Name	Counterpart	Title
Dodik Ridho Nurrochmat	**Z01**	Reconciling conflict of interest in the management of forest restoration ecosystem: A strategy to incorporate different interests of stakeholders in the utilization of the Harapan Rainforest, Jambi, Indonesia

Background and Objectives

This study analyzes the interests and influences of all stakeholders involved in utilizing the Harapan Rainforest. It aims to identify the stakeholders involved and provide a policy recommendation for the contestation in the Harapan Rainforest. The stakeholder analysis method is used to analyze and categorize stakeholders' interests and influences in the Harapan Rainforest utilization, promoted by Reed *et al.* (2009). This research provides an alternative conflict resolution strategy in the context of smallholder oil palm plantations within forest areas in Indonesia

The methodology used by the study is the stakeholder analysis, stakeholder analysis is a tool that can be used in the negotiation or learning process among stakeholders in solving common problems.

The initial step of this study was to identify the stakeholders involved in utilizing the Harapan Rainforest. We then categorized the stakeholders, using the interest-influence matrix, referring to Reed *et al.* (2009). Finally, the results of the previous steps were used as a consideration for building a strategy to incorporate the different interests of stakeholders.

This study found that there are three common interests in the Harapan Rainforest. Firstly, stakeholders have an interest in conserving and protecting forests. Secondly, stakeholders are interested in utilizing forest land for oil palm cultivation to generate income. Lastly, the third stakeholders are interested in forest policy and environmental justice enforcement. This study found eight stakeholders involved in the Harapan Rainforest

There are three main local community groups (LCM) in the Harapan Rainforest: the Migrant Group, the Batin Sembilan Group, and the Malay Group. Each group consists of several farmer groups and is characteristically utilizing the Harapan Rainforest (Rahmani *et al.* 2021). Almost all Harapan Rainforest local communities have a high dependency on the forest. However, most of them utilize the Harapan Rainforest forestland for oil palm cultivation. Migrant and Malay groups utilize forestland to cultivate oil palm and a small amount of rubber. They sell oil palm fresh fruit bunches and rubber to Toke/middleman (TKE). Meanwhile, most Batin Sembilan people collect NTPFs, but after realizing the success of migrant people who planted oil palms within the Harapan Rainforest, they also planted oil palms. PT REKI assists the Batin Sembilan people to cultivate rubber, so they do not expand their oil palm in Harapan Rainforest.

Each stakeholders then divided into 2 measuring power level (high and low) with three different criteria, based on the influence to the restoration, and resulted in the table below:

Table 1.

No	Stakeholders	Power Category
1.	PT Restorasi Ekosistem Indonesia (REKI)	Legitimate
2.	Local community (LCM)	Reward
3.	Middleman/*Toke* (TKE)	Reward, referent
4.	PT Berkat Sawit Utama (BSU)	Legitimate
5.	Yayasan CAPPA Keadilan Ekologi (CAPPA)	Referent
6.	The Collaborative Research Center 990 (CRC)	Expert
7.	The Forestry Service of Jambi Province (DKJ)	Coercive, legitimate
8	Production Forest Management Center Reg. IV (BPHP)	Coercive, legitimate

This study identifies stakeholders' interrelation, using the social network analysis (SNA) approach. Figure 1 shows the stakeholders' network in the utilization of the Harapan Rainforest. Blue nodes are *context setters*, red nodes are *key players*, yellow nodes are *subjects*, and green nodes are *crowds*. Different line thicknesses indicate differences in the closeness of the relationship among stakeholders.
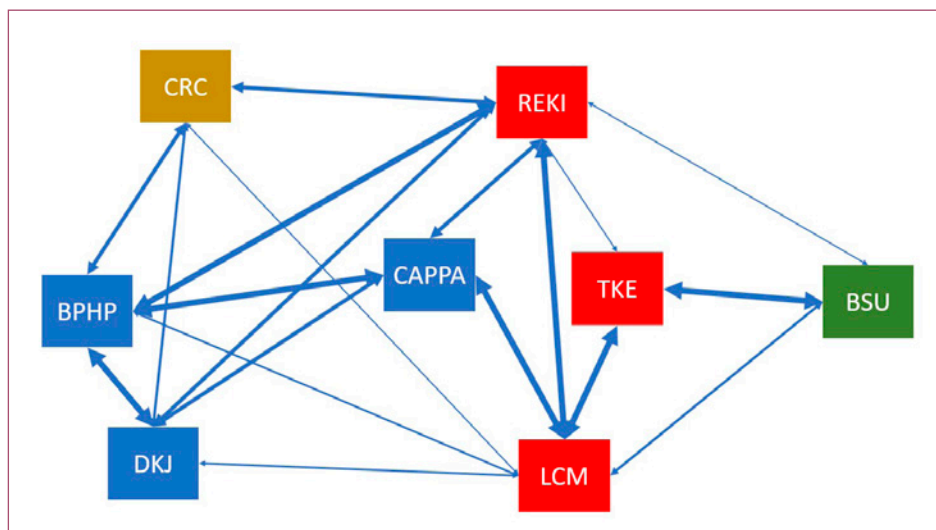

Figure 1. Stakeholders' network in the utilization of Harapan Rainforest.

This study found that REKI is the central stakeholder of the network because it has the biggest out-degree and in-degree value. REKI has the power to spread information to other stakeholders in the network. REKI also has relationships with important stakeholders (BPHP, DKJ, and CAPPA) in the network, because they have the biggest eigenvector value. PT REKI also becomes a "bridge" that plays as an intermediary role in connecting various stakeholders in the network of Harapan Rainforest contestation. Based on this result, REKI can connect with other stakeholders. It can be a privilege to lead better management in Harapan Rainforest. PT REKI has a good connection with BPHP and DKJ as the local government institutions with power in the policy-making of Harapan Rainforest management. PT REKI can partner with CRC to provide innovations in sustainable forest management that can harmonize forest rehabilitation and oil palm production. PT REKI also can also partner with CAPPA to encourage the local community to prevent or even stop the expansion of oil palm cultivation within the Harapan Rainforest.

As the remaining lowland rainforest in Sumatra, Indonesia, the Harapan Rainforest provides much ecological and economic benefit, specifically to local stakeholders. Nevertheless, the Harapan Rainforest ecosystem has been threatened, due to the different and even contradictory interests of its stakeholders. This study found three stakeholders are the key players who have direct roles in the Harapan Rainforest utilization. In contrast, the other five stakeholders play indirect roles. One of the biggest threats to the Harapan Rainforest ecosystem is the local community's conversion of the forest into oil palm. Strict law enforcement is one option for addressing this threat. But, given the complexity of forest ecosystem restoration problems in the Harapan Rainforest, influenced by socio-culture and economic factors, successful implementation is improbable. Therefore, it is necessary to provide a proper strategy as a win-win solution to reconcile different interests and encourage cooperation among stakeholders.

This study proposes a policy strategy promoting oil palm agroforestry to reconcile ecological and economic interests in the Harapan Rainforest. To implement this strategy, it is important to build common ground between PT REKI (REKI), the local community (LCM), and the *toke*/middleman (TKE) toward the oil palm agroforestry program as a win-win solution in the Harapan Rainforest. It is also important to consolidate the management plan with The Forestry Service of Jambi Province (DKJ) and Production Forest Management Center Reg. IV (BPHP) as a local government organization. CAPPA can assist the local community to ensure the successful implementation of oil palm agroforestry. According to the findings of this study, there is a potential avenue for further research in the future. Research into intercrops' suitability toward climate and soil conditions in the Harapan Rainforest is important to ensure that oil palm agroforestry is possible to implement.

References

Rahmani TA, Nurrochmat DR, Hero Y, Park MS, Boer R, Satria A (2012) Evaluating the feasibility of oil palm agroforestry in Harapan Rainforest, Jambi, Indonesia. For. Soc. 5: 458–477 *doi: doi.org/10.24259/fs.v5i2.10375*

Reed M, Graves A, Dandy N, Posthumus H, Hubacek K, Morris J, Prell C, Quinn C, Stringer, L (2009) Who's in and why? A typology of actor analysis methods for natural resources management. J. Environ. Manag 90: 1933–1949 *doi: doi.org/10.1016/j.jenvman.2009.01.001*