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The Driving and Restraining Factors for Peat Forest Park Management and Sustainable Development Goal Partnership: A Case Study of the Orang Kayo Hitam Forest Park, The Province of Jambi, Indonesia.

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Abstract

Indonesia has the second largest peatland area in the world, of which 19% is damaged due partly to forest fires and encroachment. The Orang Kayo Hitam (OKH) forest park located in the Indonesian province of Jambi is one among several peat forests in the country that remain largely intake. But as do other forested areas, the park faces severe encroachment threats. Multistakeholder partnership as stipulated by Sustainable Development Goals (SDG) 17 offers a reasonable strategy to mitigate the threats. This article studies the driving and restraining factors, both externally and internally, that affect preservation of the park's peatland as well as the development of effective partnership strategies. Results of the force field analysis show that community's knowledge and awareness about the link between the park's ecological and economic functions are the strongest internal driving factors, while lack of them are the strongest restraining ones. Availability of endemic species and frequency of forest fires are the strongest external driving and restraining factors, respectively.

Keywords: Peat forest park, SDGs, driving factors, restraining factors

Introduction

Indonesia is a country with the second largest peatland in the world. Unfortunately, there are still many Indonesian people who do not know, let alone care that peat forest (Darmawan et al., 2016; Ramdhan, 2017). In fact, peat has tremendous benefits, for example, its ability to store carbon in large quantities. Peat is able to hold up to 30 percent of the world's carbon so it is not released into the atmosphere (Masganti et al, 2014). The results of the study show that peatlands have a function to prevent climate change, natural disasters, in addition to supporting the economy of the surrounding communities (Ramdhan, 2017). Peat is also important for people who use its ecosystem because it is close to waters such as rivers, swamps, or the sea, for fishing activities. Meanwhile, peatland that is not thick and is considered relatively more fertile, becomes a place for farming and planting horticultural plants.

Indonesia's peatlands cover an area of about 14.9 million hectares (Wahyunto et al, 2013) and 2.67 million hectares of them, which is equivalent to three times the island of Bali,

are in damaged and dry conditions (Pranita, 2020). It is known that damaged and dry peatlands are vulnerable to forest and land fires. Fires in peatlands are quite difficult to extinguish because they burn in the ground. The impact is not only felt by people in the peatland area itself, which is becoming critical lands. Forest and land fires contain substances that are harmful to health also posing a risk to other areas (Aiken, 2004), and also have an impact on the economy, particularly at community level (Darmawan et al, 2016).

A similar condition occurred in the OKH forest park, Jambi in 1997, land fires happened again in 2007, then in 2011, 2015 and 2019. It is known that this forest park is a buffer for the Berbak Sembilang National Park and has a strategic function, namely controlling the hydrological system in the peat area (Candra, 2021; Dessy, 2021). The OKH forest park also has a function as a carbon and water storage and a habitat for important flora and fauna species and has the potential to be developed as natural attractions (Dessy, 2021; Napitupulu, 2021).

The OKH forest park also has problems with encroachment and clearing for farming by certain people (Candra, 2021 and Dessy, 2021). As a result, the OKH forest park has been damaged and could not fulfill the original purposes for which it was appointed, namely endemic plant conservation as well as tourism and research uses. Based on Law 5/90, Forest Park (*taman hutan raya* or tahura) is a natural preservation area which is built for the purpose of collection of plants and or animals either natural or artificial, original species and or not original species, which is used for research, science, education, support cultivation, culture, tourism, and recreation. Facing the challenge of encroachment and destruction by external actors, it is certainly necessary to have a collaborative program based on conservation as well as economy. One of the government program schemes that can be used to solve this problem is the Conservation Partnership program.

The partnership program is also a program mandated by the SDGs as its 17th goal, namely partnership as well as by the Ministry of Environment and Forestry through the *Perdirjen* number 6/2018. The 17 goals of the SDGs are the agreement of all countries, it is hoped that all development programs in each country will support the achievement of these goals.

According to the SDGs, a partnership program between parties in managing natural resources is very necessary because it is part of the steps in implementing programs in the economic field towards a sustainable economy for a nation. The economic pillar in the SDGs cannot be separated from the environmental, social and Institutional Governance pillars, as it is the basis of these 3 pillars. The development of a nation means that there is proper

development from the lowest level, that is village, to the national level. This condition can be found in the SDGs program which is currently mandated to be applied to natural resource development programs at the village level, for example collaboration in the implementation of Social Forestry as implemented in Merangin District, Jambi Province based on District Head Decree Number 2/ 2021 about affirmation of village fund allocation to social forestry at budget year 2021.

Based on Directorate General Decree of Conservation of Natural Resources Number 6/2018, conservation partnership that can be implemented with PM or PE programs. The choice of these 2 programs is based on the location of forest blocks for the implementation of forestry partnership programs. The development of a PM program requires the implementation of a forestry partnership in a traditional block; and the development of a PE program needs the implementation of a forestry partnership program in a rehabilitation block. From the description above, there is a need for synchronization between the Ministry of Environment and Forestry policies and the objectives of the SDGs in implementing the partnership program. Thus the partnership program implemented is in accordance with the conditions in the OKH forest park and can really support the achievement of the 17th goal of the SDGs. Now, does the synchronization of those policies guarantee that a forestry partnership program in the OKH forest park will be successful and achieve its objectives? Which forestry partnership program is the right one to be implemented in the OKH forest park? Whom are the right partners to collaborate with on the forestry partnership program at this location? What is the conservation partnership mechanism that fits the conditions in the field?

Based on lessons learned from several forest parks and forestry partnerships, the development of a conservation partnership program must also consider the economic, social and ecological aspects of the environment. There must be a balance of these aspects in carrying out a forestry program in the field so that the program objectives can be achieved (Wulandari and Budiono, 2016). Lessons learned about the need for a balance of these aspects have been proven when implementing a community empowerment program for more than 5 years in the Register 19 forest park and around Bukit Barisan Selatan National Park or TNBBS (Wulandari ad Inoue, 2018; Wulandari et al., 2019). A program's achievements will not be optimal if focussing on only one aspect because people still require adequate daily needs (Ramdhan, 2016).

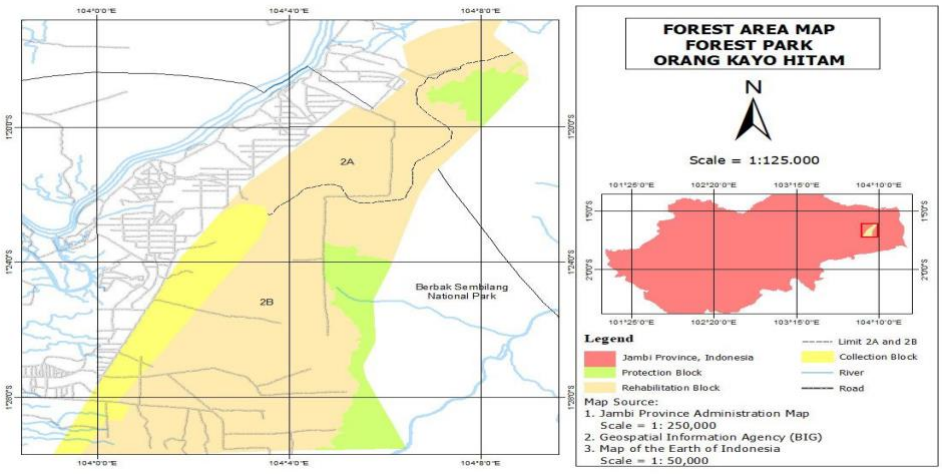
The economy will be sustainable if the ecological condition of a conservation area is maintained properly. Thus, it can be understood the complexity involved in implementing a program that requires the right partners in order to maintain a balance of economic, ecological

and social aspects in operating a forestry partnership program while at the same time achieving the 17th goal of the SDGs.

Based on data from the management, until now the OKH forest park is still in the early stages of developing a conservation area program so novelty this research is strategic position of this research. It is needed to support the partnership objective of SDGs and the partnership development of the OKH Forest Park program. A study of the driving and restraining factors is needed to anticipate the failures that may be encountered while at the same time minimizing the obstacles that may be encountered in the development of the forestry partnership program in OKH Forest Park.

Methodology

The research was conducted in May-June 2021 with a case study research design (Silalahi, 2009). Based on this method, the description of the research can answer the How and Why for the case study, namely about the relevance of preserving the peat forests of the OKH forest park to the 17th goal of the SDGs (Picture 1.).



Picture 1. Research location

This research is descriptive qualitative and the data is collected from online questionnaires on driving and restraining factors. Furthermore, the formulation of the data obtained uses the Force Field Analysis. This analysis comes from Kurt Lewin, then it is developed (Morgan, 2008), and applied (Singer, 2009) in a participatory way to analyze the driving and restraining factors of a change. Those factors for the sustainable management of the OKH forest park that can support the achievement of the 17th goal of the SDGs will be described after identifying the aspects of each factor and their status, either as internal or external factors.

Results and Discussion

Current partnership in peat forest park Orang Kayo Hitam

Sulistiyani (2010) and Sarjono and Wulandari (2014), mentions that collaborating with partners or partnering or partnerships in supporting the achievement of the 17th goal of the SDGs can mean a form of alliance of various parties, two or more parties. This is a cooperative bond based on the agreement of the parties who need each other in increasing the capability and capacity to carry out a particular business and goal so as to obtain better results. Thus it can be said that a partnership can be established if the following four requirements are met, namely: consisting of two or more parties, having a common vision for a goal, having an agreement between the parties doing the partnership, and needing each other between parties.

These four conditions are the minimum requirements for a partnership program to be carried out in an area so that it is expected to be beneficial for all partners or a mutualistic partnership (Sulistiyani, 2010). This condition, the mutual understanding between the parties partnering in carrying out various program activities, is also expected to support the achievement of the 17th goal of the SDGs. Not all partnerships are mutualistic because some are pseudo partnerships or partnerships as a process of some fusion or development of programs that have been carried out by partners (conjugation partnerships). Thus, of course, pseudo partnership needs to be avoided in the implementation of either PM or PE programs for forestry partnerships. A pseudo partnership will not guarantee a sustainable partnership in accordance with the 2018 *Perdirjen* and the 17th goal of the SDGs because the program is temporary or only charitable. Regarding the 4 terms of the partnership above, the Head of the OKH forest park stated that the management of the forest park was in the early phase of program development so that the 4 conditions for the existence of a partnership between managers and partners including the community groups were in the early stages, namely the identification of parties who would become partners. and interested in collaborating in supporting the sustainability of the forest park.

Driving and restraining factors on partnership conservation program in Orang Kayo Hitam peat forest park and achievement of SDGs-17 partnership

According to the Directorate General of Nature Resources Conservation and its Environment Decree number 6/2018 on the Ecosystem Recovering Forestry Partnership, community participation is limited to the preparation of an agreement and henceforth the

program implementation will be carried out by the forest park management. On the other hand, for the Community Empowerment Forestry Partnership it is necessary to have community participation or partners consisting of community groups from the initial stages of forestry partnership planning to its implementation.

Although there is limited community participation in the development of a ecosystem recovering Forestry Partnership, in the field it is still necessary to have a community empowerment program in the implementation of the ecosystem, recovering in a traditional block or zone and the utilization. Vice versa, a community empowerment Forestry Partnership still requires a ecosystem recovering program in a rehabilitation block. Based on the results of Aliadi et al's study (2015), the external and internal factors in the management of a forestry partnership must be considered in its development. These factors have also been mentioned by the key actors and respondents of this study as the internal and external factors, either driving or restraining. The results of the analysis of the opinions of key actors and respondents describe in Table 1.

Based on the results of the study, the highest internal and external driving factors are also the first internal and external restraining factors which are related to natural and human resources that support the management of the OKH forest park. The highest internal driving factor is that people understand that the sustainable ecological function of the forest park will affect the economic function of the land. While the external driving factor is that there are endemic peatland species. Contrary to its function, the internal restraining factor is the lack of community expertise in managing non-timber forest products. While the external restraining factor is the frequent occurrence of fires, that has also happened in swamp forests (Hoscilo et al., 2011).

There are environmental aspects and human resources as influencing factors in supporting the sustainability of the OKH forest park as mentioned in the description of the 3 pillars of the SDGs. The environmental pillar cannot be separated from the economic and social pillars. The pillar of the economy must be able to maintain environmental sustainability. The social pillar, in changing towards a better condition, must remain friendly to the environment.

Furthermore, it is known that the economic pillar has an important role in partnerships that support sustainable development. The aspects stated by the respondents of this study, therefore, are relevant to the Ministry of Environment and Forestry program in the management of Conservation Area with conditions such as those in the forest park, namely partnerships.

Table 1. Driving and restraining factors for Peat Forest Park Orang Kayo Hitam Management

Driving Factors		**Restraining Factors**	
Internal	**Score**	**Internal**	**Score**
Understanding people to sustainable ecological function of OKH will affect to economic function peat forest land	69	The absence of local actors who are proven to support all conservation efforts	14
Community groups ready to support the forest park program	63	Change the roles and responsibilities of forest resource management from the district to the provincial level	29
Existence of legal access provided to the community	54	The lack of community's knowledge on peat forest management	36
Motivation of forest park management unit to improve the welfare of the community	45	UPT Tahura OKH still needs to be strengthened	30
		The lack of public capital to manage the OKH forest park	26
		Limited funds for the technical service unit of the OKH forest park	12
		The lack of community expertise in managing non-timber forest products	33
		The low bargaining position of the community	23
		The presence of people living in the forest park	28
External	**Score**	**External**	**Score**
Availability of endemic peatland species	72	Frequent occurrence of forest fires	59
The availability of forest resources that are ready to be managed collaboratively by stakeholders	61	Developing mother trees that resistant to fire	43
The existence of policy support from the national and local governments in the management of the forest park and peatlands	53	No access to forest park legally for community	33
The presence of other parties who are willing to support the implementation of programs in the OKH forest park.	45	Forest conversion	40
		Illegal poaching	37
		The lack of a market network owned by the community and the government	19

This means that the respondents' statements can be said to be valid for use in research on conservation partnerships that are linked to the 17th goal of the SDGs, that is partnerships.

Good understanding of people on the need to preserve the surrounding environment will certainly greatly support the efforts carried out in preserving the community forest park. And, this condition will certainly support the preservation of the endemic peatland species there. According to Napitupulu (2021) it is necessary to have human hands in managing the sustainability of endemic species, for example by developing mother trees, irrigating peat forest canals so that the plants do not dry out. This study has proven Napitupulu's statement (2021), that the second external restraining factor in conserving the peat forests of the forest park is the absence of mother trees.

Humans in preserving the environment are the main element. Based on the results of this study, it can be seen that the second, third and fourth aspects of the internal driving factors answer this. as well as the 3 aspects of the internal driving factors. The second aspect of internal driving factors is the existence of community groups that are ready to support the forest park programs. Wulandari et al. (2018) stated that in general the community would be willing to participate in conservation partnership programs or other government programs because of the existence of biological natural resources from the forest that they could use. This aspect can achieve its objectives if the third aspect of internal driving factors can be provided, namely the existence of legal access provided to the community to participate in managing the OKH community forest park. Legal access is very likely to be provided through the implementation of the forestry partnership program. Sooner or later access can be given to the community in relation to these 4 factors, namely the motivation of the forest park management to improve the welfare of the community (economy).

It turns out that aspects of external driving factors also support the aspects of internal factors. The second external driving factor is the availability of forest resources that are ready to be managed collaboratively by stakeholders. It appears that this aspect supports the effort to preserve the community forest park through collaborative economic efforts. Moreover, the third aspect is the existence of policy support from the national and local governments in the management of the forest park and peatlands, one of which is a conservation partnership policy. The fourth aspect of external driving factors strongly supports all aspects of driving factors both internal and external, namely the presence of other parties who are willing to support the implementation of programs in the OKH forest park. According to Wulandari and Inoue (2018), other parties influence the sustainability of a social forestry program. What is meant by other parties here are non-community parties, for example the government, NGOs and domestic and foreign donors. Based on all aspects of internal and external driving factors, it can be concluded that partnership is an important program in supporting sustainability. Thus,

it can also be concluded that the OKH forest park conservation program is also automatically a program in achieving the 17th goal of the SDGs.

It is known that the 9 aspects of the internal restraining factors can be classified into 4 categories, namely economic, social and environmental aspects as well as institutional governance as stated in the 4 pillars of the SDGs. The economic aspects are: the lack of a market network owned by the community and the government, the lack of public capital and limited funds for the technical service unit of the OKH forest park. Limited funds and market networks are also an obstacle in developing a partnership program for a forest management unit (Wulandari and Budiono, 2016). The environmental aspect is the lack of community expertise in managing peatlands, as well as in managing non-timber forest products. While the social aspects are: the absence of local actors who are proven to support all conservation efforts, the low bargaining position of the community, community settlement inside forest**.** As for the aspect of institutional governance the technical service unit institution still needs to be strengthened. The same thing is also found in the aspects of external restraining factors, namely the need for mother trees, fires, land conversion, and illegal poaching, which are environmental aspects. In particular, the low bargaining position of the community has been proven by Bayrak dan Marafa (2016), that it has an effect on the implementation of the REDD program. Related to the social aspect, the external restraining factor is the presence of people living in the forest park, Sitoe and Guides (2015) di Mozambique dan Hamdan et al. (2017) in South Sulawesi, have proven that the length of time people have lived in an area will affect the program, including partnerships. The period of settlement and the number of settlers will have an effect. The existence of many communities living in protection forests and production forests makes the implementation of the partnership program unable to run optimally to achieve the goal of forest sustainability because forestry regulations in Indonesia prohibit settlements in forest areas, including forest parks. On the other hand, it is still found in the field that people actually want to own a forest area where they live so that when a government program is implemented, they will be very careful in accepting it. This is a specific problem found in forestry development in Indonesia because many forest areas no longer have forest but are already complete residential areas with various public facilities including village heads' offices. This condition will certainly become an obstacle in achieving forest sustainability because there is a minimum limit of 30% of forest area in an area being abolished based on the UUCK number 11 of 2020 law. At the same time this condition makes it important to immediately implement a conservation partnership program in the OKH forest park so that the restraining factors can be minimized as much as possible. Although according to the UUCK Number 11 of 2020 law

there is no change for the implementation of partnerships in forest parks, to be able to support the achievement of the 17th goal of the SDGs, external parties must be invited to actively participate in the partnership program (not only community groups around the forest park). This is because the 17th goal of the SDGs, or partnership with various partners, is really needed to support and ensure the success of sustainable development programs (Kurniawan, 2019). The role of external parties, including external investment in partnership development in the OKH forest park, is very necessary because it has an important function to support the sustainability of Berbak Sembilang National Park (Candra, 2021). In addition, peatlands have specifications that require more careful and intensive management treatment in a sustainable manner. This means that there is a need for financial support, technology and skilled human resources so that the sustainability of peat forests is guaranteed (Dohong et al., 2017).

The four categories of driving and restraining factors obtained from the results of the study are shown in Table 1; and, they can be used as a basis for formulating a management strategy for the forest park through a conservation partnership which simultaneously leads to achieving the goals of the partnership or the 17th goal of the SDGs. As the next step, in conducting the participatory FFA analysis which can be applied according to conditions in the field, according to Singer (2009) it is necessary to have group discussions with local communities and partners in formulating: (a) strengthening the driving factors, and (b) minimizing the existence of restraining factors for a positive change. The two formulations can provide the expected results if the partnering parties understand their functions in the partnership they build.

The alternative that can be taken to be able to apply the partnership optimally is to consider the function of the partnering parties. Hanapiah (2009) states that if the partnering parties are the government, the private sector and the community then: the government has functions related to public services and policies, either making, controlling or supervising used or appropriate policies; The private sector has the function of driving economic activity that supports the welfare of society and the nation in general. The community has the following functions: according to its position: subject and/or object of a partnership program, and actively controlling the performance of the private sector as well as the government. Besides, 10 principles should also be considered in partnering with stakeholders when implementing a conservation partnership program (Alisjahbana and Murniningtyas, 2018), as follows: (1.) maintaining good communication between stakeholders, (2.) consulting each other regularly with the partnering stakeholders and immediately when there are problems, (3.) mutual empathy for the abilities, competencies and capacities of partners, (4.) planning everything

with stakeholders until it is agreed to be implemented, (5.) maintaining the sustainability of the existing partnership, (6.) a partnership program is not an easy program, (7.) a partnership should also be managed with risk management, (8.) it must be understood that partnerships are complex programs, (9.) partners must have the same understanding of the meaning of success, and (10.) there should be a division of tasks, roles and responsibilities agreed upon by the partnering parties.

Conclusion

The driving and restraining factors in the results of this study should be taken into consideration in developing a conservation partnership program in the OKH forest park as well as supporting the achievement of the 17th goal of the SDGs. The internal driving factors in the preservation of the forest park starting from the highest score is understanding people to sustainable ecological function of OKH will affect to economic function peat forest land. As for the highest of external driving factors, is availability of endemic peatland species, the implementation of the conservation partnership program in conserving the forest park should also pay attention to internal and external restraining factors. There must also be a division of roles, tasks and responsibilities agreed upon by the partnering parties. In achieving the goals of the SDGs, the partnership requires many partners who are external parties from various backgrounds in order to achieve the goals in accordance with the economic, ecological, social and institutional governance pillars.

References

Aiken SR. (2004). Runaway Fires, Smoke-Haze Pollution, and Un-natural Disasters in Indonesia. The Geographical Review 94(1): 55-79

Aliadi A, Sundjaya, and Santosa A. (2015). Policy Paper "Tantangan Kebijakan Kemitraan Konservasi". FKKM and Burung Indonesia, Bogor. Indonesia

Alisjahbana A S and Murniningtyas E. (2018).Tujuan Pembangunan Berkelanjutan di Indonesia: Konsep, Target dan Strategi Implementasi. Unpad Press. Bandung

Bayrak MM, Marafa LM. (2016). Review Ten Years of REDD+: A Critical Review of the Impact of REDD+ on Forest-Dependent Communities. Sustainability 2016, doi:10.3390/su8070620 www.mdpi.com/journal/sustainability

Candra A. (2021). Partisipasi Masyarakat Dalam Pengelolaan Gambut Berkelanjutan Provinsi Jambi. Presented at National Seminar "Strategi Pemulihan Ekosistem Gambut di

Provinsi Jambi melalui Konservasi Biodiversitas dan Partispasi Masyarakat Sekitarnya" on 26 Juni 2021 by online

Darmawan B, Siregar YI, Sukendi and Zahrah. (2016). Pengelolaan Keberlanjutan Ekosistem Hutan Rawa Gambut terhadap Kebakaran Hutan dan Lahan di Semenanjung Kampar, Sumatera (Sustainable Management of Peat Swamp Forest Ecosystems Toward Forest and Land Fires in Kampar Peninsula, Sumatera). J Manusia dan Lingkungan 23 (2): 195-205

Dessy A. (2021). Implementasi Berbagai Program Pemulihan Gambut di Dalam Kawasan Konservasi Taman Hutan Raya Orang Kayo Hitam. Presented at National Seminar "Strategi Pemulihan Ekosistem Gambut di Provinsi Jambi melalui Konservasi Biodiversitas dan Partispasi Masyarakat Sekitarnya" on 26 Juni 2021 by online

Dohong A, Aziz A A, and Dargusch P. (2017). A review of the drivers of tropical peatland degradation in South-East Asia. Land Use Policy 69: 349 – 360

Franke J, Navratil P, Keuck V, Peterson K, and Siegert, F. (2012). Monitoring fire and selective logging activities in tropical peat swamp forests. IEEE J. Sel. Top. Appl. Earth Obs. Remote Sens 5: 1811–1820.

Hamdan, Achmad A, and Mahbub AS. (2017). "Persepsi Masyarakat terhadap Status Kawasan Suaka Margasatwa Ko'mara Kabupaten Takalar". Jurnal Hutan dan Masyarakat **9** (**2**): 105-113.

Hanapiah P. (2009). "Good Governance, Membangun Masyarakat Yang Demokratis Dan Nasionalis". Bandung: Universitas Padjadjaran. Bandung

Hergoualc'h K, and Verchot, LV. (2013). Greenhouse Gas Emission Factors for Land Use and Land-Use Change In Southeast Asian Peatlands. Mitigation and Adaptation Strategies for Global Change. CIFOR. Bogor.

Hoscilo A, Page SE, Tansey KJ, and Rieley JO. (2011). Effect of repeated fires on landcover change on peatland in southern Central Kalimantan, Indonesia, from 1973 to 2005. Int. J. Wildland Fire.20: 578–588.

Kurniawan A. 2019. Bangun Kemitraan Demi Mewujudkan Pembangunan Berkelanjutan. Accessed by 22 July 2021 from https://ekbis.sindonews.com/beritaamp/1436540/34/bangun-kemitraan-demi-mewujudkan-pembangunan-berkelanjutan

Lee J, Garcia-Ulloa J, Koh L. (2012). Biofuel Expansion in Southeast Asia: Biodiversity Impacts and Policy Guidelines. Cambridge University Press, New York.

Masganti, Wahyunto, Dariah A, Nurhayati, and Yusuf R, (2014). Karakteristik dan Potensi Pemanfaatan Lahan Gambut Terdegradasi di Provinsi Riau. J. Sumberdaya Lahan, 8:47-54.

Miettinen,J, Hooijer A, Tollenaar D, Page DS, Malins C, Vernimmen R, Shi C, and Liew S. (2012) Historical Analysis and Projection of Oil Palm Plantation Expansion on Peatland in Southeast Asia. International Council on Clean Transporation White Paper, Washington DC.

Morgan, Royston.(2008). "HowtoDoaForceField Analysis-TheSevenSteps."How to do a Force Field Analysis" The Seven Steps Enzine Articles.com. http://ezinearticles.com/? How-to-Do-a-Force-Field-Analysis---TheSeven-Steps&id=1752747

Napitupulu RRP. (2021). Strategi Pemulihan Ekosistem Gambut Provinsi Jambi melalui Konservasi Biodiversitas dan Partisipasi Masyarakat Sekitarnya. Presented at National Seminar "Strategi Pemulihan Ekosistem Gambut di Provinsi Jambi melalui Konservasi Biodiversitas dan Partispasi Masyarakat Sekitarnya" on 26 Juni 2021 by online

Noor M. (2010). Lahan Gambut. Pengembangan, Konservasi, dan Perubahan Iklim. Gadjah Mada University Press. Yogyakarta.

Pranita E. (2020). Semakin Terancam, Ini 3 Poin Perlindungan Lahan Gambut di Indonesia. Accessed by 9 July 2021 from https://www.kompas.com/sains/read/2020/10/13/100200123/semakin-terancam-ini-3-poin-perlindungan-lahan-gambut-di-indonesia?page=all.

Ramdhan, M. (2017). Analisis Persepsi Masyarakat terhadap Kebijakan Restorasi Lahan Gambut di Kalimantan Tengah. Risalah Kebijakan Pertanian dan Lingkungan 4 (1): 60 -72

Sarjono MA, and Wulandari C. (2014). Kemitraan KPH dan Masyarakat. In: Strategi Pengembangan KPH dan Perubahan Struktur Kehutanan Indonesia. Direktorat Jenderal Planologi Kehutanan Kementrian Lingkungan Hidup dan Kehutanan. Jakarta. pp. 135-154

Silalahi U. (2009). Metode Penelitian Sosial. PT Refika Aditama. Bandung

Singer P M. (2009). "The Infopeople Project dalam Leading Change - Winter, supported by the U.S. Institute of Museum and Library Services". California. Http://infopeople.org/training/past/2009/bls_leading_change/ex3_force_ field.pdf Accessed by17 June 2014.

Sitoe AA, and Guedes BS. (2015). "Community Forestry Incentives and Challenges in Mozambique". Forests 2015, 6, 4558–4572; doi:10.3390/f6124388 www.mdpi.com/journal/forests

Sulistiyani AT.(2004). Kemitraan dan Model-Model Pemberdayaan. Gaya Media. Yogyakarta Sumantri. (2003). Prinsip Pencegahan Kebakaran Hutan. IPB Press. Bogor.

Wulandari C, Budiono P, Yuwono SB, and Herwanti S. (2014). Adoption of agro-forestry patterns and crop system around Register 19 Forest Park, Lampung Province, Indonesia. Jurnal Manajemen Hutan Tropika 20 (2): 86—93.

Wulandari C, and Budiono P. (2016). Food Security under Partnership Scheme at Production Forest Register 42 Way Kanan. Proceeding of USR International Conference on Food Security "Improving Food Security : The Challenges for Enhancing Resilience to Climate Change. Emersia Hotel and Resort, Bandar Lampung, Lampung, Indonesia. 23 – 24 August 2016 Volume II p 29-37

Wulandari C, and Inoue M. (2018). “The Importance of Social Learning for the Development of Community Based Forest Management in Indonesia: The Case of Community Forestry in Lampung Province”. Small-scale Forestry 17 (3): 361-376

Wulandari C, Bintoro A, Rusita R, Duryat D, Kaskoyo H, Santoso T, Erwin E, and Budiono P. (2018). Community Forestry Adoption Based on Multipurpose Tree Species Diversity Towards to Sustainable Forest Management in ICEF of University of Lampung, Indonesia. Biodiversitas 19(3): 1102 - 1109

Wahyunto and Mulyani A. (2011). Pengelolaan Lahan Gambut Berkelanjutan. Balai Besar Litbang Sumberdaya Lahan Pertanian. Badan Penelitian dan Pengembangan Pertanian Kementerian Pertanian. Bogor.