

The Cadre Determination of Hutan Raya Sultan Adam Park through Module Based Ecotourism

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Abstract: *This study aims to determine the conservation cadre of Sultan Adam Forest Park through a module-based ecotourism. The population is 52 students of class X SMA Negeri 1 Karang Intan in Academic Year 2011/2012. The research sample is 12 persons based on the ability to answer the pre-test items covering the knowledge of conservation cadres, performance, and attitude of leadership. The performance is assessed during the activities that includes the discussion, making a poster, a tour guide, making any articles, planting seeds, and making a scrapbook. The knowledge of cadre candidate is gained through the test. The leadership attitudes was acquired through questionnaires using Likert attitude scale. The knowledge and attitudes of leadership was obtained after following the conservation activities. The conservation cadre is determined if the prospective volunteers have an average score of knowledge, performance and attitude that is in satisfactory category at least. The criteria used are very satisfactory (81- ≤ 100), satisfactory (61- ≤ 80), satisfactory (41- ≤ 60), unsatisfactory (21- ≤ 40), and unsatisfactory (≤ 20). The research result says that it has been successful to determine 10 cadres of conservation of the 12 participants of education and training.*

Keywords: *knowledge, performance, leadership attitude, Sultan Adam Forest Park, cadre of conservation, and environmental literacy*

I. Introduction

The rising of environmental problem number has created a number of unsolvable questions about the ecological education (Hassan and Ismail, 2011). Although many teachers have been enough competent in imparting the ecological education to their students, the ecological education programs in most schools through the curriculum have not been satisfactory and those are not implemented across the curriculum (Scoffham 2000).

One of example relating to the ecological problems is a conservation area of Sultan Adam Forest Park that is located in Banjar and Tanah Laut regency. Most of this region (53.58%) is a tourist attraction. It is potentially be used as tourism attraction, but the management is not optimal. Balai Konservasi Sumber Daya Alam (BKSDA) of South Kalimantan (2008) describes that the problem toward Sultan Adam Forest Park is encroachment, land conversion, and vandalism. Aryadi and Hamdani (2011) describes that the critical land in the region increasingly is widespread due to illegal mining activities, forest fires, illegal grazing and forest encroachment. When it is left and unchecked, the Sultan Adam Forest Park will degrade and it reduces the ecological function correspondingly.

One way that can be conducted to improve the Sultan Adam Forest Park is inviting the community in preserving the natural resources and ecosystems. Miles et al (2006) found that the teachers' confidence to infuse the ecological education in schools is still low and the other cause is the limitedness of knowledge in the field. That is why; empowering communities (including students) in order to be active in conservation through conservation cadres means conduct training students in instilling the principles of conservation through ecological education. Ors (2012) describes that the ecological education started from the family, from birth and continues throughout the pre-school to higher education. However, ecological education is not limited to formal education institutions since an individual gains awareness through social life and relationships. In this context, the media is an important tool in ecological education and can be considered as a kind of alternative school.

In the 1960s, the knowledge of ecology is only taught to students in biology class by applying ecological concepts (Hasan et al. 2010). Ecology literacy is considered the ultimate goal of environmental education and it seems to have been neglected in recent years (Erdogan, 2007 as quoted Srbinovski, et al., 2010). According to Adisendjaja (2007), ecological education should provide the opportunity for young people to explore their environment in sensing, physical, and intellectual side.

The implementation of ecological education in schools has the objective that students acquire the factual knowledge. In this way, they are expected to become citizens who are ecologically conscious. There are two reasons of ecological education, namely 1) the students should love the environment, and 2) the interaction with the environment is an important part of the development of student life.

Zohir (2009) (quoted from Hasan and Ismail, 2011) argues that the purpose of introducing ecological education in schools is to instill the ecological knowledge, awareness, positive attitudes and behaviors. Ertekin and Yuksel (2014) describes the ecological education to help someone to improve perception, understanding, and attitudes in the human interaction, cultural and environmental biophysics. The students who attended classes to implement the ecological conservation activities in Sultan Adam are named the prospective volunteers. They have mastered the types of activities that will be got through after studying the module-based ecotourism and they also participate in conservation activities actively.

This study used the module as a guide for prospective cadre of conservation. According to Muntasib (1999), the products produced on conservation education activities cover guide books, leaflets, posters, postcards, book information, modules, and others. Hamzah (2007) describes that the modules (one of the teaching materials) of ecological education locally are based on the ecological conditions and real life, and phenomena that exist in the students' environment. The module is compiled systematically, covering the physical and social environment (cultural and economic), understanding, confidence, and knowledge of local students. The content of modules is adapted to the ecological conditions of the prospective volunteers.

The determination of conservation cadre by empowering the students has been initiated through several researchs (Belawati, 2012; Krisnawati, 2012). They used knowledge, attitudes, and leadership as an indicator. Zulfiati (2012) succeeded to determine 11 of the 35 students as the conservation cadres of ecosystem conservation Sebangau National Park. Coaching them in Sultan Adam by involving students is also the significant step in preserving this area.

II. Method

The descriptive research is used to determine the conservation cadre. The qualitative data is used to measure the performance and attitudes of leadership. The knowledge of prospective cadre is assessed through tests given after participating in conservation activities; the performance is assessed during the conservation work. Both activities were then categorized into very satisfactory (81- ≤ 100), satisfactory (61- ≤ 80), satisfactory (41- ≤ 60), unsatisfactory (21- ≤ 40), and unsatisfactory (≤ 20).

The performance of conservation cadre candidates were from observations and the results were recorded in observation sheets based on the instrument (Hibbard, 2000). The leadership attitude was acquired through questionnaires after participating in conservation activities. The attitudes were assessed using a questionnaire containing questions to measure the attitudes. The questionnaire was prepared based on the Likert scale and it composed of five kinds of choices, namely strongly agreed (SS), agree (S), doubtful (R), disagree (TS) and strongly disagree, (STS). The five choices is made scores proportionally where SS = 5, S = 4, R = 3, TS = 2, and STS = 1. The conservation cadre was stated when the candidate has an average score of knowledge, performance and attitude to the category of satisfactory at least.

The population is 52 students of class X SMA Negeri 1 KarangIntan in academic year 2011/2012. The sample is 12 persons based on the ability to answer those pre-test item and hereinafter is referred candidate conservation cadres. The instrument of data collection is a conservation education module consisting the basics of forestry, conservation, ecotourism, and the fundamentals of leadership. The evaluation tool is based on the syllabus of education and training of cadres of conservation of BKSDA, South Kalimantan.

The knowledge of cadre candidates was gained through the test. The performance is in the form of education and training activity results. These activities include discussions, making posters, tourism guides, making articles, planting seeds and making a scrapbook. The leadership attitude of conservation cadre candidate was obtained from the questionnaire containing the questions about the attitude of the leadership.

III. Result

The summary results of determining cadre of conservation are presented in Table 1.

Table 1. The Cadre Conservation Determination of Sultan Adam

No.	Cadre Candidate	Indicator								Total Score
		Knowledge	Discussion	Clipping	Poster	Simulation of Tour Guide	Article	Seed Plating	Leadership Attitude	
1	AB	70	91	80	63	88	80	96	85,83	81.73
2	Al	45	93	40	30	88	20	94	68,33	59.79
3	FR	40	91	50	66	85	66	92	78,33	71.04
4	KT	60	91	72	78	68	74	93	81,67	77.21
5	NN	75	93	88	76	90	86	96	75	84.88
6	NM	50	93	30	54	74	85	95	75	69.50
7	Nu	65	70	40	30	76	20	95	68,33	58.04
8	Ro	70	95	80	69	54	78	94	86,67	78.33
9	SN	60	94	80	82	93	78	96	76,67	82.46
10	SA	80	92	94	82	82	93	90	66,67	84.96

11	Wa	60	92	77	80	87	73	96	75	80
12	WA	80	95	88	80	87	90	93	79,17	86.52

Note :very satisfactory (81- ≤ 100), satisfactory (61- ≤ 80), satisfactory (41- ≤ 60), unsatisfactory (21- ≤ 40), and unsatisfactory (≤ 20)

Table 1 shows the eight activities that have been carried out by the prospective cadre of conservation. Based on the final score, the results states 10 cadres of conservation in satisfactory category. The capability distribution of cadres conservation on each of the indicators is presented in Table 2.

Table 2. The Ability of Conservation Cadre on each Indicator

No.	Cadre Candidate	Indicator								Total Score
		Knowledge	Discussion	Clipping	Poster	Simulation of Tour Guide	Article	Seed Plating	Leadership Attitude	
1.	AB	70	91	80	63	88	80	96	85,83	81.73
2.	FR	40	91	50	66	85	66	92	78,33	71.04
3.	KT	60	91	72	78	68	74	93	81,67	77.21
4.	NN	75	93	88	76	90	86	96	75	84.88
5.	NM	50	93	30	54	74	85	95	75	69.50
6.	Ro	70	95	80	69	54	78	94	86,67	78.33
7.	SN	60	94	80	82	93	78	96	76,67	82.46
8.	SA	80	92	94	82	82	93	90	66,67	84.96
9.	Wa	60	92	77	80	87	73	96	75	80
10.	WA	80	95	88	80	87	90	93	79,17	86.52

Note : very satisfactory (81- ≤ 100), satisfactory (61- ≤ 80), satisfactory (41- ≤ 60), unsatisfactory (21- ≤ 40), and unsatisfactory (≤ 20)

Based on Table 2, the cadre knowledge of about conservation of Sultan Adam needs to be improved and the other indicators are good. The other thing that is found in this study is the knowledge and knowledge that are inconsistency in which the attitude is satisfactory, but it is not supported by the knowledge that the cadres have. The cadre performance of conservation (discussion, clipping, making posters, simulating tour guide, writing articles, and planting the seeds) is also not supported by the knowledge of cadres.

IV. Discussion

The Determination of conservation cadre is based on three indicators: 1) knowledge, 2) performance, and 3) the attitude of the leadership. The knowledge needs to be improved; half of the number of conservation cadres relating to their knowledge are not satisfactory. According to Miles et al (2006), the ecological education in schools is still low and the cause is the limitedness of knowledge in the field. The ecological literacy is considered the ultimate goal of ecological education (Erdogan, 2007 as quoted Srbinovski, et al., 2010).

The module-based ecotourism provided to prospective cadre of conservation has been adapted to the environment condition. The other reason of the module content has been validated by the department staff of BKSD, South Kalimantan. The results of this study differ from the previous studies (Zaini, et al, 2008; Dwindiasih 2011; Yulinda 2011; Belawati, 2012; Krisnawati, 2012). They found that the approach of ecological approach creates the better knowledge. The ecological approach has the characteristics by linking the subject matter of science with ecological elements. MacKinnon and MacKinnon (1990) states that the most important point to learn the conservation means to see it directly. Volk and CHEAK (2003) describes that the ecological education is used to measure the critical thinking competence through Critical Thinking Test of Environmental Education (CTTEE) that make conclusions, make inferences, and identify the bias.

The knowledge result difference of conservation cadre happens due to the diversity of cognitive ability. According Sunarto and Court (2006), in a group of students at any level, their differences of background and experience can facilitate or hinder the performance. The main factor that affect the cognitive abilities can be distinguished in the form of the natural environment and the environment created. The learning in a natural environment for the conservation cadre has not been implemented, especially with regard to the determination of conservation cadre in Sultan Adam.

The prospective volunteers who take part in conservation in Forest Park Sultan Adam have known the environmental conditions and most are not familiar with this environment. According to Surakusumah (2008), in a rational way, there are two main reasons of ecological education that should be taught in early manner, namely 1) the students must develop a sense of belonging toward the environment so that the sense of belonging development is cultivated, and 2) the interaction with the environment is an important part of the development of children life healthy and these interactions can encourage the learning ability and the children life quality in the future. Therefore, there is no reason for cadre candidates to know their own environments.

The knowledge lack of conservation cadres inversely is not in line to the performance and leadership attitude. This justifies the importance of ecological education in schools to instill the ecological knowledge, awareness, positive attitudes, and behavior in the long term (Zohir, 2009 in Hasan and Ismail, 2011). Through ecological education, the conservation cadres can improve perception, understanding, and attitudes in the human, cultural and environmental biophysics interaction (Ertekin and Yuksel, 2014).

According to Zanden (1994), attitude contains cognitive, affective, and behavioral component that are interrelated. Sunarto and Court (2006) describes the cognitive abilities as the mastery of science and technology. The cognitive ability in this case is the result of learning through a module-based ecotourism. The performance of conservation cadres is satisfactory and it is expected to further research to be able to take the advantage of this cadre so that the knowledge is better. The conservation cadres are the educated people and they are expected to play a role in maintaining the conservation area of Sultan Adam Forest Park. The conservation cadre should be able to read widely and integrate information from a variety of viewpoints and should be able to use this knowledge to make decisions and take action (Volk and CHEAK, 2003).

The conservation cadre has been actively discussing the management of Sultan Adam Forest Park. Event discussions held in Sultan Adam Forest Park also that involves the management staff of the Sultan Adam Forest Park. The activities relating to the learning is done naturally. According to Adisendjaja and Oom (2008), learning from nature is expected to solve the ecological problems that exist. There are three principles used, namely being aware of the problem, problem analysis, and developing the strategies to correct the problem to prevent the similar problems in the future. The conservation cadres have been able to make clipping, are able to select and assess a number of posts originating from the internet, newspapers, articles or photos poured in the form of clippings. The ability to create the clippings relating to cognitive aspects and thinking competence includes the ability to understand, to memorize, to apply, to analyze, to synthesize, and to evaluate (Yulaelawati, 2007).

The conservation cadre has been able to make clipping and it is contrary to previous studies (Yulaelawati, 2007). He explained that the psychomotor learning outcome is the continuation of cognitive learning although the psychomotor ability of cadre has been satisfactory and in line with the research that has been done before (Belawati, 2012; Krisnawati, 2012; Zulfiati, 2012). The conservation cadre ability to create a poster has been satisfactory. They are able to put the idea in the form of a ban/appeal to preserve the Sultan Adam Forest Park. These results are supported by Simpson (1956) in Yulaelawati (2007) that the result of psychomotor learning is the skill and ability to act. These results are consistent with previous studies that the conservation cadres psychomotor is good and satisfactory (Belawati, 2012; Krisnawati, 2012; Zulfiati, 2012).

The conservation cadre has been able to become a tour guide who conducts through simulation. Yulaelawati (2007) states that one of the way to measure the students' psychomotor is through simulation. This finding is consistent with Krisnawati's research that he found conservation cadre has a satisfactory ability to be a tour guide (2012). The conservation cadre has the skills to plant the seeds in the Sultan Adam Forest Park. This skill is associated with one role of conservation cadre as a dynamic factor (BKSDA, South Kalimantan, 2008). The ability to cultivate conservation cadre is expected to be transmitted to the peers or the surrounding community so that it can support the efforts of the manager of Sultan Adam Forest Park to address the critical land in the region. This finding is consistent with previous studies in which they found conservation cadre has had a satisfactory performance in the activities of planting the seeds (Belawati, 2012; Krisnawati, 2012; Zulfiati, 2012).

The other indicator as conservation cadre is the attitude of the leadership. The conservation cadre has a satisfactory position of leadership. The result is in line with research conducted by Belawati that the attitude of student leadership is positive (2012). Krisnawati (2012) found similar results, namely a positive attitude of conservation cadre after participating in education and training. The knowledge cadre of conservation has not been satisfactory and it is different from the opinions Pe'er et al. who reported no relationship between knowledge, attitude, behavior, and the influence of environmental background factor of students (2007).

The attitude is the mental readiness and nerves arranged through experience and provide the direct influence to the individual response to all objects or situations being associated with the object (Djaali, 2006). A leader must have a special skill in order to influence the others in doing the certain activities to achieve the objectives (Arifin and Pipin, 2009). When the conservation cadre has the attitude of leadership, he is able to become a leader for his peers, neighborhoods, and communities to support and to preserve the Sultan Adam. This expectation is in accordance with Arifin and Pipin that the leadership is the ability to empower all the potential that exists to achieve the goals set (2009). In this context, the organization's success in running the program must be supported by a good leader as well. This is consistent with the role of conservation cadres as the partners of nature lovers as the initiator, motivator, facilitator, and dynamic mover.

The knowledge of conservation cadres is not satisfactory and not surprising because the cognitive, attitude, and behavior element should be interrelated but some attitudes and behaviors cannot be separated from the influence of other psychological processes in psychological research. The attitude does not only affects

behavior that appear to look, but also affects the processes of behavior that does not seem like learning, perception, cognition, and other attitude formation (Yip, 1999). The determination of conservation cadres has been recommended to the Technical Implementation Unit (UPT) of Sultan Adam Forest Park as a driver's conservation activities carried out in this area. This conservation activities is in line with Law No. 5 of 1990 on Conservation of Natural Resources and Ecosystems. It means that the cadres can implement the conservation activities they get for education and training on conservation cadre.

This research creates the module-based ecotourism and has been revised through the determination of conservation cadre. The revised module is an academic document in carrying out the determination of conservation cadres. The further research needs to be conducted for other types of activities that should be done by the prospective cadre of conservation because this study is only held in 6 activities.

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