

Policy of Taman Nasional Ujung Kulon Sustainable Development and its Impact on Buffer Zone Society (A approach Economics Valuation and Analysis of Hierarchy Process)

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Abstract

This study aimed to analyze the characteristics, perceptions and socio-economic factors and the characteristics of visitors TNUK social, economic, cultural buffer zone and arrange alternative TNUK management decisions as the basis for a policy of sustainable development of the region. This type of research is descriptive and verification with the object of research is TNUK visitors and the community in the conservation area.

The data used are primary data and secondary data, collected through observation, surveys, interviews and literature study. The total sample of 150 visitors TNUK drawn randomly and 100 communities in the buffer zone which is determined proportionally based on the number of people in each village.

Analysis of the characteristics and perceptions of visitors TNUK done descriptively displayed with tabulation. TNUK economic value analyzed by summing all expenses paid visitors, while socioeconomic factors and public visitors buffer zones dianalisis using multiple regression, whereas the public perception of the existence of buffer zones TNUK analyzed by providing scoring. Determination of alternative decisions in the management of sustainable use TNUK Analysis Hierarchy Process (AHP).

The results showed that the majority of visitors TNUK is male aged 21 to 25 years who come from the provinces in Java in addition to Banten. In general, visitors TNUK first came to the region and spend more than 10 hours at this location. Perception visitors to complete facilities, fame recreation, information, timing and payment facilities visited recreation, including both categories based on perception continuum line visitors, but the variable is a facility completeness lowest percentage value, which means feeling complete facilities in TNUK not fully in accordance with the the needs of visitors. TNUK economic valuation as measured by the value of Willingness to Pay (WTP) obtained by Rp.1,9 million to Rp.3,4 million per person for each visit.

In general, respondents felt that the presence of calves can not provide benefits for their lives because people are not allowed to use the forest resources that are in the area and acreage TNUK be reduced by the establishment of district boundaries. Illegal logging, land clearing, hunting animals, and forest fires, a significant effect on the level of variable TNUK damage. The greatest influence caused by the opening of new land. Alternative TNUK management decisions is in the form of an integrated policy between the interests of managers with the public buffer zone, sehingg can preserve the forest and everything in it and provide environmental benefits to the communities in the buffer zone.

Keywords: policy, TNUK, integration, area, buffer, economic valuation, AHP

Introduction

Ujung Kulon National Park (TNUK) is one of the world heritage that is recognized internationally by UNESCO. Diverse natural beauty and uniqueness of the area is unique Ujung Kulon National Park. This region has been named as representative of tropical rain forest ecosystem remaining lowland and widest in Banten, West Java Province. Natural wealth is an ideal habitat for the survival of endangered Javan rhino (*Rhinoceros sondaicus*) or commonly called bacusa. This rare animal is one characteristic TNUK the population level of about 50-60 individuals.

The Government has developed as a destination visit TNUK special interests that are unique compared to other destinations in the province of Banten and Indonesia in general. In 2012, a visit destinations most visited by foreign tourists reached 1.47 per cent, while visits frequented by tourists just 0.74 percent (Banten Provincial Tourism Office, 2012). The data shows that the rate of visits to the National Park Ujung Kulon still low. Some things suspected cause of the low level of tourist arrivals and domestic tourists to Ujung Kulon National Park are: a) The high cost of travel to and from places of visit in Ujung Kulon National Park; b) The remote location that is not supported by the infrastructure of adequate road access towards the Ujung Kulon National Park; c) Long journey that causes fatigue visitors to enjoy the National Park Ujung Kulon; d) Facilities and infrastructure are expensive and limited accommodation so that visitors have a narrow electoral alternatives; and e) Lack of promotional programs initiated by the government, especially the concept of ecotourism recreation.

In Article 1 of the Law. No. 5 In 1990, it was mentioned that the Ujung Kulon National Park is

managed by the zoning system which is utilized for research, science, education, aquaculture, tourism and recreation. More broadly the IUCN (International Union for Conservation of Nature and Natural Resources) (1994) explains that the national park is a natural area in the form of land and or sea, which is intended for: a) the protection of the ecological integrity of one or more ecosystems for present and future generations, b) not to be used for exploitation or other purposes that are contrary to the purpose of designation, c) providing means for the purpose of spiritual/spiritual, scientific, educational and recreational, in which aspects of the environment and culture must be interchangeable with one another. In the utilization of natural resources TNUK as recreation often face challenges when these types of products do not have a price on a normal market system. According Fandeli (2000), the inability of the market in assessing the intangible benefits of natural resources cause the value can not be suspected quantitatively. Both need to be managed with balanced. It required careful planning and realistic calculations in exploring the tangible and intangible benefits of natural resources and the environment (Darusman, 1991).

Recreational intangible benefit assessment can not be done with conventional market system. For the purpose of this kind of research, experts environmental and natural resource economics has sought to develop approaches that considered representative is Travel Cost Method (TCM) or the Travel Cost Method. The principle of this method is used to calculate the travel expenses of recreational resources of natural resource requests that do not have market prices. This approach has been used widely to get the demand curve for recreation (Menz and Wilton, 1983).

TNUK success rate management is inseparable from the role of the public who are in the buffer zone. According to data BTNUK (2012), there are 19 villages which constitute a buffer village, seven villages of which belong to the territory of the district. Wells and 12 other villages belonging to the district area. Cimanggu. Most of the population is very dependent on natural resources in the forests and waters to make ends meet. Dependence is getting stronger with the increase of population, so that the pressure on forests and waters are also getting stronger.

In Law 5 1990 Article 32 also states that the National Park is an area that can be divided into core zones, use zone, forest zone and other zones due consideration of the interests of the rehabilitation of the region, the dependence of the population around the area, and in order to support efforts to conserve natural resources and ecosystems, may be established as a separate zone. Furthermore, in Article 6 of Law No. 41, 1999, mentioned that the forest has three functions, namely the function of conservation, protection functions and production functions. Forest functions as mentioned in the Act is basically a function of ecological and economic functions relating to the preservation of the region and the welfare of society. Thus the existence of the forest should TNUK should be able to provide value benefits to the welfare of the people in the buffer zone. It is also in accordance with the management vision TNUK TNUK namely the realization of sustainable and beneficial to the welfare of the surrounding community.

Sutaryono (2008) argued that based on socio-cultural-based view of the forest *mengelolaan* more focused on the function and potential of forests as part of the daily lives of people living around the forest. Forest life is seen as an activity of life with values and social rituals including forest management and utilization towards sustainability for the maximum for the existence of human society lives in it and around it. Differing interests and views between managers TNUK with the surrounding community has sparked social conflict is prolonged. It is common knowledge, that social conflict is an old problem that forestry becomes part of forest management in Indonesia. According Sumardjani (2007), social conflicts forestry has been started since the beginning of the forestry industry designed. When the Forest Management Rights (HPH) launched in the early 1970s, forestry officials assume that the forests in Indonesia are non-issues. As a result, when the timber concession awarded, consideration of the existence of local communities around forest areas not contemplated or deliberately ignored, when the forest is not only a standing timber and animal life in it. Understanding of the phenomenon of the conflict, the government has attempted to realize the function of forests for the welfare of the community through various development programs. In general, the program is oriented to the realization of indirect benefits (indirect benefit) or long-term benefits that are not directly perceived by the public. In fact people are more in need of the benefits of forests directly (direct benefit) to meet the needs of the economy. As a result, forest use increasingly complicated conflict and threaten its preservation.

At the time of Law No. 5 of 1960 on Agrarian in the set, it was mentioned that the right to master the state of the earth, water and air space and wealth in it can be delegated to the central government, local government and indigenous peoples. But in reality the master rights are only given to central and local government. Ignoring the local community as an important pillar in the national park forest management (Cahyono, 2012). Consequently, when a conflict arises, the 'rimbarawan', park managers, stakeholders and relevant government parties, are not ready and anticipate confusion. The strength-based forest management ecological paradigm developmentalism put forests and National Parks only as a natural resource that has value and economic benefits alone. In this view of forest management as a source of economic power can be used as possible to the interests of development with the ideology of 'economic growth' which completely ignores the

complex dimensions of social life, culture and locality. As a result of forest management model with the ideology of developmentalism stand on economic growth, making social and ecological falling victim (Cahyono, 2012).

Thus, it can be said that in the development of TNUK there are two different interests, namely 1) the interests of managers TNUK and 2) the public interest buffer zone. Both of these interests are at the same region. TNUK development policies often favor the interests of the manager who makes TNUK as a conservation area that protects natural resources in it, but ignore the life of the surrounding community. An online news media entitled "Citizens And TNUK Like a Fire In Husk", wrote that: relations residents and area manager Ujung Kulon National Park (TNUK) like fire in the husk. Because the problem often occurs even physical clashes between citizens and the TNUK because both claimed to have rights to the region including natural potential in TNUK.

Based on the above phenomenon, it is necessary to do calculations TNUK economic valuation and determination of priorities in its management decisions. Economic valuation assessment is intended to look at the intangible benefits TNUK as a recreation area by using the approach of Travel Cost Method (TCM) or method of travel expenses. Prioritization of alternative decisions in managing calves can be used AHP approaches that have been developed by Saaty in 1991. AHP basically rationally designed to capture people's perceptions strongly associated with certain problems through a procedure designed to arrive at a scale of preference among the various sets of alternatives. This analysis is intended to create a model of the problem that has no structure. Usually set out to solve the problem measurable (quantitative), requires the opinion (judgment) on the complex situation or not terkerangka and statistical information on the situation is very minimal.

Preparation of an integrated management decisions between the interests TNUK and communities in the buffer zone of the newness (novelty) of this study. The results could be used as guidelines for the managers in formulating a sustainable development policy TNUK and simultaneously the realization of the function of Ujung Kulon National Park as a World Natural Heritage and the National Strategic Areas that benefit society, based on the principle of preservation of the ecosystem.

Based on the background and issues above, it can be formulated problem in this study as follows:

- 1) How do the characteristics and perceptions of visitors coming to the conservation area UKNP?
- 2) How valusi economy based on the analysis of the conservation area TNUK travel costs for visiting conservation areas UKNP?
- 3) What are the socio-economic factors that affect visitors to visit TNUK?
- 4) What characteristic of social, economic and cultural community in the buffer zone UKNP?
- 5) How does the alternative management decisions for sustainable development TNUK based Analytical Hierarchy Process?

Review of literature

Valuation Concepts Natural Resource Economics

Value is a person's perception, that the price given by someone of something at a particular place and time. Usability, satisfaction and pleasure are other terms are accepted and connotes the value or price. The size of the price determined by the time, goods, or money to be sacrificed for someone to possess or use the goods or services they want. Appraisal (valuation) are activities related to the development concepts and methodologies to estimate the value of goods and services (Davis and Johnson, 1987). Natural resources not yet have a value if there is no human intervention. As noted by Marx in 1983 in Suparmoko (2006) that over the natural resources it has not interfered with by mid humans, the natural resources it does have value. Instead, according to experts of classical economics everything that can be bought and sold certainly have value. In this case the "value" is distinguished by the "price". Price has always been associated with the amount of dollars to be paid to acquire an item, while the value of the goods is not always associated with the amount of dollars but including such goods for the benefit of society as a whole. On the basis of this thought occurred tendencies making excessive and wasteful of resources.

Davis and Johnson (1987) classifies value by way of great value judgment or determination made, namely: a) the market value, is the value set through market transactions, b) the value of usability, is the value obtained from the use of these resources by a particular individual, and c) social value, is the value set by regulation, law, or public representatives. Furthermore Pearce, Atkinson and Mourato (2002) makes a classification that describes the value of the benefits Total Economic Value (Total Economic Value) based on the method or process benefits obtained. The total economic value is economic values contained in a natural resource, both use value and functional value that must be taken into account in formulating management policies so that allocation and alternative use can be determined correctly and on target. Vercueil (2000) found the total economic value can also be interpreted as a total economic value of the environmental quality changes.

The economic value (economic value) of the goods or services measured by summing the will to pay

(willingness to pay) of many individuals to the goods or services in question. In turn, the will to pay reflect individual preferences for the goods in question. Valuation is the rationale for sustainable development (sustainable development). It is very important to understand is, what should be done in implementing the economic valuation. Results of the valuation is expressed in terms of money (money terms) as a way of seeking preference revelation, for example by asking "Are people willing to pay?". Furthermore, it is stated that the use of value for money allows comparison between the "value of the environment (environmental values)" and "the value of development (development values)" (CSERGE, 1994).

In the context of resource and environmental economics, calculations of environmental costs has pretty much evolved. According Hufschmidt, et al., (1992), an outline of the economic benefit valuation method (the environmental cost) an environmental and natural resource can basically be divided into two large groups, which is based on market-oriented approach and results-oriented approach suvei or ratings hypothesis. Each approach is described as follows:

1. Approach Market Orientation

- a) assessment of the benefits of using actual market prices of goods and services (actual market-based methods); (I) changes in the value of production (change in Productivity), and (ii) Methods khilangan income (loss of earnings methods)
- b) Assessment costs by using actual market price of the input of environmental protection; (I) Expenditure prevention (defensive averted expenditure methods), (ii) replacement cost (replacement cost methods), (iii) Projects shadow (shadow project methods), and (iv) the cost effectiveness analysis.
- c) The use of market methods replacement (surrogate market based methods); (I) Items that can be marketed as a replacement for the environment, (ii) approaches the value of ownership, (iii) Another approach to land values, (iv) Travel expenses (travel costs), (v) Approach the difference of wages (wage differential methods), and (vi) Acceptance of compensation / reparations.

Economic Strategy Utilization of Natural Resources

One of the central themes in the economic environment is the valuation of natural resources, including air, surface water and ground water, land, natural scenery and so forth. According to (Folmer and Gabel, 2001), that the natural resources produced three functions: a) produce supporting ecological systems (ecological system support); b) generating a negative input in the production process (eg ground water contaminated by sewage industri); c) comfort is consumed directly in the form of clean air, water for domestic use as well as recreational services in the natural area. The reason for the importance of the valuation of the economic value of the policy holder, put forward by Vercueil (2000) as follows:

- 1) To justify and decide how to allocate public spending in relation to the development of infrastructure and social services, conservation and restoration related to the convenience of the public;
- 2) Consider publicly owned environmental values and encourage participation and public support for environmental improvement initiatives;
- 3) To compare the benefits of several different projects or programs;
- 4) To prioritize restoration and conservation program;
- 5) To maximize the economic benefits of per unit of money paid.

In making its decision, the policy holder will consider many things, including the quality of the environment and its effects on the quality of human life. Suparmoko (2006) argues that in order to compare the costs and economic benefits of the decision they would require the calculation of the economic benefits of investments made in the form of monetary terminology. Some decisions as to ensuring that the countryside or the health and public safety, economic considerations merely preferred. Nevertheless, the policy holder will still require economic analysis as a basis for policy making. Conservation area is an area that is very favorable financial terms for government agencies or the public at large when it was developed as a tourist attraction. For example, a typical natural scenery in a conservation area with rare flora and fauna. One strategy to keep endangered species from extinction is to maintain individuals in controlled conditions under human supervision. This strategy is known as oak-situ conservation (or outside habitat). Some facilities are oak-situ conservation for wildlife conservation, among others: Zoo, Animal Husbandry, Animal hunting and breeding programs. The object of the visit was the visit regional areas used by the public as a place of recreation. Objects visits generally take advantage of the potential of existing natural resources (natural) and the result of the combination with the results of human engineering (Vercueil, 2000).

Demand Visits Destinations

Demand is the relationship between the price of certain goods with the requested number of consumers (Nicholson, 2005). According Muntasib (2007), the demand is a number of goods or services to be purchased by individuals and were able to buy at a specified price and time. Public demand for environmental services such as destination the same visit to the demand for goods and services. Demand for the visit destination is the number

of recreational opportunities desired by the community or the overall picture of community participation in outreach activities in general can be expected, if adequate facilities are available and can fulfill the desires of the community (Douglas, 2007).

Public demand for goods and services is affected by several factors such as the price of goods or services, the environment, consumer tastes, prices of other goods that have the same efficiency and revenue (Vanhove, 2005). If the factors that influence remains while the price of goods and services rose, the amount of demand for environmental goods and services will decrease, and vice versa if the price drops, the demand for goods and services will rise. Similarly, the demand for environmental services nature closer one's home will be smaller then the costs to be able to enjoy the services of the environment, but on the contrary if a person stay away from locations such nature visits, the greater the costs (Nicholson, 2005). Demand for recreational sites according to (Vanhove, 2005) can generally be divided into two important things, namely:

- a. Effective (Actual) Demand.
The number of people who conduct activities as the number of people who travel or visit.
- b. Suppressed (Potential) Demand
Population of people who are unable to travel due to a specific situation (lack of purchasing power or purchasing power or limited vacation time).

Knetsch and Driver (1974) in Darusman (2011) suggests that the demand for recreational sites will be increased in line with population growth and technological advances. Changes in demand for recreational purposes is a result of lifestyle changes, rising standards of living, the addition of free time as a result of work efficiency, as well as the advancement of transportation, all of which change in line with the development of technology.

Visits Destinations Offers

Offer is the quantity of economic goods offered at all prices that might be achieved at a certain time (Nicholson, 2005). Offers include visits to destinations throughout the destination has to offer to tourists. Offer consists of elements of natural attractions such as the climate, flora and fauna, woods and so on, and the results of human creation such as monuments, houses of worship, and so on which can encourage people to visit. Douglas (2007) suggested that the elements comprising recreation offers availability (availability) and affordability (accessibility) could affect the visit destinations outdoors. Offer a visit destinations characterized by three main characteristic, namely:

- 1) It is a supply of services. Thus, what is offered is not possible stockpiled and must be used in the product is located.
- 2) The offer is rigid (rigid), meaning that the procurement business for the purpose of the visit would be hard pressed to change the target use outside tourism.
- 3) Tourism has not yet become the basic human needs so that tourism offerings must compete with the supply of goods and other services.
- 4) In this case, the law of substitution (the law of the substitution) will be very influential

Economic Valuation Approach

Benefits of ecological functions are often not quantified in the overall calculation of the value of the resource. The use of cost-benefit analysis method (Cost-Benefit Analysis or CBA) which is conventionally often unable to answer these problems because conventional CBA concepts often do not incorporate ecological benefits in its analysis. It eventually became the rationale for the birth of the concept of economic valuation, in particular the valuation of non-market (Fauzi, 2006). Resource valuation techniques which can not be marketed can be classified into two groups. The first group is a valuation technique that relies on the implicit price where the willingness to pay (willingness to pay) is revealed through the developed model. This technique is often referred to as a technique that revealed the desire to pay (WTP revealed), composed of Travel Cost, Hedonic Pricing, and Random Utility Model (Fauzi, 2006).

The second group is a valuation technique based on a survey in which WTP obtained directly from the respondents, who immediately expressed orally or in writing. One technique that is quite popular in this group is the Contingent Valuation Method, Method and Discrete Choice. According Muryani (2013), economic valuation approaches CVM (contingent valuation method) can be used to determine the preferences of the respondents (community) on natural resources in a way expressed willingness to pay (willingness to Pay) by the respondents, which is expressed in the form of value for money and asked in lagsung on the respondent by a reviewer (researcher). The valuation classification of resources that can not be marketed is fully presented in Figure 2.1.

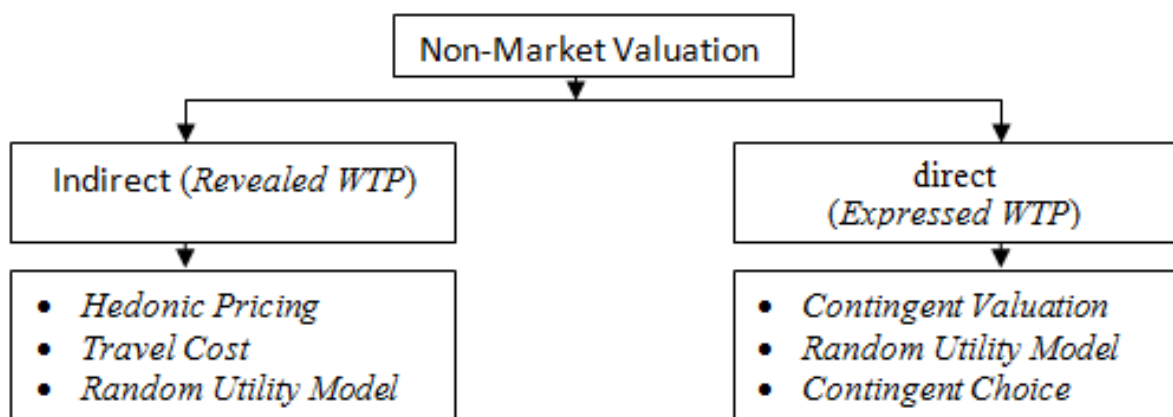


Figure 2.1 Classification of Non-Market Valuation
Source: Fauzi (2006)

Contingent Valuation Method

Contingency valuation method is a method of survey to ask people about the value or price of the commodity that they provide does not have the market as environmental goods. In principle, this method has the ability to assess the benefits of the provision of environmental goods and also able to determine the choice of estimation in uncertain condition (Fauzi, 2006). The underlying principle of this method is that for people who have a preference but hidden to all kinds of environmental goods, then it is assumed that the person has the ability to transform preferences in the form of monetary value or money. Further assume that the person will act as said when the hypothetical situation posed a reality in the future. The assumption is the basis of this method to ask how much extra money you want to be paid by the person or household (willingness to pay) for the improvement of environmental quality. The questions used to determine a hypothetical market to environmental changes desired. The purpose of the CVM is to calculate the value or offers that approach, if the market of environmental goods are actually there. Therefore, should a hypothetical market as much as possible close to the real market conditions. Respondents should be familiar with the goods in question in the questionnaire and hypothetical tool used for payment (Douglas, 2007). CVM approach is done by determining the willingness to pay (willingness to pay) of the consumer. This approach can be applied to circumstances that can cause pleasure (esthetic) such as landscapes, cultural, historical and other unique characteristics and circumstances of data costs nothing. Appraisal contingency or engineering survey was conducted to find the value of the consumer or leisure hypotension (Hufschmidt et al, 2007).

This method is more flexible and recognized the value judgment, because the question was obtained from hypothetical question. However, in practice CVM has weaknesses that need to be considered in its application. Its main weakness is the appearance of bias. Bias occurs if there is a value which is less than the actual value desired by the people or values in excess of the actual value desired. Sources of bias according to Fauzi (2006) caused by two main things:

- a) Bias arising from wrong strategy. This happens for example if we do the interviews and in the questionnaire we stated that the respondents will be free of charge for environmental improvement, which raised the tendency of respondents to give less than the actual value. Conversely, if we state that interviews merely a mere hypothesis, then there will be the tendency of respondents to give more than the actual value.
- b) Bias caused by the study design. This bias can occur if the information given to the respondent contains controversial matters. For example, respondents offered that visit the area to protect nature from pollution of waste by visitors, entrance fees must be raised. This course will give you the value of willingness to pay is lower than if the means of payment done in other ways (eg through foundations, trust funds, and so on).

Hedonic Pricing

The scope of application of Hedonic Pricing is relatively limited, for example, profit or pleasure recreation facility obtained occupant particular location because of the increased quality of the surrounding environment. In principle, this technique is to estimate the value of the implicit characteristic or attribute that is attached to a product, and examine the relationship between these characteristics generated by the demand for goods and services. This method is based on the idea that the goods market provides buyers with a number of services, some of which may be the quality of the environment. For example the construction of the house with

fresh air quality in the surrounding areas, buyers will receive as a complement, they are willing to pay more for homes that are in an area with good environmental quality, compared to the same house in another place that poor environmental quality (Fauzi, 2006).

Travel Cost Method

Travel Cost Method (TCM) was developed to assess the usefulness of non-market goods, which is geographically specific areas and locations used for recreation. For example, nature is often used for recreation (botanical gardens, forests, beaches, lakes, etc.). Nature specifically did not hold the price in the market so we have to find an alternative that is intended to estimate the value (Pierce, Alkinson, Mourato, 2006). Hufschmidt et al. (2007) stated that the approach of the cost of travel is a way of assessing the goods that do not have a price. In developed countries, this approach has been used widely to get the demand curve leisure goods. Outdoor recreation (outdoor recreation) is an example of which is used for goods that do not have a price. In principle, this method of assessing the cost of each individual to visit a place of recreation. By knowing the pattern of consumer spending, it can be assessed how much the value (value) given consumer to natural resources and the environment.

Approach travel expenses associated with a special place and measure the value of a particular place and not recreation in general (Hufschmidt et al., 2007). In general, there are two techniques that are used in determining the economic value based on TCM, ie Zonal Travel Cost Method (ZTCM) and Individual Travel Cost Method (ITCM). ZTCM an approach that is relatively easy and inexpensive. This approach aims to measure the value of recreational services from an overall point. ZTCM applied by gathering information on the number of visits to the recreation of the various regions or zones. In this case, the cost of travel and time will increase with increasing distance, the information obtained allows researchers to take into account the number of visits at various prices. That information is used to construct the demand function and estimate the consumer surplus, or economic benefit for recreational services.

Transitional method of travel costs ZTCM be ITCM in lowering the value of consumer surplus caused by several things, the first is often the analysis is done based on the willingness to pay, both because observations are often smaller than the whole zone, the third often encountered situations where a number of individuals traveled from Common areas of origin and subsequently dispersed in small groups to the site surrounding the visit. Another cause that is because people do not merely want to enjoy tourism alone but may be a combination of sight-seeing, hunting and so on. ITCM methodology in principle the same as ZTCM (and Mehmet Turker, 2006) but ITCM using survey data from each visitor in the statistical analysis instead of data from each zone. This causes the method requires more data and analysis more complicated, but it gives more precise results (Pierce, Alkinson, Giles and Mourato, 2006).

Theoretical Framework

This research basically developed within the framework of economic valuation. Research on the economic valuation is still very limited, particularly with regard to the economic valuation of tourists visiting destinations and the impact of the economic valuation of the communities in the buffer zone. Economic valuation with respect to the destination excursions closely linked to the economic value and the benefits of development TNUK, so that development can be done optimally TNUK. Commodity environment as one of the free goods are goods that are physically not quantitatively measurable and can not be directly assessed by cash (non-marketable goods), but many exploited people. As public goods, environmental resources can be excessive consumption, without a balancing mechanism that automatically limits the exploitation. This causes the need for an institution that is able to replace the function of the market, namely the government. Thus the expected environmental resources can continue to afford to provide benefits.

In addition, environmental resources is also a provider of goods and services that provide economic benefits for people both as consumers and producers (Djajadiningrat, 2007). As human consumers can enjoy or consume natural beauty, clean air and water. As a manufacturer, humans can make use of goods and services from the resources for activities such as the ability of water in an industrial waste stream. Djajadiningrat (2007) states that the environment has three functions: the first function as raw material inventory, where households and companies is highly dependent on the natural environment, such as air, water and other necessities such as minerals and energy. The second function is as a container for the waste, which companies and households generate large amounts of waste while stacked in the environment. The third function as a provider of facilities, namely the environment has a number of facilities that are a source of aesthetic including beautiful scenery. Forest resources have intangible benefits such as recreation that can not be assessed quantitatively by the market mechanism, but it served to accelerate the pace of economic growth of a country, affects the local economy, and can markedly improve their welfare. According Rahmawati (2003), economically, outdoor recreation is not different from the commodity-wood where the problems arise because of the problem from the beginning there is scarcity.

The difficulty in assessing the intangible benefits are in terms of calculating the cost to be paid for the benefit of itself. This is according to Fauzi (2006) recreation opportunities do not last long, meaning recreational opportunities whose benefits are not taken now can no longer be taken in the future. In addition, recreational must be sold on the spot means that consumers who have to come to a place of recreation. In practice, this approach is the willingness to pay is tantamount to estimating demand curve describes the willingness to pay of a group of consumers at different levels of intangible benefits are consumed (Darusman, 2011). According to Lipsey et al (1995), the consumer surplus is the difference between the value of a given number of consumers of all units of goods and services consumed for each commodity and the amount to be paid to purchase a number of commodities. Consumer surplus arises due to consumer receives over bonuses paid and is rooted in the law of diminishing marginal utility. Simply put, the consumer surplus can be measured as an area that lies between the demand curve and the price line or in a curve if the number of visits at the level of price as much OI F, the consumer surplus shown by the area DEF. When the visit as much as OQm the consumer surplus of BAD. Thus, it can be said that the consumer surplus j equal to the marginal cost of travel consumers reduced travel costs consumers.

If economics applied to environmental issues, it acquired a deeper awareness to improve the environment (Djajadiningrat, 2001). Method of travel expenses (travel cost method or TCM), is useful for finding the value of natural areas visit provides a variety of comfort pleasure for recreation, as well as area--daerah which are often visited by people for activities such as field trips. Basically assumption is that the value of the environment is manifested in the value of recreational services provided. The direct effect of this assumption is the demand for recreation together with the demand for natural areas.

The economic value of recreational use of travel cost method include the cost of transport to go from his home to the object of the visit and the return of the object of the visit to the shelter, and other expenses during the trip in the object of the visit includes documentation, consumption, parking, and other expenses associated with recreational activities for one-day visit. The basic purpose of the travel cost method is to know the value of the usefulness of natural resources attractive for recreation through proxy approach. In other words, the costs incurred to consume services from natural resources are used as a proxy to determine the price of these resources. Hanley and Spash (1993) stated assumptions used in most studies using the method of travel is that the utility of each consumer to the activity, such as recreation, are separate.

Socio-economic factors that contribute to the level of visits by Brookshire, Ives, and Schulze (1987) in Hufschmidt (2007) is the work; income; savings; level of education; marital status; the number of dependents; mileage; traveling time. While the perception of visitors in this study using a concept developed by Kotler and Armstrong (2011) associated with the perception of the adequacy of the facility; fame recreational purposes; Travel information providers; Hour election; Payment and Recreation Facilities. In addition as a tourist attraction, the forest resources calves can also be used by people in the buffer zone as a source of household income. At first people thought that their activity in taking and utilizing forest resources calves can have access to high enough. After the function of the forest turned into a conservation area with national park status, the community access to forest resources is becoming low.

This fact is contrary to the function itself TNUK region designated for the conservation of biodiversity and improving the welfare of society. According Cahyono (2013) general concept of conservation has a dynamic meaning as the framers of the conception of dialectic knowledge of conservation and contests underlying dialectic of knowledge about conservation. The concepts of conservation are now experiencing expanded definition. The new paradigm advise that if a protected conservation area, designed, and managed properly, will be able to provide sustainable benefits for society. In accordance with the vision TNUK already mentioned in the previous section, then in management needs to be synergy between the objectives of conservation of forest resources with efforts to improve the welfare of the people in the buffer zone. The conflict that often occurs during this often triggered by an imbalance between conservation interests with community needs. Conservation interests has clearly stated in various dictum, as Law No. 5 of 1990 and SK. Director General of Forest Protection and Nature Conservation Number: 115 / Kpts / DJ-VI / 1997, but the picture of community needs a buffer zone has not been explicitly stated. Therefore, to achieve the vision TNUK and dampen social konlik, need policy management synergy between the interests of managers and the public. To achieve this synergy, TNUK economic valuation needs to be done and assess the performance of socio-economic and cultural communities in the buffer zone, in order to know some of the priorities of sustainable alternative TNUK management.

To organize and judgment in choosing an alternative decision can use Analytical Hierarchy Process (AHP). AHP is a decision support models developed by Thomas L. Saaty. This decision support models will outline the multi-factor problem or a complex multi-criteria into a hierarchy. According to Saaty and Forman (1992), the hierarchy is defined as a representation of a complex problem in a multi-level structure where the first level is the goal, which is followed by the level of factors, criteria, sub-criteria, and so on down to the last level of the alternatives. By hierarchy, a complex problem can be decomposed into their groups are then

arranged into a form of hierarchy so that the problem would appear more structured and systematic.

Hypothesis

The hypothesis of this study are:

- 1) Characteristics of visitors influenced the decision to visit the Ujung Kulon National Park.
- 2) The economic valuation of giving effect to the destination visits to the National Park Ujung Kulon.
- 3) The socio-economic factors affecting visitors visit to Ujung Kulon National Park.
- 4) Factors of social, economic and cultural communities in the buffer zone affects the sustainability of conservation areas Ujung Kulon National Park.
- 5) Integration between the interests of Ujung Kulon National Park management and community interests in the buffer zone is an alternative formulation of policy decisions in the management of the National Park Ujung Kulon sustainable.

Methodology, Finding and Discussion

Based on the type, this research include descriptive qualitative research and verification. According to Zikmund (2003), descriptive research is research that is designed to outline the characteristics of a population or event Aaker et. al. (2004) explains that descriptive research is research in general is designed to provide a summary of some aspects of the environment when the hypothesis is speculative and transient in nature. Because this study aimed to find out what and how much the factors thought to affect a variable (Mudrajat Kuncoro, 2007 in Meiryani, 2014). Descriptive research is a kind of conclusive research that has the main purpose of describing something. Descriptive research in this study is used to describe the characteristics and perceptions of visitors who come to the region TNUK, seeking economic value TNUK based analysis of travel expenses (travel cost method) during the visit and determine the characteristics of the people in kaasan buffer.

Research and verification according Mashuri Zainudin (2009) is checking whether or when described to test a way with or without the improvements that have been implemented in other places with similar problems with life. Furthermore Arikunto (2010) states that the verification research is research that basically wants to test the truth through data collection in the field. Verification research in this study is used to describe the socio-economic factors that affect the function of the demand for tourist attraction in the region and to explain TNUK social factors which affect the willingness of the visitor economy benefits from the presence of regional pay TNUK. Given the type and nature of the research, the research design was developed through a survey method. Wibisono (2005) stated that the survey is a research technique in which information is collected through the use of questionnaires. More in-depth opinion expressed by Zikmund (2003), stated that the survey experience is a technique that is explained from every individual who knows about the problems of research in question. The characteristics of the survey method is; 1) goal can be descriptive and verification, 2) an explanatory or confirmatory, 3) the data collected from respondents who have been determined, 4) research variable data captured using a questionnaire (Kerlinger, 1990; Sekaran, 2000).

The survey was conducted to tourists who visit the region and to the community TNUK in the buffer zone. The research was conducted in the period in which enforceability is bound in the methods and types of research are set. With this understanding, this research was developed in a cross-sectional model of development. According to Herman (2006), cross-sectional research studies often called a viewfinder (one snapshot), the research data collection is done at a given point in time. The selection of respondents for AHP analysis conducted by purposive sampling method, the method of sampling of respondents is not random but deliberate selection with consideration of either individuals or institutions as respondents who understands the problems occurred. Prospective respondents also considered to have influence in policy making, either directly or indirectly on the implementation of the policy or give input to policy makers that the Government, non-government, and society. Respondents among others: To BTNUK, employee/supervisor BTNUK, Department of Tourism, leaders and devices TNUK villages in the region.

Relationships and the influence of the independent variables (X1, X2, X3, X4, X5, X6, X7 and X8) to the number of visits TNUK, can be explained as follows:

- 1) Variable jobs have regression coefficient (b1) of 0.203. These conditions indicate when this type of work someone better then the number of visitors will increase by 0.203 people. Better job usually tend connoted with career / position / higher office. If the career/position/positions someone increases, the activity for employment also increased, so that boredom often emerge. In this condition, the willingness to do reflesing or perform activities that are hobbies, such as sports, fishing, swimming, diving or relaxing. Usually chosen is a natural recreation area, have facilities that suit their needs and away from the hustle / noise of the city. One suitable location is a Conservation Area Ujung Kulon National Park.
- 2) Variable income is very high variable effect compared with seven variables were analyzed to see how much traffic calves. Variable income had regression coefficients (b2) of 0.250. These conditions indicate if a person's income increased by Rp 1 million, then the number of visitors will increase by 0.250 people. This is understandable, due to visit the conservation area TNUK require transport and

accommodation costs, as described earlier. Therefore, people with incomes just barely did not choose the location for TNUK, except for special purposes such as research, observation and so on.

- 3) Similarly, the variable savings, has a regression coefficient (b_3) of 0.086. This condition indicates if one's savings increased by Rp1 million, the number of visitors will increase by 0.286 people. This gives the meaning of that to visit a recreation area such as TNUK require travel expenses, transportation and so on. These costs typically come from savings, not of money for basic needs.
- 4) The variable level of education has a regression coefficient (b_4) is negative, amounting to -0.074. This condition indicates that the educational factors influence negatively on the number of visits to TNUK. Increased levels of public education, it reduces the number of visitors. This could be happening because more educated people memlih tourist location outside the city with facilities and infrastructure conditions are better.
- 5) Variable marital status has a regression coefficient (b_5) are lower than the value of the other variable that is equal to 0.023. These conditions indicate that marital status affects only the number of visitors TNUK of 0,023, meaning that any change marital status of a person only increase the number of visits as many as 0,023 people. This means that marital status is not really a major consideration for the visitors.
- 6) Variable number of dependents also has a regression coefficient (b_6) of -0.034. This condition indicates if the number of dependents in the family increased by one person, then the number of visits to TNUK reduced by 0,034 people. This indicates that the community makes the number of family as the basis for the decision to visit TNUK.
- 7) Variable mileage are variables that influence the second highest after the income variable regression coefficient (b_7) of 0.187 but with a negative value (-0.187). This means that the longer the distance, the less the number of visits, adding mileage to TNUK along 1 km reduce the visitors as much as 0.187 people. Thus it can be said that the mileage be one consideration for people to make a visit to TNUK.
8. Variable travel time give a negative value to the number of visits to TNUK that is equal to -0.148. This indicates that with increasing travel time for one hour, then visitors TNUK reduced by 0.148 people. This indicates that the length of travel time to reach TNUK influence public decision to visit TNUK.

Relationships and the influence of the independent variables (X_1 , X_2 , X_3 , and X_4) to the level of damage TNUK, can be explained as follows:

- 1) Variable illegal logging has a regression coefficient (b_1) of 0.214. This condition shows that if people do felling one tree, then the damage will increase by 0.214 part of all natural resources. Although only one tree is cut down, but the damage ditimbulkan not only on one tree alone, but also on the flora and fauna dependent on the tree. It could be that at one such felled tree is a live birds, a variety of insects, ants, and other animals, as well as other plants, such as orchids.
- 2) Variable opening lahanadalah very high variable influence than the other three variables, namely the regression coefficients (b_2) of 0.256. This condition indicates that increasing the activity of community forest land clearing in the buffer zone of the forest TNUK 1 hectare, it will increase the damage amounted to 0.256 part of all natural resources. TNUK forest clearing, will cause damage to the ecosystem of flora and fauna that is more than the felling one tree, because the forest is a place of life opened flora and fauna more. In addition, it could be part of the forest open water are used as sources of drinking animals or where live many aquatic animals.
- 3) Variable hunt animals have regression coefficient (b_3) of 0.123. This condition shows the case of hunting of one animal, will cause damage to natural resources in TNUK of 0.123 part of all available natural resources. Although only 1 animals were hunted, but still will cause damage to natural resources because these animals are part of the ecosystem. If part of the ecosystem destroyed, then cause disruption to the ecosystem as a whole.
- 4) Variable fires (forest), has a regression coefficient (b_4) of 0.245. This condition shows the case of forest fires covering an area of 1 ha, it will cause damage amounting to 0.245 part of all natural resources in TNUK. Forest fires due to negligence of the people, causing damage to the forest ecosystem, where the trees disappear and small animals and large animals also can be burned. As a result, the ecosystem is damaged.

Conclusion

Based on the analysis and discussion, it can be drawn some conclusions as follow :

The characteristics and perceptions of visitors TNUK are as follows:

Characteristics of visitors TNUK

- 1) The majority of visitors TNUK are men aged 21 to 25 years who come from the provinces in Java other than the province of Banten. At the age of Padaumunya someone occupying the lecture, so that it can be said that TNUK visited by students. It is associated with the function TNUK as an object of science.

In addition, visitors also come from foreign tourists, mostly from Asia. Domestic visitors are the least came from Papua, while the fewest foreign tourists from America. Such findings indicate that the distance is a factor to be considered by prospective visitors to visit TNUK.

- 2) In general, visitors TNUK first came to this conservation area and already know / knew him between 1 year to 3 years. Usually visitors are in TNUK more than 10 hours. This finding suggests that visitors TNUK has a special interest to visit the region because, although new to TNUK, visitors are able to decide to visit.

Perception visitors TNUK

- 1) Visitor perceptions about the completeness of facilities, recreation fame, giver of information, the timing of the payment of traveling and leisure facilities, including both categories on a continuum line visitor perception. Completeness of the facility is the lowest percentage value. This shows that the visitors feel the completeness of facilities in TNUK not fully in accordance with the needs of visitors.
- 2) The economic valuation of the value measured TNUK Willingness to Pay (WTP) obtained by Rp.1,9 million to Rp.3,4 million per person for each visit. The value indicated a willingness to pay for one-time visitors TNUK visit this region. In addition, these values also indicate the sacrifices that must be borne by society if TNUK damaged ecosystems and the loss of its tourism appeal.

The public perception in the buffer zone

- a) In general, respondents felt that the presence of calves can not provide benefits to their lives. This is because the public is not allowed to use the forest resources that are in the area and acreage TNUK is reduced by the establishment of district boundaries based on the Minister of Forestry No. 284 / Kpts-II / 1992, dated February 26, 1992, concerning the establishment of Ujung Kulon National Park Ujung Kulon (TNUK) with a total area of 120,551 hectares. Decree is reinforced by the World Heritage Committee of UNESCO as a World Heritage Site TNUK by Decree No. SC / Eco / 5867.2.409.
- b) Society hopes that the manager TNUK no longer move to the township boundary society and they are given the freedom to manage the areas outside the region without intimidation. In addition to reducing dependence on forest resources in the region TNUK, people hope that the coaching and guidance of the intensification and diversification of agriculture and other training of government (manager TNUK). The skills they gained from the training are expected are expected to be sold in the form of services for the benefit of TNUK management.
- 3) The results of simultaneous analysis shows that illegal logging, land clearing, hunting animals, and forest fires, a significant effect on the level of variable TNUK damage. The greatest influence caused by the opening of new land by the community to agriculture or settlement. These findings suggest that people in the buffer zone considers expansion is a way to obtain an increase in agricultural output and an increase in household income.
- 4) TNUK sustainable development policy can be arranged via the integrated between two different interests between managers TNUK with the public buffer zone. Penyusunan cornerstone policy is a priority strategic alternatives is to a) open public access to other economic resources.
- 5) These findings can be used as a basis for the preparation of sustainable development policies TNUK. Through this policy will provide opportunities for communities in the buffer zone to generate revenue, so the desire to take on the forest resources in the conservation area will be reduced; b) develop agriculture through agricultural intensification and diversification system of farming. This policy will reduce people's desire to expand into the area of arable land UKNP; c) establish partnerships with other parties such as the government and the private sector to open up markets for agricultural products and manufactured home industry by the public buffer zone. In addition, given the public buffer zone is part of the overall ecosystem TNUK, then it can not be denied that the existence of these areas should provide benefits for them. It is also in accordance with the vision TNUK. Therefore, there is a part (in this case called slices) of forest resources that can be utilized community TNUK buffer area by sticking to the principles of conservation.

Suggestion

Based on the results obtained conclusion, it can be dikemukakan some advice TNUK rationale for sustainable development, namely:

- 1) TNUK need to develop destinations featured are supported by adequate facilities and infrastructure so that tourists visiting the calves can be increased, not only dominated by mature aged visitors.
- 2) The economic value of recreation to conservation areas TNUK can be enhanced through the provision of recreational facilities and adequate infrastructure, which is supported by the availability of adequate information and dissemination, so that visitors are interested in visiting TNUK. In addition, it is necessary dikembangkan more effective promotional strategy, which encourages Visitors to visit TNUK as one of the important heritage for the world civilization.

- 3) In TNUK regional development, the management needs to pay attention to the concept of conservation of socio-cultural terms, so that the process does not only look at the benefit side parties, but also the interests of the community-farmers who had already occupied the area prior to the enactment of Ujung Kulon as TNUK.
- 4) Need for guidance to community-farmers in the buffer zone in terms of increasing agricultural production and skills, in order to enhance family income, so little by little dependence on forest resources can be reduced. In the long run, this could reduce the degradation of forest resources in the region TNUK. Such development can be in the form of training and guidance regarding agricultural intensification, diversification of farming, industry justifiably household scale.

Suggestions for the Development of Science

Based on the research results and conclusions obtained, there are some things that the suggestions for the development of science, among others:

- 1) This research is the development of agricultural science, especially in relation to the economic value of a conservation area the objectives of the visit destination. To that end, there should be more research related to the economic value of conservation areas from the aspect of land resources and other natural resources.
- 2) It should be further research on the development of the agricultural economy that will obtain a more comprehensive model of the relationship between economic development and conservation area economy.
- 3) Need to develop a research model that focuses more on the development of the economic aspects of agriculture TNUK, because all this research on TNUK of the agricultural economy are still very limited.

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