

## Collaborative Governance Effort to Manage Forest in Kalimantan Island: Literature Review

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### Abstract

*Deforestation has given many problems to all the survival of living things throughout the world. Becoming one of the main issues in Kalimantan Island, there is a need for deforestation prevention and land restoration that must be carried out by all stakeholders including government, private sector, and the local community. Collaborative governance is expected to be a solution to deforestation in Kalimantan. The purpose of this research is to map out several collaborative governance efforts in forest management with local communities in Kalimantan. This research uses systematic literature review (SLR) approach on finding relevant articles for answering the formulated problems. The results of this study are the discovery of two main points in forest management efforts through collaborative governance with local communities: 1) collaboration between village communities (community forest) and state forest companies, called collaborative forest management programs (CFMP) and 2) social learning.*

*Keywords: deforestation, local communities, stakeholders, restoration*

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### Introduction

Kalimantan Island has a vast forest compared to other islands in Indonesia. Forests in Indonesia recorded for the period 1990–2005 with an area of  $\pm 93$  million ha spread from Sabang to Merauke (Wodjojo et al., 2013; MoEF, 2018). Whereas the area of forest distribution in Kalimantan Island is 46% of the total forest area in Indonesia, which is  $\pm 26$  million ha in 2017 (FWI, 2018a; KLHK, 2018). Having vast forests in Indonesia, Kalimantan Island holds a large variety of flora and fauna. In addition, the Kalimantan forest is a home and residence for the Dayak tribe community who is an indigenous tribe (Setiajiati et al., 2019; Rakatama & Pandit, 2020).

On the other hand, the presence of forests in Kalimantan has brought in a lot of migrants from outside the region, even abroad, who aims to exploit the natural wealth. From the late 1990s to 2015, several activities in Kalimantan ranging from mining activities, illegal logging, plantations and other fields that tend to neglect the environment, causing forest destruction or deforestation (FWI, 2018b; Uluk et al., 2001). From 2000 to 2011, the Ministry of Forestry of the Republic of Indonesia recorded deforestation in Kalimantan covering an area of  $\pm 3.040$  million ha, with  $\pm 0.560$  million ha of it is in peat forests. The deforestation containing natural minerals for  $\pm 2.5$  million ha. Whereas for the deforestation period from 2006 to 2011, there was 48.5% deforestation consisting

$\pm 0.334$  million ha of peat forests and  $\pm 1.144$  million ha in mineral forests (MoEF, 2016).

As a result of this deforestation, Indonesia, especially in Kalimantan, has suffered a great losses. If excessive deforestation occurs, global climate in Kalimantan will be affected and indirectly cause several natural disasters (Takahashi et al., 2017). Another impact is an increase in the air temperature affecting the health index for human and other living things (Wolff et al., 2018; Prevedello et al., 2019). On the other hand, the economy impact is also felt by the community where continued deforestation will change the community agricultural land, food scarcity, and often there will be conflicts between people around the forest with the landowners who control the forest area (Boubacar, 2012; Barbanti, 2015). In 2015, Government of Indonesia through the Paris Declaration or COP21 stated that it would be involved in the REDD+ plan with the aim of reducing carbon emissions due to deforestation (Wegscheider et al., 2018).

Reducing emissions from deforestation and forest degradation (REDD+) is a mechanism for forest management to prevent the continued occurrence of deforestation therefore, the involvement of the government, private sector and civil society must synergize in this mechanism to manage the forest so that it survives and support the lives of all living things in it (Luttrell et al., 2014; Meyer & Miller, 2015). In short, REDD+ in Indonesia,

relating to Indonesia's forests, as an effort to protect the lungs of the world and is also the third-largest forest in the world. REDD+ Indonesia is a follow-up agreement from the Indonesian Forest Climate Alliance (IFCA) in 2007. After that, in 2010, there is an agreement between the Indonesian government and the Norway government to reduce gas emissions from deforestation in Indonesia with a contribution of ± USD1 billion from the Norway government.

However, based on some of the explanations above about REDD+, there are at least two reasons for the failure to implementation REDD+, namely the disagreement between the government and local communities and the second is governance of forestry less so that many forests are neglected and also converted into mining and plantations (Korhonen-Kurki et al., 2014).

Seeing this condition, the researchers conducted research related to forests on the island of Kalimantan Through the field of Public Administration, collaborative governance is a concept that is used for dealing with public and state issues. Collaborative governance can be one solution that does not only involve the government and the community. Besides that, collaborative governance is specifically a system that can be affected culture and customs in the circle of cooperations so that problems can be solved with certain approaches including culture and customs. (Ansell & Gash, 2008; 2017; Harbi et al., 2020). The aims to be achieved in this research is to be able to map out how the efforts of collaborative governance in forest management are based on local communities on the island of Kalimantan so that later it can be as input to all parties in conducting excellent and sustainable forest management.

## Methods

This research utilized systematic literature review (SLR) as one of literature reviews which is used in library research by researchers. This SLR allows researchers to think critically on collecting and analyzing data in a study (Snyder, 2019). Advantage use SLR are able to collect the desired data in accordance with procedures and answer previous research questions, besides that SLR also use systematic procedures and good analysis because several steps are carried out in the writing process (Mengist et al., 2019). SLR uses a database that already has a reputation and also has recognition from academics internationally. The following research steps are presented in more details.

**Database** The databases that researchers used are Scopus and Taylor and Francis Group, which can provide a lot of relevant information about the research to be discussed. This research used both databases because they are under very strict development from 21 reputable research institutes,

involving 300 researchers and international librarians. In addition, the quality improvement is carried out every year and if one the journal doesn't fulfil criteria from this database, it will be removed from the journal list (Burnham, 2006; Eynon, 2014).

**Research question** Research question in this articles is how collaborative governance efforts in forest management based on local communities for implemented Island of Kalimantan.

**Articles search** Search process utilizing the databases used several steps. After finding articles using keywords like as collaborative governance and forest management and the limitation of the year (2010–2019), using year limits to provide up to date results with current conditions (Wagner & Byrd, 2004; Hall et al., 2012; Pautasso, 2013). The first step is explained below:

- 1) Eliminating articles that do not use English. The use of English is intended to avoid double meanings that often appear when using “Bahasa”,
- 2) Eliminating papers that are not in the form of field research both in quantitative and qualitative forms,
- 3) Eliminating papers that use the literature review method or book reviews,
- 4) Eliminating papers that do not discuss about forest management or, local communities, and collaborative governance,
- 5) Eliminating papers that are not in the form of scientific journals.

In the second step, sorting was carried out using the specified year limit. The third step was will be screening articles which have impact factor. This is done by researchers to ensure in detail about the quality of the paper in this study so that it is relevant in answering the problem formulation that the researcher has determined. Then, the researcher used the table category model in mapping some of the efforts of collaborative governance in forest management based on local communities or by the problem formulation that the researchers have determined.

## Results and Discussion

**Using database** In manuscript preparation, tables and images are grouped. The search of relevant articles resulted in 20 articles consisting of ten articles from the Scopus database and ten articles from the Taylor and Francis Group database (Table 1).

The Scopus database, using keywords of a combination between collaborative governance and forest management, has found 108 articles. Then, the paper elimination was carried out to find relevant articles and also articles in the form of scientific journals. As the first step, a total of 89 articles were found. Later in the second stage adding the

Table 1 Articles search results

Database	Use keywords	Step 1	Step 2	Step 3	Articles relevant
Scopus	108	89	62	20	10
Taylor and Francis Group	2,195	1,420	72	20	10
Total					20

limitation of the publication year, which was to find 62 articles and finally, only 10 articles in the form of international journals were found.

While with the Taylor and Francis Group database, the search with the same keywords resulted in at least 2,195 articles. Because in this database there are some differences in filtering, the researchers make adjustments by adding special elimination elements, namely adding journals or articles that only discuss social science and forestry in a consistent manner. If there are journal articles that discuss apart from these two fields, the researchers will eliminated them gradually. Then in the second step, the researchers added the limitation of the study year, resulted in 1,420 articles found. In the third step, the researchers. See about impact factor each articles journal and found at least 10 articles journal.

**Research question** Research found at least five initiatives that relevan to research question including village collaboration (community forest) and state forest companies (collaborative forest management program, CFMP), social learning, economic collaboration in the forestry community, ecosystem services, and certification (Table 2).

The highest number of articles (ten articles) examining collaborative governance and forest management with the theme of collaboration between village communities and state forest companies (CFMP) total. In contrast, there is only one article discussing certification. CFMP, can be found the Amazon Forest, Brazil; the Kalimantan Forest, Indonesia; as well as in several other regions located on the equator. These communities are generally lagging behind people in cities with all kinds of facilities. They who are living in the forest areas have minimal access to everything, so, based on the results of this study, the existence of the CFMP is appropriate if it can be applied in areas around the forest.

Through a database of collaborative forms of governance to community involvement trough social learning that focuses on local wisdom in the community, how local communities empower forest and also utilize forest and their contents, but still have to preserve them. Improving the economy to the community is necessary for communities that of course, several schemes from collaborative governance are needed, trough this research, like as economic collaboration, ecosystem services and certification. The following as brief explanation below.

**Collaboration between village communities and state forest companies** Collaborative governance as explained by Ansell & Gash (2008; 2017) is a solution in solving public problems that cannot be solved independently by an institution. Therefore, it requires other parties to be able to participate in this mechanism, from the government who has the highest authority and the private sector that has adequate resources from the economic side, technological resources, and from human or managerial resources, as well as the community who can be involved in supporting the sustainable of collaborative governance (Emerson et al., 2011).

Therefore, SLR research, some efforts through collaborative governance is a mechanism for good forest management including building a community forest in collaboration with a state forest company or CFMP which not only involves the government and the private sector but also the local community as a form of good collaboration. On the other hand, the existence of this CFMP is dependent on regional policies or decentralization who is the authority of the region (Assuah et al., 2016; Andriyana & Hogl, 2019).

The government in Indonesia has long been using a decentralized system, strengthened by the existence of Law Number 23 of 2014 concerning local government, which was ratified on October 2, 2014, containing that the central government gives some of its authority to regional governments in managing and regulating their respective regions. This law can support the efforts of the CFMP if it is implemented in Kalimantan forest management involving local communities. According to Andriyana & Hogl (2019) that the involvement of the local community is indispensable so that it has an impact on the sustainability because they are the ones who are in direct contact and live in forest areas. Therefore, it is essential to involve local communities in forest management by providing space for them to make every decision that can be adapted properly and rationally by all involved parties in this collaborative governance mechanism, both for the government and the private sector.

**Social learning** if social learning is used wisely it will become social capital and can also enhance better collaborative governance and achieve all the expected goals (McDougall & Banjade, 2015). The Dayak people who inhabit Kalimantan Island have a lot of diversity and local wisdom that can be used to manage the forest area to become

Table 2 Research question

Collaborative governance effort	Authors	Total
Collaborative forest management program (CFMP)	Gurung et al. (2012), Jacqmain et al. (2012), Mcdougall et al. (2013), Assuah et al. (2016), Hashiguchi et al. (2016), Parkins et al. (2016), Maier and Abrams (2018), Andriyana and Hogl (2019), Böhling (2019), Pinkerton (2019)	10
Social learning	Camacho et al. (2015), McDougall and Banjade (2015), Nkemnyi et al. (2016), Angarita-baéz et al. (2017), Schultz et al. (2018), Wyatt et al. (2019)	6
Economic collaboration in the forest community	Fortier et al. (2013)	1
Ecosystem services	Bhatta et al. (2015), Boafo et al. (2015)	2
Certification	Savilaakso et al. (2017)	1

a sustainable forest so that it does not damage the forest. One of the local wisdom of the Dayak community is having a dwelling above the river or a Lanting Hoiuse which aims to balance the ecosystem in preventing climate change (Lubis et al., 2018).

In the field of agriculture, the Dayak people always use a method of burning small scale land and move around. It aims to better utilize the land. The results of burning can fertilize the soil and plants without the use of chemical fertilizers that can damage the soil element (Hamdani et al., 2016; Darmadi, 2017; Fajarwati & Masruri, 2019). The custom in Kalimantan is an activity that has lasted for years. It is an action that is adapted to the experience and is influenced by local geographical conditions. So, deforestation must be stopped immediately so that people in Indonesia can feel the positive impact so that forest sustainable can be well maintained.

**Other alternative from collaborative governance** Some other forms that can be run based on previous research including the Economic Collaboration in the forestry community. The collaboration is offered through economic improvement for the welfare of the local community. Forests in Kalimantan have undergone several structural changes and have been replaced by nature reserves such as the Muara Kendawangan Nature Reserve, Mandor Nature Reserve, Bukit Tangkiling Nature Reserve and others. The community can certainly benefit from tourism of exploring the forest. The presence of regional and central government is certainly expected to prosper the community, especially in the economic field. Besides that, along with the improvement of the community's economy, access to this forest area surely will be better.

Excessive exploration of research, treatment, and collection can threaten the survival of natural ecosystems. Therefore, the government must firmly provide penalties for violators in the forest area and strongly defend the forest with the presence of forest police who are still lacking the attention of both regional and central government. Coordination between forest rangers, volunteers, communities, the private sector, and the government must be made sure to run well, especially for dealing with the ecosystem. The last form of collaborative governance is certification. This certification is very important to show the boundaries of the area owned by the community and also the state. Thus, knowledge of the boundaries of forest areas will increasingly.

The certification will also be a solution for every problem of land-private conflict in the public-private sector, The certification that the researcher wants to emphasize here is the certification that is endorsed by a party or official notary. So, if have certification will also minimize other problems that can become a domino effect in the future. Thus, researchers hope that future research can raise this certification and ecosystem service issues, as well as economic collaboration in the forestry community which can be analyzed deeper through various scientific aspects in order to improve the welfare of local communities and become material for review in sustainable forest management for the next generation.

## Conclusion

Deforestation is a crucial environmental issue especially related to climate change. Kalimantan Island has the largest forest area in Indonesia, so it is essential to be maintained and cared for by both Indonesian and world communities. At least through this research, two efforts to deal with deforestation can be found with a collaborative governance scheme in the form of CFMP that involves local communities in forest management and social learning that utilizes local knowledge that already exists and is part of the lives of Dayak tribes in Kalimantan. Local knowledge supported by the government and stakeholders can be a social capital in the community that supports the success of collaborative governance. Indigenous people can play actively in various ways and one of them is local wisdom that has been passed down for generations and must be preserved. The government and related stakeholders can use the concept of the results of this study to protect the forest and sustainability in the future. Due to this study's limitation, researchers in the future can use more database so that the breadth of material form collaborative governance can be analyzed through various journal articles.

## References

- Andriyana, W., & Hognl, K. (2019). Decentralization drivers beyond legal provisions: The case of collaborative forest management in Java Island. *Forests*, 10(8), 685. <https://doi.org/10.3390/f10080685>
- Angarita-baéz, J. A., Pérez-miñana, E., Vargas, J. E. B., Agudelo, A. R., Ortiz, A. P., Palacios, E., ..., & Vargas, J. E. B. (2017). Assessing and mapping cultural ecosystem services at community level in the Colombian Amazon. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 13(1), 280–296. <https://doi.org/10.1080/21513732.2017.1345981>
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571. <https://doi.org/10.1093/jopart/mum032>
- Ansell, C., & Gash, A. (2017). Collaborative platforms as a governance strategy. *Journal of Public Administration Research and Theory*, 28(1), 16–32. <https://doi.org/10.1093/jopart/mux030>
- Assuah, A., Sinclair, A. J., & Reed, M. G. (2016). Action on sustainable forest management through community forestry: The case of the Wetzin'kwa Community Forest Corporation. *The Forestry Chronicle*, 92(2), 232–244.
- Barbanti, O. (2015). Economic cycles, deforestation and social impacts in the Brazilian Amazon. *Agrarian South: Journal of Political Economy*, 4(2), 169–196. <https://doi.org/10.1177/2277976015597121>
- Bhatta, L. D., Eric, B., Oort, H. Van, Stork, N. E., & Baral, H. (2015). Ecosystem services and livelihoods in a changing climate: Understanding local adaptations in the Upper Koshi, Nepal. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 11(2),

- 145–155. <https://doi.org/10.1080/21513732.2015.1027793>
- Boafo, Y. A., Saito, O., Kato, S., Kamiyama, C., Takeuchi, K., & Nakahara, M. (2015). The role of traditional ecological knowledge in ecosystem services management: The case of four rural communities in Northern Ghana. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 1–16. <https://doi.org/10.1080/21513732.2015.1124454>
- Böhling, K. (2019). Land use policy collaborative governance in the making: Implementation of a new forest management regime in an old-growth conflict region of British Columbia, Canada. *Land Use Policy*, 86, 43–53. <https://doi.org/10.1016/j.landusepol.2019.04.019>
- Boubacar, I. (2012). Neighboring effects of deforestation: A spatial econometric approach. *Environmental Economics*, 3(3), 1–11.
- Burnham, J. F. (2006). Scopus database: A review. *Biomedical Digital Libraries*, 3(1). <https://doi.org/10.1186/1742-5581-3-1>
- Camacho, L. D., Gevaña, D. T., Carandang, A. P., & Camacho, S. C. (2015). Indigenous knowledge and practices for the sustainable management of Ifugao forests in Cordillera, Philippines. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 1–10. <https://doi.org/10.1080/21513732.2015.1124453>
- [CIFOR] Center for International Forestry Research. (2012). *The context of REDD+ in Indonesia: Drivers, agents and institutions* [Working paper 92]. Bogor.
- Darmadi, H. (2017). Dayak and their daily life. *Journal of Education, Teaching and Learning*, 2(1), 42–46. <https://doi.org/10.26737/jetl.v2i1.145>
- Ekawati, S., Budiningsih, K., Sari, G. K., & Muttaqin, M. Z. (2019). Forest policy and economics policies affecting the implementation of REDD+ in Indonesia (Cases in Papua, Riau and Central Kalimantan). *Forest Policy and Economics*, 108, 1–15. <https://doi.org/10.1016/j.forpol.2019.05.025>
- Emerson, K., Nabatchi, T., & Balogh, S. (2011). An integrative framework for collaborative governance. *Journal of Public Administration Research and Theory*, 22(1), 1–29. <https://doi.org/10.1093/jopart/mur011>
- Eynon, R. (2014). How to review a journal article: questions of quality, contribution, and appeal. *Learning, Media and Technology*, 39(2), 151–153. <https://doi.org/10.1080/17439884.2014.888354>
- Fajarwati, N., & Masruri, M. S. (2019). Role of local wisdom community Dayak Kanayatn in the fire disaster prevention (forest fires for the opening of farming fields in West Kalimantan). *IOP Conference Series: Earth and Environmental Science*, 217, 012022. <https://doi.org/10.1088/1755-1315/271/1/012022>
- Fortier, J., Wyatt, S., Natcher, D. C., Peggy, M. A., & Hébert, M. (2013). An inventory of collaborative arrangements between Aboriginal peoples and the Canadian forest sector: Linking policies to diversification in forms of engagement. *Journal of Environmental Management*, 119, 47–55. <https://doi.org/10.1016/j.jenvman.2013.01.005>
- [FWI] Forest Watch Indonesia. (2018a). *Angka deforestasi sebagai “alarm” memburuknya hutan di Indonesia*. Jakarta: Forest Watch Indonesia.
- [FWI] Forest Watch Indonesia. (2018b). *Deforestasi tanpa henti “Potret deforestasi di Sumatera Utara, Kalimantan Timur dan Maluku Utara*. Bogor: Forest Watch Indonesia.
- Gurung, A., Bista, R., Karki, R., Shrestha, S., Uprety, D., & Oh, S.-E. (2012). Community-based forest management and its role in improving forest conditions in Nepal. *Small-scale Forestry*, 12, 377–388. <https://doi.org/10.1007/s11842-012-9217-z>
- Hall, T., Beecham, S., Bowes, D., Gray, D., & Counsell, S. (2012). A systematic literature review on fault prediction performance in software engineering. *IEEE Transactions on Software Engineering*, 38(6), 1276–1304. <https://doi.org/10.1109/TSE.2011.103>
- Hamdani, Kurniawan, Y., & Yuliono, A. (2016). Turning back rice farming on Dayak Meratus Tribe in South Kalimantan–Indonesia: An environmental and economic assessment. *International Journal of Research in Agriculture and Forestry*, 3, 38–45.
- Harbi, J., Cao, Y., Erbaugh, J. T., Widagdo, F. R. A., Mauri, J., Supriyanto, & Milantara, N. (2020). Three generations of forest peoples' empowerment in Indonesia: Process towards sustainable and equitable forest management. *Jurnal Manajemen Hutan Tropika*, 26(2), 91–104. <https://doi.org/10.7226/jtfm.26.2.91>
- Hashiguchi, H., Pulhin, J. M., Dizon, J. T., & Camacho, L. D. (2016). Impacts of community-based forest management policies implemented by a local forest institution: A case study from Bayombong, Nueva Vizcaya, Philippines. *Small-scale Forestry*, 15, 335–355. <https://doi.org/10.1007/s11842-016-9324-3>
- Jacqmain, H., Bélanger, L., Courtois, R., Dussault, C., Beckley, T. M., Pelletier, M., & Gull, S. W. (2012). Aboriginal forestry: Development of a socioecologically relevant moose habitat management process using local Cree and scientific knowledge in Eeyou Istchee. *Canadian Journal Forestry Research*, 42, 631–641. <https://doi.org/10.1139/X2012-020>
- [KLHK] Kementerian Lingkungan Hidup dan Kehutanan.

- (2018). *Pemetaan tematik kehutanan Indonesia*. Jakarta: Kementerian Lingkungan Hidup dan Kehutanan.
- Korhonen-Kurki, K., Sehring, J., Brockhaus, M., & Gregorio, M. Di. (2014). Enabling factors for establishing REDD+ in a context of weak governance. *Climate Policy*, 14(2), 167–186. <https://doi.org/10.1080/14693062.2014.852022>
- Lestari, N. (2019). Factors causing failure of the REDD+ program implementation in Central Kalimantan Methods. *Jurnal Manajemen Hutan Tropika*, 25(1), 28–34. <https://doi.org/10.7226/jtfm.25.1.28>.
- Lubis, M. S., Harjoko, T. Y., & Susanto, D. (2018). The floating houses of Sintang City: Space, resources and political nexus. *IOP Conference Series: Materials Science and Engineering*, 316, 012003. <https://doi.org/10.1088/1757-899X/316/1/012003>
- Luttrell, C., Resosudarmo, I. A. P., Muharrom, E., Brockhaus, M., & Seymour, F. (2014). The political context of REDD+ in Indonesia: Constituencies for change. *Environmental Science and Policy*, 35, 67–75. <https://doi.org/10.1016/j.envsci.2012.10.001>
- Maier, C., & Abrams, J. B. (2018). Navigating social forestry—A street-level perspective on national forest management in the US Pacific Northwest. *Land Use Policy*, 70, 432–441. <https://doi.org/10.1016/j.landusepol.2017.11.031>
- McDougall, C., & Banjade, M. R. (2015). Social capital, conflict, and adaptive collaborative governance: exploring the dialectic. *Ecology and Society*, 20(1), 1–24. <https://doi.org/10.5751/ES-07071-200144>
- Mcdougall, C., Jiggins, J., Pandit, B. H., Rana, S. K. T. M., & Leeuwis, C. (2013). Does adaptive collaborative forest governance affect poverty? Participatory action research in Nepal's community forests. *Society & Natural Resources: An International Journal*, 26(11), 1235–1251. <https://doi.org/10.1080/08941920.2013.779344>
- Mengist, W., Soromessa, T., & Legese, G. (2019). Method for conducting systematic literature review and meta-analysis for environmental science research. *MethodsX*, 7, 1–21. <https://doi.org/10.1016/j.mex.2019.100777>
- Meyer, C., & Miller, D. (2015). Zero deforestation zones: The case for linking deforestation-free supply chain initiatives and jurisdictional REDD+. *Journal of Sustainable Forestry*, 34, 559–580. <https://doi.org/10.1080/10549811.2015.1036886>
- [MoEF] Ministry of Environment and Forestry. (2016). *National forest reference emission level for deforestation and forest degradation: In the context of Decision 1/CP.16 para 70 UNFCCC (Encourages developing country parties to contribute to mitigation actions in the forest sector)*. Jakarta: MoEF.
- [MoEF] Ministry of Environment and Forestry. (2018). *The state of Indonesia's forests 2018*. Jakarta: Ministry of Environment and Forestry.
- Mulyani, M., & Jepson, P. (2013). REDD+ and forest governance in Indonesia: A multistakeholder study of perceived challenges and opportunities. *Journal of Environment & Development*, 22(3), 261–283. <https://doi.org/10.1177/1070496513494203>
- Nkemnyi, M. F., Herdt, T. De, Chuyong, G. B., & Vanwing, T. (2016). Reconstituting the role of indigenous structures in protected forest management in Cameroon. *Forest Policy and Economics*, 67, 45–51. <https://doi.org/10.1016/j.forpol.2016.03.012>
- Parkins, J. R., Dunn, M., Reed, M. G., & Sinclair, A. J. (2016). Forest governance as neoliberal strategy: A comparative case study of the model forest program in Canada. *Journal of Rural Studies*, 45, 270–278. <https://doi.org/10.1016/j.jrurstud.2016.04.006>
- Pautasso, M. (2013). Ten simple rules for writing a literature review. *PLoS Computational Biology*, 9(7), 1–5. <https://doi.org/10.1371/journal.pcbi.1003149>
- Pinkerton, E. (2019). Benefits of collaboration between indigenous and non-indigenous communities through community forests in British Columbia. *Canadian Journal Forestry Research*, 394, 387–394. <https://doi.org/10.1139/cjfr-2018-0154>
- Prevedello, J. A., Winck, G. R., Weber, M. M., Nichols, E., & Sinervo, B. (2019). Impacts of forestation and deforestation on local temperature across the globe. *PLoS ONE*, 14(3), e0213368. <https://doi.org/10.1371/journal.pone.0213368>
- Rakatama, A., & Pandit, R. (2020). Reviewing social forestry schemes in Indonesia: Opportunities and challenges. *Forest Policy and Economics*, 111(1), 1–13. <https://doi.org/10.1016/j.forpol.2019.102052>
- Savilaakso, S., Cerutti, P. O., Zumaeta, J. G. M., Mendoula, E. E., Tsanga, R., Savilaakso, S., ..., & Zumaeta, J. G. M. (2017). Timber certification as a catalyst for change in forest governance in Cameroon, Indonesia, and Peru. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 13(1), 116–133. <https://doi.org/10.1080/21513732.2016.1269134>
- Schultz, C. A., McIntyre, K. B., Cyphers, L., Kooistra, C., Ellison, A., & Moseley, C. (2018). Policy design to support forest restoration: The value of focused investment and collaboration. *Forests*, 9(512), 1–20. <https://doi.org/10.3390/f9090512>
- Setiajiati, F., Karyaatmadja, B., Sutedja, I., Kuswondho, H., Satria, P., Sejati, & Maharani, R. S. (2019). Lesson learned from social forestry practice in a forest and climate change project in Kalimantan, Indonesia. *IOP Conference Series: Earth and Environmental Science*,

- 363, 012001. <https://doi.org/10.1088/1755-1315/363/1/012001>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Takahashi, A., Kumagai, T., Kanamori, H., Fujinami, H., Hiyama, T., & Hara, M. (2017). Impact of tropical deforestation and forest degradation on precipitation over Borneo Island. *Journal of Hydrometeorology*, 18, 2907–2922. <https://doi.org/10.1175/JHM-D-17-0008.1>
- Uluk, A., Sudana, M., & Wollenberg, E. (2001). *Ketertarikan masyarakat Dayak terhadap hutan di sekitar Taman Nasional Kayan Mentarang*. Bogor: Center for International Forestry Research (CIFOR).
- Wagner, K. C., & Byrd, G. D. (2004). Evaluating the effectiveness of clinical medical librarian programs: A systematic review of the literature. *Journal of the Medical Library Association*, 9(1), 14–33.
- Wardani, E. M. (2014). Perubahan iklim dan suku bangsa minoritas di Filipina: Pengalaman dan pelajaran dari Suku Bangsa Ifugao untuk masyarakat Asia Pasifik. *Jurnal Kajian Wilayah*, 5(2), 111–132. <https://doi.org/10.14203/jkw.v5i2.259>
- Wegscheider, S., Purwanto, J., Margono, B. A., Nugroho, S., Budiharto, Buchholz, G., & Sugardiman, R. A. (2018). Current achievements to reduce deforestation in Kalimantan. *Indonesian Journal of Geography*, 50(2), 109–120. <https://doi.org/10.22146/ijg.23680>
- Wodjojo, S., Darmawan, M., Poniman, A., Maulida, N., & Sutanto, A. (2013). Detection of forest degradation using MODIS imagery in east Kalimantan, Indonesia. In G. H. Pramono, D. Ramdani, B. Barus, & R. M. Ariansyah (Eds.), *34th Asian conference on remote sensing 2013* (Vol. 4, pp. 3190–3196). Curran Associates, Inc.
- Wolff, N. H., Masuda, Y. J., Meijaard, E., Wells, J. A., & Game, E. T. (2018). Impacts of tropical deforestation on local temperature and human well-being perceptions. *Global Environmental Change*, 52, 181–189. <https://doi.org/10.1016/j.gloenvcha.2018.07.004>
- Wyatt, S., Hébert, M., Fortier, J., Blanchet, É., & Lewis, N. (2019). Strategic approaches to Indigenous engagement in natural resource management: use of collaboration and conflict to expand negotiating space by three Indigenous nations in Quebec, Canada. *Canadian Journal Forestry Research*, 49, 375–386. <https://doi.org/10.1139/cjfr-2018-0253>