (2006) are among others: indoctrination, moral reasoning and clarification.

An indoctrination technique is usually made to students, instead of prominent figures, since this technique is dogmatic in nature. But if possible, this technique may be adopted. This technique usually exists in lecturing or coercive methods.
A moral reasoning technique is the one that is expected to be appropriately applied for the prominent figures of community who are used to discussion or deliberation, even who are leaders in the activity. This technique may be implemented by giving an environmental problem existing around them and in the teachings of Islam. The analysis of the problem should end with some conclusions reflecting a new understanding and awareness and values from the reasoning results. This technique should be applied in groups so that the participants may share their thoughts and may be able to make some conclusions.

A clarification technique is adopted by the trainers through modeling of real activities by facing the participants to the facts in the fields. Clarification is made by making the participants sure that the environmental problems are not in imagination or in the paper, but they will grow and develop in the dynamics of daily life. The variation of the technique will make the participants able to accept any values that are expected to be presented.

**Building some Awareness and Togetherness**

Training strategies are made to build some awareness and togetherness (Shihab, 1996). A training is also intended to result in outputs in the form of knowledge and values of conservation according to the teachings of Islam.

Togetherness in conservation should be built since the training activities are done, because it will be applied in the field. Shihab (2002) explains that as stated in the Holy-Quran, the role of the caliphs in conserving the earth is impossible to be realize if it is merely done by an individual, though he is a prophet. Involving others as the role of the caliph will be more strategic if it is done on the basis of awareness. Therefore, any activities in implementing the values of the caliph need two main things, namely the process of making some awareness and of building togetherness.

Awareness and togetherness are the duties of the caliph in managing the environment. Shihab (1996) explains that the relation of human beings and the nature and the human beings is not the relation between the conqueror and the conquered, but togetherness and submission to the Allah SWT.

The concern and togetherness are built in the educational activities either to the students at school or pesantren or to the people in general. Togetherness as the God’s creature with equal responsibility may be approached in accordance with each individual tasks and interest. To the students, values of faith, obedience to the parents, and teachers, the concerns to the environment and the future are built. To the educational prominent figures, values of faith and rewards to gain happiness in the world and hereafter through sustainable good deeds improved. To the public, the values of economic, faith, hard work and rewards for the goodness in the world and hereafter are encouraged. All layers of the society work hard to make conservation together in line with each tasks and interest. This success will develop conservation values namely sustainable natural balance.
CONCLUSION

Changes of behaviors among the prominent figures in religion and also the people in general should start from the knowledge improvement. Knowledge should have value-based content either scientific or religious values. Good knowledge and values will change awareness and attitude. Awareness will influence one's behavior as an oriented and accountable behavior. Transfer of knowledge is made through formal education path at school and pesantren or informal one in the society.

Values of religious prominent figures, students and the people are constructed through educational process. the values are created through either theoretical or practical activities. The constructed values should consist of scientific and religious values. The existence of the types of value is expected to build awareness and attitudes which are balanced between the heart and the brain, so that the balance in the doer and in the sustainable environment may be achieved.

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