

Original article

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CIVIL SOCIETY PARTICIPATION IN NATURAL RESOURCE MANAGEMENT IN CONSERVATION AREAS: AN EMPIRICAL STUDY OF TESSO NILO NATIONAL PARK, RIAU PROVINCE, INDONESIA

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Abstract. Civil society plays an important role in the management of national parks, but there needs to be more literature on the interactions of civil society with government. The participatory management strategy has been criticized for articulating the ideals of failed collaboration in the management of national parks. The implementation of a collaborative management strategy has provided significant opportunities and roles for civil society in the management of the national park, taking into account the social, economic, and cultural conditions and expectations of the local community. The aim of this study is to empirically examine the participation of civil society and challenges in the management of Tesso Nilo National Park in Riau Province. Using qualitative and quantitative approaches through snowball interviews and social network modeling, and conducting a case study analysis, our findings show that the community is still given a secondary role. The involvement of civil society in the collaborative management of Tesso Nilo National Park still needs to be strengthened. However, the institutional formation and the nature of their involvement in supporting and implementing activities still needs to be improved. In some cases, community empowerment has already

begun. The main challenges are related to regulations or policies, community capacity, resources and governance relationships, therefore the objectives of collaborative national park management activities have not been achieved.

Keywords: participation, civil society, collaborative, management, community, Tesso Nilo.

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JEL Classification: H1, H53, H76, H83.

Introduction

Conservation areas, including national parks, are now considered part of the economic, social, cultural, and environmental landscape of surrounding community (Brill et al., 2017). As the understanding of the importance of national parks evolves, the management model needs to be changed (Bulatovic and Tripkovic-Markovic, 2015) to achieve harmony between the functions of national park management among stakeholders such as central government, local governments, the private sector, community-based organisations (CBOs) and non-governmental organisations (NGOs). (Puhakka and Saarinen, 2013). The policy of managing national parks by providing regulations based on command and control is clearly not effective enough to solve the problems in national parks. The management process that is top-down in nature is often not careful enough to identify potential problems in the field, which ultimately makes the situation worse. For example, in Nepal, the Nationalization Act of 1957, gave the state complete control over the country's commercial timber market (Jones, 2007), which led to massive deforestation because the government to monitor forest areas, especially in remote rural areas.

Management of National Parks as mandated by the international community The World Commission on Protected Areas (WCPA) cannot be managed by only one institution, but must involve various parties and must be able to provide economic benefits to interested parties, including the people living in and around the conservation area. Cernea and Schmidt-Soltau (2006) have led conservation area management to involve local people in co-management of natural resources and to promote community-based natural resource management (Mahajan et al., 2021).

Experts argue that for successful co-management, community members must have a strong understanding of natural resource ownership and be involved in decision-making as equal partners with governmental and non-governmental actors (Measham and Lumbasi, 2013; Roka et al., 2019).

In Indonesia, cooperation in the management of national parks was widely introduced in early 2005 because it was related to the issuance of the Minister of For-

estry Regulation No. P.19/Menhut II/2004 concerning collaborative management of nature reserves and nature conservation areas including national parks. Arrangements for the implementation of collaboration are regulated in quite detail in Articles 4–8, which include the principle of partnership, the types of activities, the types and criteria of actors that can be involved, the position of actors as initiators, facilitators, and companions, the possible forms of support, and aspects of funding (WWF-Indonesia, 2006). Until 2015, the government in Indonesia had established no less than 50 conservation areas (Direktorat Jenderal KSDE, 2016), one of these is the Tesso Nilo National Park (TNNP), located in Pelalawan Regency and Indragiri Hulu Regency, Riau Province. The management of Tesso Nilo National Park is under the Tesso Nilo National Park Center (BTNTN) Pelalawan, which is structurally under the authority of the Directorate General of Forest Protection and Nature Conservation of the Ministry of Forestry. In its management, Tesso Nilo National Park is actively exploring partnerships with local governments, private companies, CBOs, and NGOs to address community interests through a collaborative approach based on experiences around the world and adapted to the ongoing social context since the early 1990s.

Therefore, community participation in TNNP may not be a new idea in conservation, but it will definitely become more institutionalised as a partner for the government. However, who belongs to civil society and how they should be involved are important questions to be answered in this research. The challenge for the authorities is to effectively involve civil society as a stakeholder in the management of TNNP and ensuring adequate representation of community interests and public involvement must go beyond consultation (Arnstein, 2019). At the national level, this is challenging. Still, at the local scale, it may be more achievable, especially in the sense of place in the relationship between a person and a place (Jorgensen and Stedman, 2006) which can be used to engage civil society through its relationship with national park management (Hausmann et al., 2016).

In discussing civil society participation in the management of TNNP, some advocate for civil society to serve as a democratic facilitator, while others see civil society as part of a post-political management system that promotes the legitimacy and inclusivity of democracy (Flannery et al., 2018). Civil society is seen as being solely committed to a conservation obligation rather than representing a broader range of community interests. As a result, civil society must be able to play a role as an advocate for community interests in the management of TNNP by empowering communities, as their presence can also help to increase the benefits and dynamism of existing groups (Cooke and Kothari, 2001).

Several research on civil society engagement in the management of national parks have been presented. The majority of the evidence focuses on the advantages and limitations of civil society rather than their interactions with the federal or state governments (He et al., 2020; Colua de Oliveira et al., 2021; Friedman et al., 2020). This research aims to fill a gap in the literature. There is a lack of research on the connection between civil society and the central government in TNNP administration. The goal of this study is to experimentally investigate civil society engagement in the management of Tesso Nilo National Park and the most significant problems. Using a collaborative approach paradigm, we began our research

by enhancing information regarding TNNP management by integrating civil society. We explored the relationships and role of each stakeholder using a social networking method to further examine the role and establish collaborative issues in supporting the ongoing growth of the management of TNNP, and the final part will present conclusions.

Methods

Case Study Area

The research site is in the Tesso Nilo National Park which is located at coordinates between $000^{\circ} 05' 40''$ and $00^{\circ} 20' 47''$ south latitude and $101^{\circ} 35' 21''$ and $102^{\circ} 03' 21''$ east longitude. Administratively, TNNP is located in two regencies, namely Pelalawan Regency and Indragiri Hulu Regency, in Riau-Indonesia Province (Figure 1). The Tesso Nilo forest area has a topography ranging from lowlands to hilly areas. The TNNP area and its surroundings are water catchment areas for several rivers, including the Tesso River (in the west), the Segati River (in the north), and the Nilo River (in the east). All three are sub-watersheds of Kampar, precisely between the Tesso and Nilo watersheds in Riau Province.

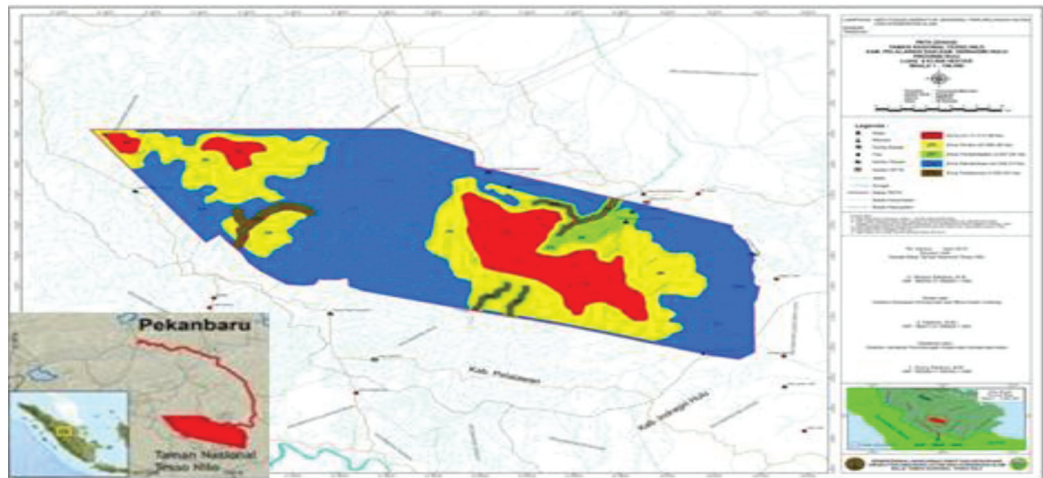


Figure 1: Location of Tesso Nilo National Park, Riau Province.

Source: Balai Taman Nasional Teso Nilo, 2021.

The Tesso Nilo forest area was formerly known as the Langgam Forest area, which was designated as a Limited Production Forest (HPT) to meet the needs of industrial raw materials and other wood products. However, along with the loss of forests, new problems also arise. In the 1980s the problem of elephants began when the Tesso Nilo forest area was cleared for transmigration settlements. Since then, elephants have repeatedly visited the village and destroyed the community's plantations. Several large-scale companies engaged in industrial forest plantations and plantations have surrounded this area, so that, prior to the designation of this area as a national park, various parties were very interested in managing it for

various purposes, such as industrial forestry plantations (*hutan tanaman industry/HTI*) and oil palm plantations (WWF-Indonesia, 2006).

Tesso Nilo National Park was established by the Decree of the Minister of Forestry of the Republic of Indonesia No.: SK.6588/Menhut VII/KUH/2014 on the Designation of the Tesso Nilo National Park Forest Area of 81,793 ha in Riau Province. The TNNP area is one of the remaining secondary forest areas of the extensive forests of Riau Province. TNNP has a diversity of flora and fauna, including various types of plants and several types of fauna that are protected and classified endangered according to IUCN criteria, such as Sambar Deer, Muncak Deer, Tapir/Cipan, Sun Bear, Sumatran Elephant and Sumatran Tiger.

The main problems in Tesso Nilo National Park are mainly related to its management, where there are many overlapping areas status, illegal logging and land occupations by the community to be converted into oil palm plantations. Livelihood pressures and limited community access to natural resources in the forest have led to increased human-wildlife conflicts around the National Park. The Campfire program in Zimbabwe is a vivid example of a conservation program to mediate human-wildlife conflict (Frost and Bond, 2008). The community views the forest as shared ownership, so that anyone can use it. This view has consequences for the neglect of natural resources. If this ownership system is left unchecked, it tends to lead to massive exploitation of natural resources. In addition, the community also assumes that the government is not on the side of people who live near the forest, they are told to protect and maintain the forest but are not given the authority to manage and obtain permits for its use, thus creating injustices that can result in the community being less concerned about the sustainability of the forest.

Approach

We employed a mixed methods technique to solve the research topic [28]. This research is related to the participation of civil society and the challenges encountered in collaborative management of TNNP. Therefore, the mixed methods approach is very suitable because it combines quantitative and qualitative approaches that make it possible to analyze civil society involvement using quantitative social network analysis (SNA) and with qualitative methods to explain how civil society is involved and what challenges are encountered in managing TNNP in the province Riau. In this study, we use the term actor for institutions that are included in formal entities with official affiliations related to the management of TNNP.

Study design and data collection

This research uses a case study design (Creswell, 2009). This design allowed us to collect in-depth information on the involvement of civil society in the management of TNNP in Riau Province. Participants were selected using purposive sampling with a non-probability technique. This technique is appropriate for this research as we only need information from actors who are directly involved and have the in-depth knowledge needed for this. Participants were selected through literature search, initial data collection, and snowballing. The researcher first conducted a literature search on the actors involved in the management of TNNP

in Riau Province. Next, the researchers visited the Tesso Nilo National Park Hall and got a list of actors involved in the management of TNNP. This list is reconciled with the list obtained from the literature search to obtain a list of participants. Finally, several new actors emerged that were not found in the initial search, making a total of 30 actors involved in this research (Table 1).

Interviews were conducted as data collection tool. Data collection was carried out between February and April 2021. Interviews were conducted with various organizational actors to obtain the required data and information. The appropriate instrument for data collection is the interview guide. This guide includes a series of open-ended questions that form the basis for discussion between researchers and informants. After the interview, the actors were asked to indicate other actors with whom they cooperate (whether they regularly exchange information or cooperate in their activities). Based on this data and criteria, a data matrix is created where 1 indicates that there is a relationship between two actors and 0 indicates that there is no relationship between two actors. The data collected from this matrix will form a network visualization using NetDraw from UCINET 6 (Borgatti et al., 2002).

Table 1

Types and names of actors in the management of Tesso Nilo National Park

| Types | Actor/institution name |
|---------------------------------------|--|
| Central government | Balai Taman Nasional Tesso Nillo Pelalawan (BTNTN) |
| Local government | Dinas Lingkungan Hidup dan Kehutanan Provinsi Riau (DLHKR), Pelalawan Regency Government (PEMKAB), Dinas Pariwisata, Kebudayaan, Pemuda dan Olahraga Kabupaten Pelalawan (DPKKO) |
| Village government | Lubuk Kembang Bunga (LKB), Air Hitam (AH), Bagan Limau (BL), Pontian Mekar (PM) |
| Private companies | PT. Riau Andalan Pulp and Paper (RAPP), PT. Siak Raya Timber (SRT), PT. Jungle Peranap Indah (RPI), PT. Rimba Blue (RL), PT. Sola Lestari Forest (HSL) |
| Civil Society (CBOs) | Yayasan Taman Nasional Tesso Nilo (YTNTN), Indigenous Peoples (MA), TNTN Community Forum (FMTNTN), Community Empowerment Consortium (KPM), Kempas Group (KK) |
| Non-Governmental Organizations (NGOs) | WWF, Jikalahari, and Walhi |
| Military and police | Babinsa, Polsek and Forestry Police (POLHUT) |
| Academics | Universitas Riau (UNRI), Universitas Lancang Kuning (UNILAK), Universitas Islam Riau (UIR) |
| Media | Riau Pos (RP), Tribun Pos (TP), Pekanbaru Pos (PR) |

Source: Processed by the author, 2021.

Social Network Analysis (SNA)

To identify the involvement and role of actors in the management of TNNP, we used Social Network Analysis (SNA). Cronin (2015) SNA is a set of techniques used to identify and represent interaction patterns among social entities. SNA an-

analyzes the nature and pattern of interactions between diverse things using graphical tools. These entities (the actors under investigation) are represented as points known as nodes or vertices, and their relationship is represented by lines known as links, edges, or arcs (Cronin, 2015).

The important or prominent nodes generally occupy strategic locations in a network (Wasserman et al., 1994). The centrality of roles in networks is one of the earliest approaches to be pursued by network analysts (Scott, 1988), and is used to derive the position features of actor nodes in the network. The relationships between entities are measured by the frequency of contacts or by criteria set by the researcher.

In this study, two main criteria are used namely magnitude and directionality. The magnitude refers to the frequency and strength of social interaction, while directionality refers to the flow or direction of social interaction, in terms of where or from whom the interaction originates and to whom it is directed (Xu et al., 2018). In this study, the magnitude is measured by the exchange of information and communication between actors regarding the management of TNNP. Direction is measured in terms of where information usually comes from and to whom it is directed in the actor network, and it is visualized with arrows in the actor network diagram.

Results and Discussion

Actors involved in the management of Tesso Nilo National Park in Riau Province

There are 30 actors identified in the management of TNNP in Riau Province, including the Central Government, Regional Governments, Village Governments, Private Sector, Civil Society/(CBOs), (NGOs), TNI/Polri, Academics, and Media. The following sections discuss the activities of the various actors in detail. From the results of interviews, literature studies and field observations related to the roles and types of actor initiatives in the management of Tesso Nilo National Park, three groups of stakeholders were identified, namely: 1) key stakeholders, 2) primary stakeholders, and 3) supporting stakeholders (Secondary stakeholders). The central government through the Tesso Nilo National Park Hall is a key stakeholder because it has the legal authority to implement TNNP management policies, as shown in Table 2.

Table 2

Types and roles of actors in the management of Tesso Nilo National Park

| Type | Actors/institution name | Roles | Purpose |
|---------------------------|---|--|--|
| <i>A. Key stakeholder</i> | | | |
| Central Government | Balai Taman Nasional Tesso Nilo Pelalawan (BTNTN) | Implementor Facilitator Accelerator Environmental | Coordination in Social and Economy Dimension |

| Type | Actors/institution name | Roles | Purpose |
|---------------------------------------|---|----------------------------|--|
| B. Primary stakeholder | | | |
| Non-Governmental Organizations (NGOs) | WWF, Jikalahari, Walhi | Facilitator Accelerator | Coordination in Social and Environmental Dimension |
| C. Secondary stakeholder | | | |
| Local Government (Pemda) | Dinas Lingkungan Hidup dan Kehutanan Provinsi Riau (DLHKR), Pelalawan Regency Government (PEMKAB), Dinas Pariwisata, Kebudayaan, Pemuda dan Olahraga Kabupaten Pelalawan (DPKKO) | Facilitator | Social dimension |
| Village Government (Pendes) | Lubuk Kembang Bunga (LKB), Air Hitam (AH), Bagan Limau (BL), Pontian Mekar (PM) | Implementor Accelerator | Social and Economy dimension |
| Private companies | PT. RAPP (RAPP), PT. Siak Raya Timber (SRT), PT. Rimba Peranap Indah (RPI), PT. Rimba Lazuardi (RL), PT. Hutani Sola Lestari (HSL) | Accelerator | Social and Economy dimension |
| Civil Society (CBOs) | Yayasan Taman Nasional Tesso Nilo (YTNTN), Indigenous Peoples (MA), Taman Nasional Tesso Nilo Community Forum (FMTNTN), Community Empowerment Consortium (KPM), Kempas Group (KK) | Implementor Accelerator | Social and Economy dimension |
| Military and police | Teritorial defence management (BABINSA), local police (Polsek), and Forestry Police (POLHUT) | Control | Social and Environmental dimension |
| Academics | Universitas Riau (UNRI), Universitas Lancang Kuning (UNILAK), Universitas Islam Riau (UIR) | Accelerator | Environmental and Science dimension |
| Media | Riau Pos (RP), Tribun Pos (TP), Pekanbaru Pos (PR) | Informative | Environmental |

Source: Processed by the author, 2022.

Network of TNNP Management Actors in Riau Province

Figure 1 is a network of actors involved in natural resource management in the conservation area of TNNP in Riau Province. The arrows show the relationship/interaction where the one-sided arrows indicate an unrequited relationship and the two-sided arrows indicate there is a reciprocal relationship between the actors. Figure 2 measures popular or important actors in the network by eigenvector centrality where Balai Taman Nasional Tesso Nilo Pelalawan (BTNTN) emerges as an important or key actor with a value of 0.35, indicated by a larger purple box and more incoming and outgoing arrows. Finally, Figure 3 shows BTNTN as an intermediary actor or a link between all other actors in the network, with a value of 29.89 indicated by a larger purple box and the number of arrows coming or going from other boxes.

The actor network is characterized by various interactions between the Central Government, Regional Governments, Village Governments, Private Compa-

under this partnership. The development of the buffer zones of the national park buffer areas is done by strengthening community groups through economic and institutional trainings, providing business assistance, and developing master plans for community empowerment. Another two-way relationship between WWF and the village community of LKB is the development of ecotourism, especially river crossings and jungle walks in the Tesso TNNP utilisation zone, by maintaining the remaining natural forest. This relationship is often the result of collaborative ecotourism management in TNNP. The above findings show that the network of actors is interconnected, and some of them collaborate in the sustainable management of TNNP.

Key, Main and Supporting Actors in the Network

Measurement of network density through the intensity of the relationship between network actors is still low. A high-density network is a network where the members interact with each other. On the other hand, low-density networks are characterized by minimal interaction between members or unequal interaction between all members, dominated only by certain actors. Measurement of network density from outdated six software, as shown in Table 3 below, shows that 289 bonds occur in the network structure. The average value for density in the network structure is 0.332 or 33%, indicating the relationships that occur in the network are not too strong. The standard deviation 0.471 indicates the validity of the processed data.

Table 3

Density/Network density

| Density / Average Matrix Value | | | |
|---------------------------------------|--------------------|-----------------|--------------------|
| <i>Density</i> | <i>No. of Ties</i> | <i>Std. Dev</i> | <i>Avg. Degree</i> |
| 0,332 | 289 | 0,471 | 9,633 |

Source: Processed by the Author, 2022.

The central government represented by Balai Taman Nasional Tesso Nilo Pelalawan (BTNTN) has become a key actor because it plays an important role in making and implementing Tesso Nilo National Park management policies with resources supported by organizational, informational, and technical strengths. As management of conservation area involves many related actors, cooperation is a crucial factor. Among civil society groups, NGOs are the most important actors. They have the most significant influence on environmental issues and pressure on the government and private sector to strengthen environmental regulations and mobilize and empower the community by forming a TNNP ecotourism community group. In addition, NGOs have experience in formulating and shaping natural resource management policies, actively participating in natural resource management processes, and networking centers with them.

Furthermore, local authorities, rural self-governments, the private sector, CSOs, TNI/Polri, scientists and the media are auxiliary actors, thanks to which local authorities and civil society have a significant influence on the management

policy of natural resources in protected areas, since environmental problems are often given more attention at the local or regional level, as well as at the national level. However, due to the unequal power relations between the central and provincial governments, local governments are less concerned and only support the management of conservation areas.

The degrees and scores of eigenvector centrality are used to identify the core, main, and supporting actors in the actor network. Table 4 summarises the scores of all actor centrality measures. The actor network centrality score shows that BTNTN is the key actor in the network with a score of 29 degrees. WWF belongs to the main actor category with a score of 19 degrees, while the other actors mentioned above belong to the supporting actors. This score implies that BTNTN has the highest number of connections in the actor network. However, Hansen et al. (2019) note, degree centrality is only an indicator of popularity and does not differentiate between quantity and quality. It only measures the number of actors associated with a particular actor. Therefore, the popularity of actors such as BTNTN is mainly related to the fact that most other actors in the network contact them before carrying out their activities in the TNNP in Riau Province.

Table 4

Score of actor centrality in the TNNP management network

| Actor | Centrality Measures | | | |
|--------|---------------------|-------------|-----------|-------------|
| | Degree | Betweenness | Closeness | Eigenvector |
| BTNTN | 29.00 | 29.89 | 29.00 | 0,35 |
| DLHKR | 12.00 | 0.84 | 45.00 | 0,20 |
| PEMKAB | 11.00 | 11.32 | 30.00 | 0,29 |
| DPKKO | 4.00 | 0.00 | 56.00 | 0,17 |
| LKB | 11.00 | 6.58 | 44.00 | 0,25 |
| AH | 9.00 | 0.74 | 49.00 | 0,14 |
| BL | 10.00 | 0.76 | 48.00 | 0,16 |
| PM | 10.00 | 0.80 | 48.00 | 0,16 |
| RAPP | 11.00 | 1.29 | 45.00 | 0,22 |
| SRT | 8.00 | 0.24 | 50.00 | 0,15 |
| RPI | 8.00 | 0.24 | 50.00 | 0,15 |
| RL | 8.00 | 0.24 | 50.00 | 0,15 |
| HSL | 8.00 | 0.24 | 50.00 | 0,15 |
| YTNTN | 4.00 | 0.00 | 54.00 | 0,16 |
| MA | 11.00 | 2.08 | 43.00 | 0,24 |
| FMTNTN | 6.00 | 0.15 | 52.00 | 0,10 |
| KPM | 4.00 | 0.00 | 55.00 | 0,14 |

| Actor | Centrality Measures | | | |
|------------|---------------------|-------------|-----------|-------------|
| | Degree | Betweenness | Closeness | Eigenvector |
| KK | 11.00 | 4.11 | 47.00 | 0,22 |
| WWF | 19.00 | 6.57 | 31.00 | 0,28 |
| JIKALAHARI | 11.00 | 2.63 | 45.00 | 0,21 |
| WALHI | 11.00 | 1.60 | 45.00 | 0,21 |
| BABINSA | 8.00 | 0.31 | 50.00 | 0,17 |
| POLSEK | 8.00 | 0.31 | 50.00 | 0,17 |
| POLHUT | 8.00 | 0.31 | 50.00 | 0,17 |
| UNRI | 5.00 | 0.06 | 53.00 | 0,16 |
| UNILAK | 5.00 | 0.02 | 53.00 | 0,10 |
| UIR | 5.00 | 0.02 | 53.00 | 0,10 |
| RP | 5.00 | 0.03 | 53.00 | 0,10 |
| TP | 5.00 | 0.02 | 53.00 | 0,10 |
| PR | 5.00 | 0.02 | 53.00 | 0,10 |

Source: Processed by the author, 2022.

Eigenvector centrality provides a better measure for identifying popular actors in a network than degree centrality because it considers not only the degree (number of connections) an actor has but also the degree to which other actors are connected to him (Cronin, 2015). Thus, despite having a low degree of centrality, an actor can have a high centrality of eigenvectors if other actors are connected to them (more connections). From Table 3, it can be seen that although actors such as Dinas Pariwisata, Kebudayaan, Pemuda dan Olahraga Pelalawan (DPKKO), Yayasan Taman Nasional Tesso Nilo (YTNTN) and Konsorsium Pemberdayaan Masyarakat (KPM) have degree 4 centrality, the eigenvector centrality is different, DPKKO has the highest score of 0.17. This score implies that Pariwisata, Kebudayaan, Pemuda dan Olahraga Pelalawan is a more popular actor than Tesso Nilo National Park Foundation and Community Empowerment Consortium as many actors are connected to them such as Universitas Riau (UNRI). Universitas Islam Riau (UIR), Universitas Lancang Kuning (Unilak), LKB and BTNTN and have a higher degree of centrality. Riau Andalan Pulp and paper (RAPP) companies are more popular than other companies, because they actively work with local governments and the surrounding community as part of their corporate social responsibility (CSR) program. From the NGOs' perspective, WWF has become a popular institution. This is inseparable from their role as an initiator in the development of ecotourism in the TNNP. In addition, WWF is also a communication tool in TNNP for communities and companies in the TNNP to help handling human and elephant conflicts using the Flying Squad technique, which began in 2004 in Lubuk Kembang Bungo village.

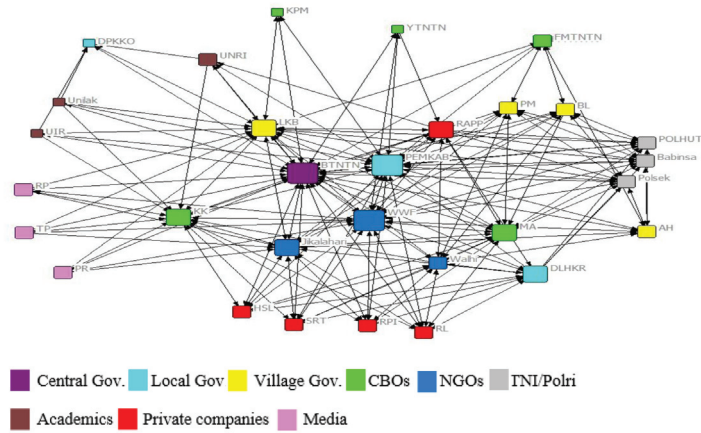


Figure 2: The eigenvector centrality of actors in the network.

Source: Data Processing, 2022.

Mediator in Actor Network

The intermediate centrality helps to identify mediators in the actor network. It shows the role of actors in sharing information from one part of the network to another. BTNTN has the highest centrality, with a score of 29.89, considering that it coordinates all planning and implementation activities of all other institutions in TNNP. BTNTN serves as a link between all the actors in the network. The district government is present as the second most important mediator in the actor network. The district government is the link between many actors, such as NGOs, CBOs, companies, and village governments. Due to its position as the head of local government with the authority to manage local government, the role of the district government is act as a facilitator with other stakeholders in providing space and roles for other actors in exploiting the potential and natural wealth of TNNP in accordance with applicable regulations.

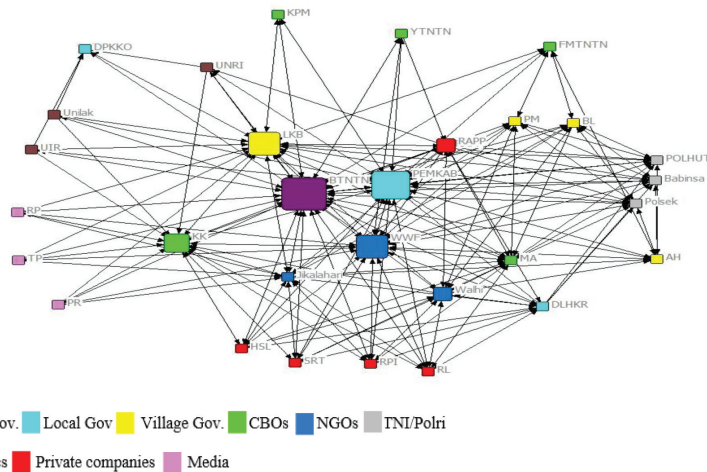


Figure 3: Centrality between actors in the network.

Source: Data Processing, 2022.

Based on the proximity centrality score, it can be concluded from Table 3, that Tesso Nilo Pelalawan National Park Office (BTNTN), Regency Government and WWF are closer to all actors in the network than other actors. According to Hansen et al. (2019), a low proximity centrality score means that an actor is directly connected to another actor or just remote from most of the other actors in the network. On the other hand, a higher proximity centrality score implies that an actor is remote from all other actors in the network.

Although BTNTN is more popular in actor networks, the initiation of TNNP management mostly comes from NGOs. For example, in the proposed expansion of TNNP as an elephant conservation area carried out by WWF and BTNTN. In 2004–2006, WWF formed an Eyes on the Forest (EoF) coalition with local NGOs that are members of two large networks, namely Jikalahari (Riau Natural Forest Rescue Work Network) and WALHI Riau. At that time, EoF asked the management of the giant pulp mills owned by the APP and APRIL groups not to accept timber from illegal logging in TNNP and its surroundings. WWF's efforts are through an advocacy approach to large companies such as Riau Andalan Pulp and paper (RAPP). WWF's advocacy efforts are a means of negotiation to reach joint decisions in the management of TNNP.

On the other hand, the involvement of local governments and civil society in the management of Tesso Nilo National Park is still quite low. Local governments and civil society are only involved in supporting and facilitating activities carried out by NGOs, where WWF helped initiate the formation of the TNNP ecotourism community group, so that by the end of December 2011, a community group in Lubuk Kembang Bunga Village (LKB) called the Tourism Community Group (Kempas) Adventure was formed as a group that offers and organizes ecotourism activities in the utilization zone of Tesso Nilo National Park.

The results of interviews with officials in local governments, revealed that the local governments lack initiative because they are bound by the rules of Law Number 23 of 2014 on Regional Government, which regulates the division of government affairs. The authority to manage the national park conservation area does not involve the regional government, so this policy creates distance and separation for the local government to be more involved in the management of TNNP in Riau Province. A similar response was also conveyed by one of the community organizations, who stated that it is difficult for them to get information about TNNP so that they were only involved in activities initiated by NGOs. From the above findings, it can be concluded that the local government plays a facilitator role rather than a direct role in the sustainable management of TNNP in Riau Province, and the community plays a role in supporting and implementing activities.

Civil Society Participation in TNNP Management

This study analyses the participation and challenges of civil society in the management of Tesso Nilo National Park, Riau Province. The centrality criterion metric was developed for this study through social network analysis. The analysis was conducted to examine the key, main, and supporting actors in the Tesso

Nilo National Park management. The degree of centrality and eigenvectors show that the government of BTNTN has a strong influence and is a key actor, NGOs (WWF) are included in the main actor category, and the community is included in the supporting actor category. Furthermore, the results of the measurement of the density of relationships between actors through the intensity of interaction show that their relationship is less strong. These results indicate that cooperation in the management of the national park is still in its early stages, and the government's strong point lies in its policies.

An important achievement of this collaborative management of national parks is the granting of permits to civil society to use land in national parks for ecotourism activities. However, the Indonesian government explicitly prohibits the activities of local communities in national parks from ensuring the integrity of forest ecosystems, resulting in communities having no incentive to participate in these activities.

This TNNP case study allows local people to use the forest and land resources, even though it is a limited tourist attraction with few visitors. This rare case may not be found in other national parks.

This activity started with a collaboration between the government and the community, where the national park granted an unwritten permission to the Kempas group to use or manage the utilization zone of the TNNP area as a location for organizing ecotourism activities supported by NGOs through the provision of funding assistance. This assistance is used to improve ecotourism facilities and increase the capacity of Kempas group members through training and study tours. In this process, communication and cooperation between the government and the community to promote environmental management strategies through practical cooperation.

Chhatre et al. (2012) said that the participation of civil society in the management of national parks would not only increase social outcomes but also improve forest management outcomes and improve forest governance. Community collaboration with NGOs and national parks in ecotourism activities has led to forest restoration and increasing community income through admission tickets, reforestation, and improved community welfare through developed village infrastructure in the form of roads, clean water, and electricity. This finding is consistent with previous research, which says that civil society involvement in environmental decision-making can provide economic benefits (Friedman et al., 2020; Sabuhoro et al., 2021). Community-based management can minimize conflict and rule violations and increase cooperation between community groups due to greater social cohesion, higher awareness, and better coordination with various institutions (Sabuhoro et al., 2021). In this process, the community should have direct access to the policy-making process, stakeholders, and information and be able to monitor the policy making process by utilizing the knowledge gained (Zhang et al., 2019). In this case, the free flow of information must be built on a foundation of transparency.

There is the interaction between various actors and levels in managing of national parks. Thus it can become a means of community empowerment by increasing its potential to realize productive ecotourism management and

encouraging reflection on the increasing role of government, local governments, NGOs, CBOs, and academics as facilitators of change. Issues related to integration of activities and disclosure of information must become an integral part of the activities carried out by all stakeholders through their respective authorities so that coordination and synergy in the management of national parks will be realized.

Natural resource management in the Tesso Nilo National Park area also emphasizes building cooperative collaboration with various actors outside the bureaucracy because bureaucracies such as the government have limited resources to control problems in the national park area. Therefore, all stakeholders involved in government should not be excluded, including local communities, as their presence will help reduce resource exploitation by outsiders who often pose a threat to conservation efforts. In addition, community involvement will also strengthen the legitimacy of collaboration between stakeholders in the management of the national park.

Challenges of civil society participation

The participation of civil society in the management of Tesso Nilo National Park currently still faces several obstacles and challenges, including the lack of government regulations or policies that regulate in detail the boundaries of responsibilities and authority between government, local government, private sector and the community in the management of national parks, so that each actor has a different perception of the national park. For example, the community considers the forest as its property, and they are free to do anything to benefit from the forest, resulting in various environmental impacts. At the same time, park managers try to protect the forest ecosystem. This difference in perception often leads to a conflict of interest between the community and the government. For this reason, more detailed rules in the form of technical regulations and implementation instructions guide all parties, and these rules must be socialized. As stated by Sheppard, S. R. (2005), community participation's limitations are mostly due to barriers to perception or information transmission. Communication and disclosure of information will create a shared perception and commitment of all parties.

The next challenge is related to the weak institutional capacity of the community, so they have yet to be involved in making decisions about national park management. The findings of this study show that community involvement in ecotourism activities comes from non-governmental organizations (WWF). WWF initiated the establishment of the Tourism Community Group (Kempas). In addition WWF also provides funding assistance and participates in planning the implementation of ecotourism activities. In this case, the government recognizes the contribution made by WWF, which in turn responds by acknowledging that it can influence. This finding supports Rydin Y. and Holman N. (2004) statement about the reinforcing social capital that exists among a limited group of actors and organizations with an interest in local sustainability issues as the NGO's goals. However, the problem is that community empowerment in conservation areas becomes difficult when many regulations limit community ac-

cess to forest resources. On the other hand, community empowerment becomes more important because the community should be able to identify conservation issues and collaborate with other stakeholders.

Furthermore, there are limited resources in the community, both financially and in terms of, expertise, technology, and time. Of course, all these resources are important, but timing is the most important for the people in the TNNP area. Collaborative work takes time, the community has to attend meetings, and it takes a lot of time to prepare and participate in collaborative projects. At the same time, they have to work in the fields and gardens to earn a living for their families, who are paid daily or weekly.

The final challenge is the relationship between stakeholders and the government. The relationship between government and society must be a communication network that positively supports each other. The government can contribute to the conservation of natural resources by creating rules and conditions to strengthen the role of the community and encourage cooperative behaviour among social components. The government must shift from an approach that controls the community and considers the community a policy obstacle to a parallel partnership approach. With a mechanism like this, the community can be empowered so that it can complement the shortcomings of the government.

Conclusion

By applying the SNA method, we identified the role of the most important key actor in the management of TNNP in Riau Province, namely BTNTN. Among the 30 nodes representing all actors involved in this study, BTNTN has the highest eigenvector centrality score of 0.35. These results indicate that the importance of BTNTN in the network of actors stems from the fact that this institution is the main point of contact and conduit for local governments, CBOs, and NGOs in carrying out TNNP management activities. Meanwhile, the role of civil society is categorised as a supporting actor. Community initiatives have not yet emerged in the management of TNNP, and community involvement is mostly initiated by NGOs. Therefore, this study has demonstrated the usefulness of the SNA method in identifying actors and their roles in the TNNP management network in Riau Province.

Overall, this research provides a simple contribution. There are two important conclusions obtained through the SNA method in studying civil society participation, namely: 1) Civil society participation in the management of TNNP is still in the early stages of collaboration; most of the ideas and initiatives are still in the formation of actors, institutions, and in some cases, community empowerment has begun. Civil society involvement is still in the stage of supporting and implementing activities. 2) The biggest challenges faced by civil society are mainly related to regulations, where the government, as the implementer of policies for managing the conservation area of TNNP, tends to prioritise the point of view of laws and regulations, the existence of public distrust of the government, the lack of public access to information, and the lack of interest in coordination among all stakeholders.

The implications of the results of this study are able to have an impact on policy makers to involve local communities as an effort to develop the community's economy and sustainable tourism. In local level, the collaboration in the management of TNNP must be oriented towards achieving coordination between all parties, so as to achieve synergies in the implementation of TNNP management programs and activities. In the partnership process, compromise is the key word that must be achieved and is included in the TNNP management plan, which is organic and dynamic. A compromise will only be reached if the management objectives of TNNP can be agreed upon and the consequences understood by the parties concerned. In this context, partnerships in national park management adhere to the principle of constituency and prioritize public services that are oriented towards mutual benefits. In international level, the results of this study are in line with the goals of the SDGs which emphasize the central government to facilitating access to finance, including through microcredit initiatives for the poor, indigenous peoples and local communities in areas with high eco-tourism potential.

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