ANALYSIS OF KNOWLEDGE, PERCEPTIONS AND PUBLIC ATTITUDES TOWARD SUSTAINABILITY REEF ECOSYSTEM ATTHE BEACH BINASI SORKAM TAPANULI TENGAH

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Abstract- the aims of this research was to determine the level of knowledge, perceptions and attitudes towards the preservation of the coral reef ecosystem at the beach binasi, sorkam, tapanuli tengah. Binasi beach is one of the west coast of north sumatra has abundant coral reefs, but over time as well as increased use of coral reefs, the longer the coral reefs on the wane. Coral (coral reefs) is a community of organisms that live in the bottom waters and rock formations such as limestone (caco3) which is strong enough to withstand force of ocean waves.damage to coral reef ecosystems can not be separated from human activities both on land and in coastal and marine ecosystems. Human activities on land such as industry, agriculture, households can eventually have a negative impact not only on the waters of the river but also the coral reefs and coastal ecosystems and oceans. Data obtained by conducting a structured interview by asking questions about what knowledge, perceptions and attitudes about the preservation of coral reef ecosystems.the location of this research carried out at the beach binasi sorkam, tapanuli tengah. The analysis technique used is a qualitative and quantitative description. Knowledge of the community to coral reef ecosystems obtained an average score of 43.33.public perception of the coral reef ecosystem *preservation* obtained an average score of 32.27. Public attitudes towards the preservation of the coral reef ecosystem obtained an average score of 34.17. There was a relationship being and positive impact on knowledge to the public perception (0.259). There was a weak correlation with the knowledge and positive attitude of society (.101). There was a relationship being and positive perception by the public attitude (0.204).

Keywords: knowledge, perceptions, attitudes, society, preservation, impacts, coral reef

1   INTRODUCTION

Coral reefs are crucial as habitat, spawning for fish (spawning ground), feeding (feeding ground), the care and rearing for eggs and juveniles (nursery grounds), and as a place to hide (sheltering ground) for biota in the reef itself and biota of the surrounding waters. which aims to restore the availability of (stock) of fish resources.[7]

Overfishing by using trawl / trawl tiger, bombs, cyanide, pollution of industrial waste, household waste, clearing ponds and sand extraction at sea and oil spills at sea [1], all of them will have an impact on the conservation of coral reefs. When the coral reefs were damaged or damage occurs it will affect the balance of marine ecosystems.

Conservation or preservation of coral reefs can be used as an alternative to improve the balance of the coral reef ecosystem. According to the [3] are some businesses that can be done to protect coral reef ecosystems, with the occurrence of process fisheries conservation in the tropics, especially in coastal areas. And conservation is usually done when the stock or samples do not collapse or run out, it would be better if it is done by combining conservation with actions of other refineries.

People's behavior as a local wisdom in preserving the environment in accordance with the mindset and local traditions, which is expected to bring the concept and how to maintain the balance of environmental preservation. Various kinds of shape of restrictions, prohibitions, taboos, proverb-proverb and a variety of other traditions can reveal some of the messages that have enormous significance for the preservation of the environment, especially coastal resources. [13]

Thereby building outside of school education through local wisdom is right. This is because the local knowledge-based education is education that teaches children to always be close to the concrete situation that they face daily. Education based on local wisdom is an example of education that have

high relevance for the development of life skills, with rests on the empowerment of local skills and potential in each region. [10]

Most communities in the coastal region combination, Central Tapanuli Regency fishermen and interact with coral reefs found in the area. The increased activity of people in this area makes the higher-level needs and certainly impact on the surrounding ecosystem such as coral reefs. In this case for stabilizing the indispensable knowledge, perspsi and attitude of each community and students about the importance of coral reefs and coral reef utilization.

Knowledge is the result out, and going after people perform on a particular object sensing. Sensing occurs through the human senses, the senses of sight, hearing, smell, taste and touch. knowledge is the result of considering a case, including recall events that never happened either intentionally or unintentionally, and this occurs after the contact or observation of a particular object. Knowledge is the whole idea, ideas, ideas, concepts, and an understanding of the human world and everything in it, including man and his life. [8]

Perception is a process which is preceded by the sensing process is a process of receipt of the stimulus by the individual through the sensory organs but the process does not stop just like that but the stimulus was passed and the next process is the process of perception.[12]

Humans will always be influenced by the surrounding circumstances, behaviors and ways of thinking to respond to events happening something in the environment. Perception would mean if it's shown in the form of statements, both oral and deeds. However, sometimes what is stated in the form of a statement of behavior that looks do not necessarily correspond with the original perception. According [12] "In everyday life it can be seen that the behavior can be established, acquired, transformed through the learning process."

According [12], the process begins with the perception of what is acceptable for each individual that took place intentionally or unintentionally, this process is called natural processes, or physical processes. What was received by each individual will be forwarded to the brain for interpretation, this process is called physiological processes. Having already diterjamahin what he had seen, heard and touched without realizing it would be a knowledge, this process is also called psychological processes.

Attitudes towards an object is a feeling of support or partiality, and feelings do not approve of the object. The formulation according Thrustone affective attitude is the degree of positive or negative affect associated with a psychological object. While other definitions closed attitude is a response to the stimulus person or object that already involve factors pertinent opinions and emotions (happy-unhappy, agree-disagree, good-bad, and so on). [9]

Attitude is a matter of determining the nature, essence, both actions now and in the future. Psychologist Thomas provides limits attitude as an individual consciousness that determines real acts or that might happen in social activities. In this case Thomas states that a person's attitude is always directed towards something or a particular object. No single gesture without the object [9].

2. METHODS

This research was a quantitative descriptive. Which aimed to see the students' perception of sustainability of coral reef ecosystems. This research was carried out on the Binasi shore, Sorkam, Central Tapanuli, Northern Sumatra. Population data was taken in Binasi coast, Sorkam, Central Tapanuli, North Sumatra. The approach taken in this study was qualitative interview approach where the technique of data collection was done by giving a set of questions or statements to respondents to answer. The instrument used in this study was an instrument in the form of an interview. Interviews conducted a structured interview consisting of 10 points for knowledge, perceptions and attitudes towards the coral reef ecosystem.

Means for identifying the knowledge in the form of tests used was a description of a test that aimed to measure basic knowledge of community about coral reef ecosystem, which consists of 12 items about the description. Each point is the correct answer was given a score of 1 to a maximum of 0-4 and one was given a score of 0.

Questionnaire to determine the perceptions and attitudes regarding the preservation of coral reef ecosystems. Questionnaires perceptions of students is measured using a Likert scale containing four alternative answers in the form of positive statements in which each vote option Strongly Agree was given a score of 4, option Agree was given a score of 3, option Disagree given a score of 2, option Strongly Disagree was given a score of 1. For negative statement, if the people chooses Strongly Agree option was given a score of 1, option Agree was given a score of 2, the Disagree option was

given a score of 3, and Strongly Disagree option was given a score of 4. the value will be converted to a value with a scale of 0-100 that will be obtained values of perception of the coral reef ecosystem. Data were analyzed with *SPSS ver. 21*.

3. RESULT

3.1 Community Knowledge about Coral Reef Ecosystem

Based on research that has been done on the community of Binasi beach, Western Sorkam, Central Tapanuli (N = 30) of the knowledge society to coral reef ecosystems obtained an average score of 43.33; standard deviation = 6.87 with a minimum and maximum score = 30.77 and 61.54. Based on the knowledge society normality test to coral reef ecosystems normal distribution of data (Z = 1.085; P = 0.190). Variant data about people's knowledge on coral reef systems were not homogeneous (F = 5.207; P = 0.02).

3.2 Community Perception of Coral Reef Ecosystems

Community perception of the coral reef ecosystem obtained an average score of 32.27; standard deviation of 2.303 with a minimum and maximum score = 28 and 38. Based on test for normality on community perceptions of the coral reef ecosystem normal distribution of data (Z = 0.970; P = 0.30). Variant data about the public perception of the coral reef ecosystem were not homogeneous (F = 5.373; P = 0.02).

3.3 Community Attitudes Toward Reef Ecosystem

Community attitudes toward the coral reef ecosystem obtained an average score of 34.17; standard deviation of 5.207 with a minimum and maximum score = 13 and 40 by the normality test of public attitudes to the coral reef ecosystem distribution data weres not normal (Z = 1.585; P = 0.013). Variant data on public attitudes to the coral reef ecosystem were homogeneous (F = 0.154; P = 0.69).

3.4 Relationships between Community Knowledge and Perception

Scores of communities (N = 30) of the knowledge society to coral reef ecosystems obtained an average score of 43.339; standard deviation = 6.878 with minimum and maximum score = 30.77 and 61.54. Score the public perception of the coral reef ecosystem obtained an average score of 32.27; standard deviation = 2,303 with a minimum and maximum score = 28 and 38. Test for normality in people's knowledge to coral reef ecosystems and the public perception of the coral reef ecosystem normal distribution (Z_1 = 1.085; P_1 = 0.190; Z_2 = 0.970; P_2 = 0.304). Variance data on knowledge of coral reef ecosystems and the public perception of the coral reef ecosystem were not homogeneous (F_1 = 5.207; P_1 = 0.024; F_2 = 5.373; P_2 = 0.022).

3.5 Relationships between Community Knowledge and Attitudes

Scores of communities (N = 30) of the knowledge of the reef ecosystem obtained an average score of 43.339; standard deviation = 6.878 with minimum and maximum score = 30.77 and 61.54. Public attitudes toward the coral reef ecosystem obtained an average score of 32.27; standard deviation of 2.303 with a minimum and maximum score = 28 and 38. Test for normality in people's knowledge of the coral reef ecosystem and public attitudes toward the coral reef ecosystem normal distribution (Z_1 = 1.085; P_1 = 0.190; Z_2 = 1.585; P_2 = 0.013). Variance data on the coral reef ecosystem knowledge and attitudes towards the coral reef ecosystem were not homogeneous (F_1 = 5.207; P_1 = 0.02; F_2 = 0.154; P_2 = 0.696).

3.6 Relationships between Community Perception and Attitudes

Scores of communities (N = 30) on the public perception of the coral reef ecosystem obtained an average score of 32.27; standard deviation of 2.303 with a minimum and maximum score = 22 and 39. The attitude of the students towards the coral reef ecosystem obtained an average score of 34.17; standard deviation of 5.207 with a minimum and maximum score = 13 and 40. The Normality test on students 'perceptions of coral reef ecosystems and students' attitudes toward the coral reef ecosystem were normally distributed (Z_1 = 0.97; P_1 = 0.30; Z_2 = 1.585; P_2 = 0.01). Variance of data on the

perception of the coral reef ecosystem and attitudes to coral reef ecosystems were not homogeneous ($F_1 = 5.373$; $P_1 = 0.02$; $F_2 = 0.154$; $P_2 = 0.69$).

3.7 Relationship of Community Knowledge and Perception toward Coral Reef Ecosystem

Based on the results of Spearman correlation test conducted on society ($N = 30$) in combination coast of knowledge to the public perception and the correlation was positive (0.259).
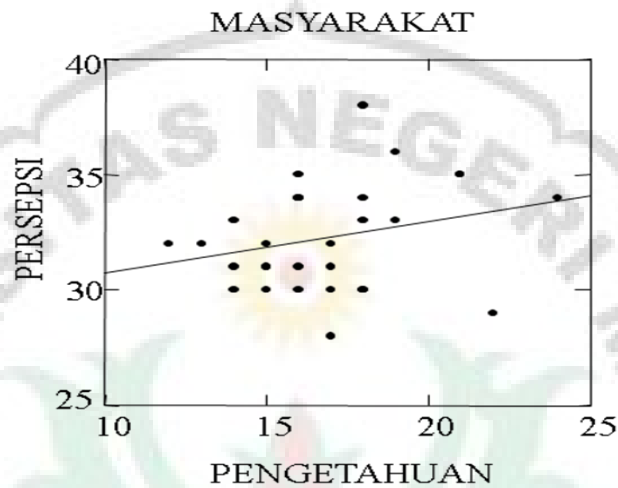

Figure 1: Relationship of Community Knowledge and Perception toward Coral Reef Ecosystem

3.8 Relationship of Community Knowledge and Attitudes Toward Coral Reef Ecosystem

Based on the results of Spearman correlation test conducted on society ($N = 30$) on the coast with a combination of the knowledge society's attitudes are weak and positive correlation (0.101).
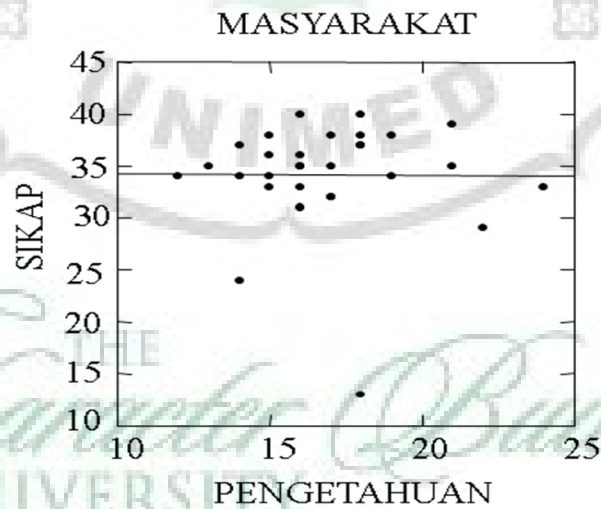

Figure 2: Relationship of Community Knowledge and Attitudes Toward Coral Reef Ecosystem

3.9 Relationship between Community Perception and Attitudes toward Coral Reef Ecosystem

Based on the results of Spearman correlation test conducted on society ($N = 30$) in combination coast to the perception by the public's attitude and the correlation was positive (0.204).
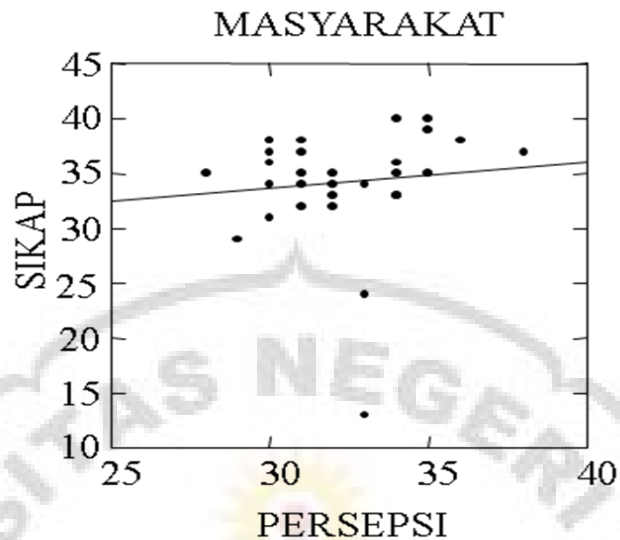
Figure 3: Relationship between Community Perception and Attitudes toward Coral Reef Ecosystem

The level of community knowledge is a Figure of the level of knowledge about the ecosystem of coral reef fishermen both from the perspective of cultural ecology and ecologically pure. Pure ecological variables include public knowledge concerning the description of what the coral reefs, coral reefs function and location of the discovery of coral reefs and the conditions of life of coral reefs, as well as how to create a balance in the coral reef ecosystem. Cultural variables meliputu beliefs about the sea, prohibitions and restrictions on the ocean, and peratura-regulation as well as sanctions against the destroyer of coral reefs. According to [4] conservation is also one of the effort or human activity to protect coral reef ecosystems as the biological resources of the damage whether caused by natural factors or human intervention factor.

Community perceptions of coral reefs relatively normal and well, this is because people who have a good perception affects their attitudes, people who have a good perception also will have a level of concern is high to coral reef ecosystems, when seen from livelihoods which almost average a fisherman who will communicate directly to the reef where the catch of fishermen depend on coral reef ecosystems. This is similar to [5] when the community perception is said to be high, the disaster management activities are also good abrasion. Disaster abrasion experienced by the community regularly add public perception to be good, when the public perception both the losses due to disasters abrasion can be reduced through good prevention activities.

Community attitudes toward coral reef ecosystem was fair in this study because people who went directly into the sea realized that the catches of fishermen dependent on the ecosystem, if the ecosystem is not good affect the catch and then the biota around coral reefs will not live.

Knowledge Relationships With Public Perception Of Coral Reef Ecosystem Sustainability

There was a moderate and positive relationship between knowledge and public perception, this is because the level of knowledge affects the level of perception. According [6] knowledge is the result of a person's activities. Someone forming schemes, categories, concepts and structures necessary knowledge to knowledge. Therefore, knowledge about the world is not escaped notice but a human creation that is constructed from the experience or the world so far experienced.

This perception level this represents fishermen who basically have the notion that preservation of the coral reef ecosystem is quite important but do not pay great attention to preservation efforts of the coral reef ecosystem.

Knowledge Relationships With Public Attitudes Toward Sustainability Reef Ecosystem

There was a weak correlation between the relationship of knowledge and positive attitudes towards kelstarian with coral reefs, the attitude of knowledge is influenced by a person's knowledge. knowledge will increase awareness and attitude will then give birth to individuals who have a more positive behavior towards the environment. However, if the knowledge of someone is low, the level of awareness and attitude of someone also will lower it senda by [2] Education is important to help the

community's efforts in addressing environmental issues and increasing public awareness of the environment. This shows the high level of education affect the level of public knowledge about environmental issues. Knowledge, understanding and perception of society depends on the extent to which the environmental information they receive.

According to Conservation (2010), the interaction between the individual and the environment will continue to take place in line with their new knowledge and perceptions about the environment. This means that knowledge only gives directions while the attitude has always shown positive and negative aspects. So to achieve this goal required the support of human resources. Public knowledge about conservation, public perception and public participation are some of the aspects required information for both managers and government.

According [8] attitude is not necessarily manifested in the form of action, for the actions necessary to realize other factors, the lack of facilities or infrastructure as a mediator so that attitudes can escalate into action. Based on the theory of reasoned action (Theory of Reasond Action), stated that attitudes influence behavior through a decision making process that is researched and reasoned and limited impact on three things: first, the behavior is largely determined by the attitude of the public but by the attitude specific to something; second, the behavior is not only influenced by the specific attitudes but also by subjective norms that person's beliefs against which other people want him to behave; Third, the attitude towards a similar behavior norms of subjective form an intention or the intention to behave in certain ways.

Perception Relationship With Public Attitudes Toward Sustainability Reef Ecosystem

In relation to the perception of attitudes and relationships were positive. People who have a high perception of the level of concern they will also increase, it is in line with [11]. people who have a true perception will behave positively towards conservation efforts. The success of conservation management also depends on the support of the local community. Community support is a sign that the local communities concerned about conservation, which encourages them to obey the rules of conservation areas by local communities.

4. CONCLUSIONS

Based on the research that has been conducted, it was found that there was a moderate and positive relationship between community knowledge and perception, this was because the level of knowledge affects the level of perception. In addition, there was a weak positive relationship between knowledge and attitudes towards conservation of coral reefs, the attitude of knowledge is influenced by a person's knowledge. Knowledge will increase the awareness and attitudes that will further give birth to individuals who have a more positive behavior towards the environment. Regarding perceptions and attitudes towards the preservation of coral reef ecosystems found that the correlation was positive. People who have a high perception will also increase the level of awareness.

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