

Public Perception of Sebangau National Park Buffer Zone

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Abstract Sebangau National Park is one of the Nature Conservation Areas (KPA) in Central Kalimantan defined as Sebangau National Park by letter of the decision of the Minister of Forestry No.SK. 423/Forestry/II/2004 on October 19, 2004. Similarly the problem of other national parks, Sebangau area already contained settlement of fishermen who lived in the buffer zone. they are very dependent on the existence of river and swamp forest in the Sebangau National Park. The purpose of this research is to determine the perception of the public about the influence of National Parks presence to various aspects, both for environmental sustainability and social welfare of TNS buffer zone. The approach used in this study is a rationalistic approach that considers something as real, if there is coherence between the empirical to the rational scheme. Type of research are combination between quantitative and qualitative deskriptif using skoring, SWOT and IFAS-EFAS analysis. Skoring analysis was used to assess the public's perception about the influence the management of the buffer zone TNS to the environmental sustainability of TNS and life of fishing communities. SWOT and IFAS-EFAS analysis are used to determine the development policies of TNS that related with the perception that has been analyzed. These results indicate that the public has the perception that the TNS environment is still very awake by the TNS management efforts. However, people also have the perception if TNS Management does not significantly affect people's lives in the buffer zone. Proper development strategy implemented in Sebangau National Park is a strategy that is in the first quadrant of the space A, namely Rapid Growth Strategy.

Keywords Buffer zone, Public perception, Peat swamp forest, Sebangau National Park

1. Introduction

Park national is one of the forms of Nature Conservation Area (KPA) which has the ecosystem of the original, staffed with a system of zoning that is utilized for the purpose of research, science, knowledge, education, support aquaculture, tourism, and recreation (Regulation of the Government of the Republic of Indonesia No. 28 of the year 2011). On the Regulation of the Minister of Forestry Number P. 56/Menhut-II/2006, mentioned that in the Garden of the National made possible the existence of the arrangement of space or zoning including the zone of special for people who are in the National Park. In the concept of a broad range of amenities, zone special in TN is expected to be able to open opportunities for the organizers of the development in realizing the economic perspective of the environment and the conservation of the environment of the insightful development. Zone special also can be a answer to handle the conflict between the community and the park national as well as problems of other (Mulyana et al., 2010).

One of one of The Pelestarian Alam (KPA) in Central Kalimantan which has flora and fauna that is protected is a

National Park and Sebangau. The sebangau established as a National Park and Sebangau since year 2004 through the letter of the decree of the Minister of Forestry No.SK. 423/Forestry/II/2004 on the date of 19 October 2004. Penetapan the sebangau as a garden of national expected can save the ecosystem of the peat, along with the diversity of biodiversity and uniqueness of nature (landscape) to the interests of increasing the quality of life of human generations now and that will come (Mahin, 2011). Potensi forest and biodiversity biodiversity can serve as a buffer balance, protection of life, maintain the fertility of the soil, protection, water management, controlling erosion, absorbent carbon, and controlling oxygen (Setiawan 2019).

The sebangau has had the settlement of citizens that grow around the area before set as the garden of the national. The community that exists in the region is very dependent on the existence of the National Park and Sebangau in particular the existence of regions of the flow of the river and the existence of forest swamp because it has been given many benefits. Keberadaan society in the in and around the park national is the part that is not integral part of the management of the park national. Anandita, Puti Ayu (2019) mentions that the society and the government are able to hand in hand in maintaining the sustainability of the forest, it is can be seen through the existence of the Conservation Management of Forests to be one of the organizations that formed the top of the awareness of the community towards the sustainability of

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the environment and to be one of the lighters in the community.

Problems are often experienced by the manager of the garden of the national portion of the large associated with the community around the forest (Laobu et al., 2018). Then, the determination of the sebangau as a garden of national expected still can or even more useful for ecological and community sekitar park national. Some upaya has been done by the government, namely the division of zoning, formation of Balai Taman Nasional Sebangau and issued a Document Plan the Management of the National Park (RTPN) Sebangau year 2007-2026.

People who are in around the National Park and Sebangau is located in the settlements of fishermen. Settlements of fishermen this is along the Regional Flow of the River (DAS) Sebangau and is located in the region of the periphery or the buffer zone of the National Park Sabangau. Of the various efforts such, people in the settlements of fishermen in around the National Park and Sebangau is required to participate in any activity of research, or management in the research. This is because the keberadaan society in the in and around the park national is the part that is not integral part of the management of the ecosystem of the garden of the national and also a source of problems that are often experienced by the manager of the garden of the national associated with the society around (Wahyuni, 2012). By because of it, the study of this important done to find out the perception of the community against the influence of the existence of the National Park and Sebangau for the life of them, whether viewed from the aspect of ecological, social, cultural and economic community.

2. Research Methods

The approach that used in this research this is the approach rationalistic who considers a thing as real, when there is coherence between the empirical with the scheme of rational (Muhadjir, 2000). The type of research that is done is a combination of deskriptif quantitative and qualitative. Descriptive quantitative used to provide the assessment to the data qualitatively so that is easily interpreted (Kusmayadi and Sugiarto, 2000). The technique of collecting the used is a survey of the secondary as well as primary form of observation of the field and interview to the speaker so that the data can be based on the fact that *real*.

In the study of this object that will be studied is a community settlement fishermen the buffer National Park and Sebangau by taking a sample of the population. Sampel is a subset or every part of a population based on whether the part is representative or not. The sample is used as an estimate (*estimate*) of the parameters of the proportion of the population (Silalahi, 2009). The methods used in the determination of the sample is *purposive sampling*. *Purposive sampling* is a method of taking the sample are selected with features that are relevant to the structure of the research, where the retrieval of the sample to take a sample

of people selected by the author according to the characteristics of the specific and the characteristics of the particular. (Djarwanto, 1998).

Then, the sample of the research is determined to be 60 samples are dispersed in 12 settlements. Then, each settlement is determined 5 samples to be analyzed. The criteria of selection of the sample, including the man/woman who is a citizen of the original area of settlement of fishermen the buffer National Park and Sebangau. People who are interviewed should be at the age of productive 15-64 years.

The method of analysis used in this research is descriptive analysis, analysis of skoring and SWOT analysis as well as IFA-EFAS. Descriptive analysis is used to describe the characteristics of the Sebangau National Park as well as the characteristics of the community the buffer Sebangau National Park. Analysis Skoring used to find out people's perceptions about the influence of the management of TNS to the preservation of the environment and their lives. The technique of the last analysis is the SWOT and IFAS-EFAS are used to determine and define the concept of development of the Sebangau National Park.

3. Results and Discussion

3.1. The Characteristics of the Sebangau National Park

The zoning of the National Park is divided into 4, namely the Core Zone, the Zone of Utilization, Zoma Jungle Zone and other appropriate purposes. In addition to the fourth zone is, there is a region that includes on space governance of the community. Space governance of the community this could go in various zones such. The allocation of space for the needs of the life of the community about the planned done on water bodies and the area of forest that is in the tradition utilized by the community. The determination of the limits of space governance of the community this will be determined through consideration of the sustainability of the area and once there is an agreement with the community.

According to Paudel *et al* (2007), the management of the buffer is different with the management on the core zone. It is due on the buffer in addition to giving attention to the management of ecological also accommodate the interests of the social culture. It is similar also expressed by Ahmad *et al* (2012) that need the existence of a partnership of stakeholders in the management planning of the buffer. Cooperation between stakeholders in the form of cooperation between government center, the government of the area, the community local includes people of indigenous, a company private, which operates in the buffer as well as NGOS there.

Based on this, the determination of aturan zoning is necessary in order to preserve the peat swamp forest and the ecosystem in TN Sebangau. This is because the keberadaan forest peat in the National Park and Sebangau very provide benefits for system ecology and economy of the region around. Forest Peat that there is in a National Park and Sebangau consists of various types of types of forests,

including Riparian Forests, Forest Transition, Swamp Forest Mixed Forest, a Transitional Forest, Pole Low, the Woods Stands High and the Forest Canopy is Very Low (S. E in RPTN Sebangau 2007-2026).

Forest Peat that there is in a National Park and Sebangau is the object of both is very interesting. It is due on forest peat tropical that there are flora and fauna beranekaragam, and passed the river and the lake. In addition, MR. Sebangau have several locations that have the power drop as the object of both, including the Region CIMTROP-Bowl, Region of Lake Street Pangen-Kamipang-Panggulas and Mendawai-the Foot-Hills-Love Lust.

3.2. The Identification of the Characteristics of the Community the Buffer Sebangau National Park

According to the Wind and Prins in Ebregt (2000), the buffer is area outside the protected area, which is designed to protect the garden. According to wind et all in Ogogo (2010) the buffer is set just as the area outside of the garden that is designed to protect the garden. The approach is to give emphasis that the function of the main area buffer is protection against park national 'eright economic community local is a function of the secondary of the other.

According to Gilmour and Van San (1999) the function main of the buffer is as follows

- a. Contribute in the preservation of the protected area that they surround
- b. Increase the value of conservation in the zone of the buffer itself; and
- c. Mg benefits from the protected areas to people around.

People who live in the buffer zone of the National Park Sebangau in general have eyes livelihoods as fishermen. This is due to the location of the settlements that are in the deckat the river great that there are in the National Park and Sebangau. The fisherman 's building of settlements with the pattern linear. Homes that are on the settlements of fishermen that have the nature of temporary, semi - permanent even there are some that are permanent. The following is an explanation of the types of home settlements of fishermen (Mahin, 2011)

- Home temporary: the house is built potluck and all-round emergency, with the pole and the floor of the wood round, as well as the walls and the roof of the leaf thatch or leaves kajang. Even there is an under the skin kayu galam and the wall leather wood.
- Home Semi Permanent: home semi permanent has a pole cottage that comes from the wood of the strong that hold long and not just a wood round.. The floor and wall of the cottage can be made from a board thin that they buy from the village of Kereng Bangkirai. While the roof can leaf thatch.
- The house permanent: Ruman permanent is the house that was made by the fishermen that settled. Because of the indwelling of every day, then the building of the cottage they are more sturdy and more better. With a pole of wood Blangiran or Ironwood, floor and walls

made of boards thick, and wear a roof of zinc.

For the fisherman, the home of fishermen in each of the settlements of the show mastery at once the ownership of them to any source of power that is contained in the estuary and upstream the river is small, which is located in the near and around the settlements them. The settlements that exist in the buffer TNS there are 12 settlements, including Settlements Daffodils, Ules, Rasau, Bucket, Karanen, Bowl, Selowati, Pakuyah, Sungei Bandeta, Bangah, Galam Kingdom and Baluh.

The community of fishermen that can be categorized based on the origins of and based on the pattern work. If seen based on the origin, then the following category of the community of fishermen that there are in the buffer TNS (Mahin, 2011):

a. Fishing Original

Fishing original is a community of fishermen who came from the village of Kereng Bangkirai.

b. Fishermen Arrivals

Fishermen are not from since the original live and settle in the river Sabangau or village Kereng Bangkirai. People like it, come from outside the region Kereng Bangkirai even from outside the province of Central Kalimantan.

The community fishing area buffer if viewed based on the pattern of work is distinguished into 3, among others, as follows

1. Fishermen settled

Fishermen settled is the fisherman who almost throughout the year, located in the settlement of catching fish. One of one reason, namely to keep the region work (settlement) of them and secure the asset yag they have (place of residence and the tools of the catch) so not tampered people.

2. Fishermen seasonal

Fishermen seasonal is a fisherman who is just coming pada season catch fish a lot.

3. Fishermen Commuter

Fishermen commuting is a fisherman who lives in Kereng Bangkirai (lewu leka started) but every morning the day go to the place of work (leka satiar) and on the afternoon of the day back again to the village place of residence. The pattern of commuting is by the community locals called nyambulang. It is done by the fishermen that region catch close with Kereng Bangkirai among other Daffodils, Ules, Rasau, and Timba. In season catch a lot of them are also living in a time that is sufficiently long in the settlement catcher fish, the same as fishermen settled and seasonal.

3.3. Public Perception Buffer Area of the Sebangau National Park

A. The perception of the People of the Region Buffer About the Management of TNS Against Against the Preservation of the National Park and Sebangau

In accordance with review of the literature and the determination of the variable in the discussion of the

previous, then to find out the perception of the society the buffer to the preservation of the Park national sebangau carried out the analysis of the scoring on four variables. The variable Is between the other

- The influence of the Management of TNS to the conditions of the forest peat
- The influence of the Management of TNS to the condition of the object of both TNS
- The influence of the Management of TNS to the preservation of the flora TNS
- The influence of the Management of TNS to the preservation of fauna TNS

Prior to calculating the value of the perception of the society the buffer to the preservation of TNS, then need to be calculated very first amount of class and interval of each class that will be used in the calculation of the next using the following formula:

$$K = 1 + 3,32 \log n$$

Description: K = class

n = number of data

$$i = \frac{nt - no}{k}$$

Description: nt = the value of the highest

no = the value of the lowest

k = number of classes

Based on the formula that it can be known that many of the classes that is used is the 3 classes. As for the 3 classes with the interval value as in the following table.

Table 1. The classification Level of the Perception of the People of the Region a Buffer Against the Preservation of TNS

Interval	Description
560-720	Sustainability TNS Very awake
400-559	Sustainability TNS quite awake
240-399	the Preservation of TNS is not awake

Based on the results of scoring in accordance with the weights on each variable, and then the obtained weighting on each of the variables so that the total weighting becomes 598. Based on the value of the interval of each class has been determined, then the perception of the society the buffer to the preservation of TNS is still very awake. According to Siti Murniati (2020) in his research mentioned that the persepsi the community is very good about the existence of the garden of the national that the community assess that TNAL impact positive. Specialized hope that the existence of the garden of the national still give the benefit of the resources of the forest as well as maintain its sustainability for the future will come.

If seen from the weighting on each variable, then following the results of public perception.

- 1) Society The buffer have the perception that the Condition of the forest peat there is no change since the first.
- 2) Society The buffer have the perception that facility in tourism is not yet complete, the number of visitors

remains, and the preservation of flora and fauna still awake.

- 3) Society The buffer have the perception that the Diversity of flora awake, the quantity the many, and not there is a species that is extinct.
 - 4) Society The buffer have the perception that the Diversity of flora awake, the quantity is more rbanyak, and there are no species that are extinct.
- B. The perception of the community about the influence of the management of tns to the welfare of the community life of the buffer.

The same is the case with the process of the analysis of the perception of the previous, the process of analysis using the method of skoring also conducted to know the perception of the community about the influence of the National Park and Sebangau against the life of the community the buffer. The variables used to find out the perception of the society among others

- The influence of the Management of TNS to the Awareness of the Community
- The influence of the Management of TNS to the role as well as the community
- The influence of the Management of TNS to the empowerment of the community
- The influence of the Management of TNS to the economy of the community

The same is the case with the previous stages, then before entering the skoring or weighting on each variable needs to be done the calculation of the class and interval. Based on the results of the calculations, the following classes and intervals used in the analysis skoring this time.

Table 2. The classification Level of the perception of the community about the influence of the Management of the National Park and Sebangau against the life of the community the buffer

Interval	description
560-720	Management TNS very influential positive against the life of the community the buffer
400-559	the Management of TNS is not too influential on the life of the community the buffer
240-399	Management TNS influential negative against the life of the community the buffer

Based on the calculation that has been done, it has been known pemweight on each variable perception of the society the buffer to the preservation of TNS, the Weighting on each of the variables is get the total weighting of 528. Based on the interval of each class is specified, then the perception of the society the buffer about the influence of the Management of the National Park and Sebangau against the life of the society of the buffer, i.e. the Management of TNS is not too influential on the life of the community the buffer.

Based on the value of the weighting on each of the variables, it can be known the perception of the society as follows:

- a) Society The buffer have the perception that people

only utilize the flora and fauna according to the rules that exist without a row as well as keeping and maintaining the sustainability of flora and fauna.

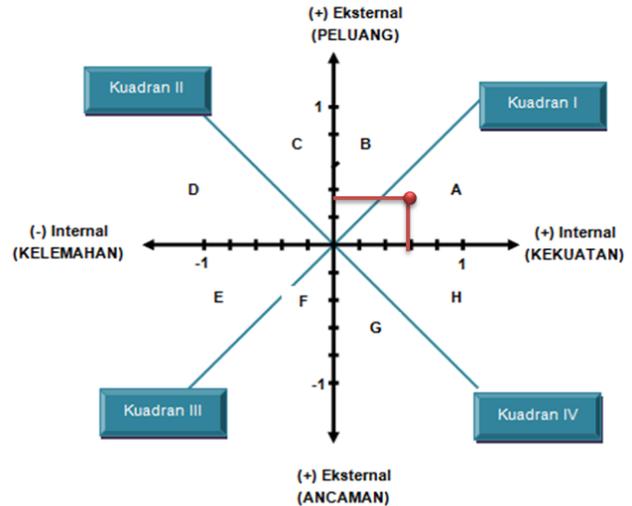
- b) Society The buffer have the perception that People only know of the plan pengelolaans TNS without participating in the process of making the decision.
- c) Society The buffer have the perception that there is some effort empowerment of the community and runs less maximum.
- d) Society The buffer have the perception that there is additional income from the activities of the management of TNS.

3.4. The Development Strategy of the Sebangau National Park

After knowing the preservation of MR. Sebangau and the Welfare of society the buffer based on the perception of the community, then do the stages of the last, namely the determination of the strategy of development of TN Sebangau. To determine the strategy right then performed the analysis using the method of the analysis of SWOT. According to Butarbutar (2014) analisis SWOT is a tool usually used in formulating the strategy of development of the organizations business. The analysis is used to strengthen the strategy development and increase the performance of the organization's business. In addition to that, also the SWOT can be used to identify and analyze the various

factors in a systematic way to analyze the strategy of the government in the process area (Muhammad, 2008).

Based on these opinions, it can be concluded that analisis SWOT used in this research is a method of determining the strategy of development with factors internal or factors external which affect the development of TN Sebangau. Factor-a factor that consists of the potential, the problem, opportunity or threat that occurs in MR. Sebangau.



Picture 1. Matrix Quadrant Strategy Analysis of IFAS-EFAS Development of the Sebangau National Park

Table 3. The matrix of Internal Factors of SWOT Analysis Sebangau National Park

Internal factors	
Strength	Weakness
a. The Sebangau established as a National Park and Sebangau since year 2004 through the letter of the decree of the Minister of Forestry No.SK. 423/Forestry/II/2004 on the date of 19 October 2004 b. There are Forest Peat as ecosystems original and unique National Park and Sebangau and role is important to avoid flood and drought. c. There is a diversity of flora that is very beneficial both from in terms of ecological and economical. d. There is a diversity of fauna that add a wealth of plasma nutfah and beneficial for the economic community of fishermen the buffer. e. There is a potential Object of travel	a. There is a community area buffer that lives in around TN Sebangau the drape of his life on the SDA TN Sebangau. b. Facilities and Infrastructure objects just not adequate.

Table 4. Matrix External Factors SWOT Analysis Sebangau National Park

Factors External	
Opportunity	Threat
a. Establishment of Balai Taman Nasional Sebangau to carry out the management of the National Park and Sebangau in the framework of the conservation of the resources of the natural biodiversity and the ecosystem b. Determines the zoning of the National Park and Sebangau c. the Absence of cooperation of the government with WWF Indonesia,	a. the Presence of Illegal Logging b. Include hunting wild c. the Construction of the canal of the wild d. Climate that is not erratic e. The lack of the role as well as the community f. less maximum empowerment of the community the buffer

After knowing the internal and external factors, then the specified strategy at every possibility that would happen. Then, performed the determination of criteria weighting. Furthermore, each of these factors will be carried out the calculation of the weighting to be used in the subsequent analysis, i.e. IFAS-EFAS. Based on the results of tersebut, then the calculation is done untuk know the point X and Y that will be used on the quadrant selection strategy (Rangkuti, 2001).

$$X = \text{Strength} + \text{Weakness}$$

$$= 1,2 + (-1)$$

$$= 0,2$$

$$Y = \text{Opportunities} + \text{Threats}$$

$$= 1,5 + (-1)$$

$$= 0,5$$

Rsarkan results of the analysis are displayed in matrices such, it can be known that the strategy of the development of TNS is located in quadrant I of the space of A, i.e., *Rapid Growth Strategy*. It's mean sstrategy the growth of fast flow to show the development of a maximum for a specific target and in a short time. Then the strategy of development of the National Park proper is developed is as follows

- 1) Need to be designed policy or regulations for the determination of the zoning district by paying attention to aspects of ecological, economic, social and cultural communities in the in and around the district;
- 2) Optimize the function and potential resources of natural biodiversity and its ecosystem to provide the benefits of economic, social and culture for sustainable and balanced;
- 3) Enhance the development benefits of the services of environment and proximity to nature through the provision of supporting infrastructure and promotion of tourism;
- 4) increase the participation and empowerment of communities in the buffer zone on the inside and on the outside of the Sebangau National Park;
- 5) Need to developed patterns-pattern of a collaborative and build self-reliance of the economy of the community to reduce pressure on the forest;
- 6) Increased surveillance by the National Park and WWF conservation of Forest Peat and ecosystems that exist in it;
- 7) Increased surveillance by the National Park and WWF against the preservation of flora and fauna.

4. Conclusions

The determination of the sebangau as a garden of national expected still can or even more beneficial for ecology and society around the park national. Will but TNS this has had the settlement of fishermen that there since since the sebangau not in the set as TNS. Then from that, every process of the management of TNS in addition can improve

the condition of the environment also can improve the livelihoods of life of the community permukima fisherman's.

The government has been doing some of the efforts of the management of the National Park and Sebangau that can achieve its function. Will but, the public has the perception of its own regarding the influence of the management of this. The public has the perception that the environment TNS still very awake with the presence of the efforts of the management of such. In addition, the community also has a perception if the Management of TNS is not too influential on the life of the community the buffer.

Therefore, the right development Strategy applied in TN Sebangau is a strategy that is in quadrant I of the space of A, i.e., *Rapid Growth Strategy*. Then the strategy of development of the National Park proper is developed is as follows

- 1) Need to be designed policy or regulations for the determination of the zoning district by paying attention to aspects of ecological, economic, social and cultural communities in the in and around the district;
- 2) Optimize the function and potential resources of natural biodiversity and its ecosystem to provide the benefits of economic, social and culture for sustainable and balanced;
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