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Implementation Of Good Forest Governance In Forest Management In Indonesia

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ABSTRACT

Land cover in Indonesia's forest areas is dynamic and can change rapidly with factors including the conversion of forest areas for use in other sectors; unsustainable forest management; illegal logging; unsustainable mining activities; disturbance; and forest fires, ineffectiveness and failure to optimize reforestation and land rehabilitation have also contributed to an increase in the area of highly degraded land. Therefore, it is necessary to make significant improvements to the system and structure of forest governance to ensure that forest management is more sustainable and equitable, and not prone to corrupt practices. The aims of this paper are (a) to review the 2014 Forest Governance Index; (b) Analyzing the latest developments in Indonesia's Forest Performance; and (c) Analyze Indonesia's current e-government index and forest governance strategy. The results show that the transparency aspect is the weakest aspect in Indonesian forest governance in 2014 which indicates the need for systemic improvements to control the rate of deforestation and forest degradation related to corrupt practices. Currently, the government continues to make improvements and innovations in implementing good governance in the forestry sector. Forest management policies continue to meet new paradigms and national, regional and global strategic challenges such as meeting the demands of the SDG's and other international agreements. For Indonesia's e-government Development Index continues to experience improvement. For online service indexes, technology and service provision are the most important components to be improved. Meanwhile, for the telecommunication infrastructure index, the component of fixed broadband subscriptions is still weak. Steps to eradicate corruption through improving e-government can increase the effectiveness of regional development governance and performance.

Keywords:
e-government, corruption, strategy, governance

INTRODUCTION

Complex environmental problems require effective and innovative governance arrangements involving stakeholders (Ostrom, 2010). Poor governance can increase the disparity between natural resource users and have a particularly negative impact on marginalized groups. Governance refers to the structures and processes that help direct or coordinate interactions between participants in a particular institution or complex of institutions (Breakey et al, 2016).

Since forest devolution began four decades ago with the goal of conserving forests and meeting the forest product needs of local communities (Luintel et al, 2018), management has evolved in response to international norms to embrace cross-cutting issues. Forest governance has been characterized as a collaboration between various interests surrounding forest management and the outcomes resulting from this interaction are related to sustainable forest

management (SFM) (Cadman, 2011). Forests and their role in debates on climate change and biodiversity form a highly politicized and contested topic. As Hetemaki¨ (2019) argues, forests are a prime example of how scientific evidence isnecessary but not sufficient policy-making material.

Based on the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 8 of 2021 concerning Forest Management and Preparation of Forest Management Plans, as well as Forest Utilization in Protection Forests and Production Forests, it is explained that Forest Areas are certain areas determined by the government to maintain their existence as permanent Forests. According to data from the Ministry of Environment and Forestry (KLHK), total areaforestin Indonesia in 2022 it will reach 125.76 million hectares (ha). This figure is equivalent to 62.97% of Indonesia's land area of 191.36 million ha. In detail, the land area of forest in Indonesia is 120.47 million ha. There is also a water forest area with an area of 5.32 million ha.

One of the strategic issues for forest area development is the occurrence of conversion due to the demands of economic activity. Land cover in forest areas is dynamic and can change rapidly due to factors such as: conversion of forest areas for use in other sectors; unsustainable forest management; illegal logging; unsustainable mining activities; disturbance; and forest fires, ineffectiveness and failure to optimize reforestation and land rehabilitation have also contributed to an increase in the area of highly degraded land. One of the impacts is the occurrence of forest fires. Especially as an archipelagic country, Indonesia is very vulnerable to the impacts of climate change, including extreme events such as floods and droughts, as well as long-term changes such as sea level rise,

Based on these strategic issues, significant improvements are needed to the system and structure of forest governance to ensure that forest management is more sustainable and equitable, and not prone to corrupt practices. Better forest governance allows for the rehabilitation of degraded lands in efforts to improve forest watersheds, increase revenues from the forestry sector and for overall success in fighting climate change,

Implementation of Good Forest Governance in Forest Management in Indonesia is an interesting topic for further study, so this article has three objectives as follows: (a) To review the 2014 Forest Governance Index; (b) Analyzing the latest developments in Indonesia's Forest Performance; and (c) Analyze Indonesia's current e-government index and forest governance strategy.

Based on these issues, this article aims to review the 2014 Forest Governance Index, analyze the latest developments in Indonesia's Forest Management Performance and analyze Indonesia's latest e-government index and forest governance strategies.

Governance In Public Policy

Good Governance, namely the transparent and accountable management of human, natural, economic and financial resources for the purpose of equity and sustainable development, in the context of a political and institutional environment that upholds human rights, democratic principles and the rule of law (DANIDA 2007). Meanwhile, the government (Government) is a formal institution of the state and their monopoly on legitimate coercive power. Government is characterized by its ability to make decisions and its ability to enforce them, functioning to maintain public order and facilitating collective action (Stoker 1998). The concept of governance emphasizes partnerships with all stakeholders to empower them and give them equal access to development and decision-making processes. Therefore,

The World Bank defines governance as the way/method by which power is exercised in the management of a country's social and economic resources for development. Meanwhile, the Asian Development Bank (ADB), explains that governance includes all mechanisms, processes and institutions where citizens and community groups express their interests, use legal rights, fulfill obligations and bridge differences between them (UNDP, 1997). According to UNDP (2000), governance is the use of economic, political and administrative authority to manage state affairs at all levels. Governance is also a formal and informal setting that determines how public decisions are made, who makes them, and how public actions are taken (Kaufmann, 2008). in more detail,

Meanwhile, forest governance is the means by which people, stakeholder groups, and institutions (both formal and informal) obtain and exercise authority in the management of forest resources, so that they are sustainable and improve the quality of life and livelihoods of the people who depend on this sector (World Bank, 2008). Forest governance is the way or motive for acting in which staff and institutions acquire and exercise authority in the management of forest resources (FAO, 2009). Mayers et al. (2002) define forest governance as forestry policies, regulations and institutions that influence the utilization of SDH, both at the local level (such as community rules and social norms of SDH utilization), national level (such as the ownership rights of natural resources and policies affecting the relative profitability of various forms of use) and global level (such as multi/bilateral agreements on forestry, trade rules, and policies governing the existence of multi-national companies and investment). Thus, it can be concluded that forest governance is a process, mechanism and procedure that involves values, power, authority, rights and obligations in the management of forest resources through the interaction of government, society and the business world, both informal and formal, on a local scale. nationally and globally so that forests are sustainable and people are prosperous. and policies governing the existence of multi-national companies and investments). Thus, it can be concluded that forest governance is a process, mechanism and procedure that involves values, power, authority, rights and obligations in the management of forest resources through the interaction of government, society and the business world both informally and formally, on a local, national and global scale so that forests are sustainable and society is prosperous. and policies governing the existence of multi-national companies and investments). Thus, it can be concluded that forest governance is a process, mechanism and procedure that involves values, power, authority, rights and obligations in the management of forest resources through the interaction of government, society and the business world both informally and formally, on a local, national and global scale so that forests are sustainable and society is prosperous.

According to Profor and FAO (2011), indicators are quantitative, qualitative or descriptive attributes. Indicators are used to describe and measure sub-components at a point in time or over time. Indicators are useful for assessing the extent to which the status is indicated and whether changes in sub-components are positive or negative. Indicators can be qualitative or quantitative. Ritchie et al. (2001) stated that indicators are usually stated as something special that can be assessed in conjunction with criteria. Meanwhile, ICEL et al. (2011) explained that an indicator is a condition that can "check" factors in the forestry sector and has a certain quality weight which, if fulfilled, the forestry sector can be said to have implemented at a minimum good forestry governance.

There is a principle which is a measure to achieve minimum conditions so that forestry governance runs well. The Asian Development Bank (1995) states that there are four principles in good forest governance, namely accountability, transparency, predictability. Then, UNDP (2000) explains that the principles of good forest governance include political legitimacy, cooperation with civil society institutions, freedom of association and participation, bureaucratic and financial accountability, efficient legal management, freedom of information and expression, a fair and trustworthy judicial system.

Bappenas (2007) stated that the principles of good forestry governance must include foresight, openness and transparency, community participation, accountability, rule of law, democracy, professionalism and competence, responsiveness, efficiency and effectiveness, decentralization, partnerships with private businesses and communities, commitment to reducing inequality, commitment to environmental protection, and commitment to fair markets. In 2011, FAO and Profor explained that the principles of good forestry governance are accountability, effectiveness, efficiency, fairness, equality, participation, transparency.

METHOD

The study area in this paper is Indonesia. The type of data used is secondary data sourced from various literature. Data sources are the Ministry of Environment and Forestry, the United National Development Program (UNDP), the Food and Agriculture Organization (FAO), and the

United Nations Environmental Program (UNEP). The analytical method used is descriptive analysis. According to Sugiyono (2014) descriptive analysis method is statistics that are used to analyze data by describing or describing the data that has been collected as it is without intending to make general conclusions or generalizations. Meanwhile, according to Nazir (2003) the descriptive method is a method in examining the status of human groups, an object, a condition, a thought,

RESULTS AND DISCUSSION

The four issues of governance are forest area certainty, equality in the management of forest resources, transparency and integrity of forest management, and law enforcement capacity. Meanwhile, the three dimensions of cross-sectoral governance are law and policy; the capacities of different actors to implement REDD+; and forest governance performance (de facto conditions on the ground).

Although some improvements have been and are being made by the government and other forest governance actors, the fourth aspect – law enforcement capacity – still needs to be significantly strengthened at all levels. Of these four aspects, certainty of forest area received the highest aggregate score of 38 out of 100, followed by law enforcement capacity with an aggregate score of 36. The lowest score was transparency and integrity of forest management with a score of 34, followed by equity in forest resources with an aggregate score of 35.

Aspects of Forest Land Security

Improvements to the regulatory, legal and policy frameworks to increase forest area certainty, particularly at the central government level, have been made, but these improvements have not been followed by adequate capacity building of the government and indigenous peoples to carry out the original objectives of this regulation, especially at the provincial and district levels. This is further demonstrated by the lack of provincial initiative to develop provincial regulations and policies to support the acceleration of forest area gazettement with the aim of settling fair land claims for communities. Practices such as inventorying claims, verifying claims and developing settlement mechanisms are, at best, only applied at project scale, as is the case in South Barito, Central Kalimantan Province.

The capacity of indigenous peoples to map their customary lands is still limited. This is indicated by the large disparity between the area of forest that has been mapped and the area of customary land in forest areas claimed by indigenous peoples. Government funds allocated for mapping community customary forests are also limited, and these funds are very rarely found in study locations for the 2014 forest governance index. The increase in forest area gazettement has not provided certainty for the forest area itself, even though the reason for forest area gazettement is to properly settle ownership claims and ensure forest management is free from "illegal" activities. This study found that a total of 2,611 claims within forest areas were identified by actors at the central, provincial and district levels,

Forest Resources Equity Aspect

The legal, regulatory and policy framework for tenure rights, community ownership or management of forest resources experienced a significant increase in the 2013-2014 period, including the issuance of Constitutional Court Decision Number 35 of 2012 at the end of 2012 concerning recognition of customary forests in forest areas. forests, Law Number 6 of 2014 concerning Villages and Regional Regulations concerning Indigenous Peoples. However, these de jure improvements have not been followed by good de facto enforcement of local government initiatives to protect and recognize community rights – especially indigenous peoples – in forest areas, even though they have been mandated by law.

In percentage terms, 96 percent of the forest area is used by business actors and 4 percent by the community. Most of the areas managed by the community are not under a utilization permit, but are only a type of forest area designation by the Ministry of Forestry that can be used by the community.

Equity is not only about forest ownership, but also related to market access provided or facilitated by the government. It is very rare to find local governments in compiling the 2014 index having policies or regulations to create and support market access for wood and non-timber products produced by the public, while the private sector can say the opposite. Analysis of the data for this index reveals that this inequality makes people whose livelihoods depend on forests more vulnerable and less able to develop economically.

Transparency and Integrity Aspects of Forest Management

The legal, regulatory and policy framework for preventing and dealing with corruption in the forestry sector has improved, especially at the national level. Prevention strategies and action plans for processing corruption cases in forest and land-based sectors are already in place, including at the Ministry of Forestry. Various breakthroughs have been seen, such as the development of an online licensing system to mitigate the risk of corruption in the forestry licensing process compared to the previous simplification of forestry business processes and the collaboration between KPK and UKP4 to carry out general supervision. However, improvements at the central level were not reflected at the provincial and district levels. As a result, there are no guidelines or measures to prevent corruption in forest and land-based sectors at the provincial and district levels,

Aspects of Law Enforcement Capacity

Although Law Number 25 of 2009 concerning Public Services has mandated the establishment of complaint handling units throughout Indonesia, including the forestry sector, these units have not yet been formed in the relevant study locations. The implication of this shortcoming is that law enforcement is prioritized according to scale and visibility, meaning that violations committed by business actors or "rogue government officials" will only be prosecuted if they have a broad impact and are detrimental to the state, such as forest fires, major corruption or activities carried out without permits on a large scale.

Meanwhile, the government's ability to carry out supervision, such as conducting audits of company obligations, providing warnings and administrative sanctions for business actors who do not fulfill obligations as stipulated in applicable regulations, is relatively weak. Law enforcement on this problem is still focused on small actors and has not yet targeted the main actors and or companies.

Latest Analysis of Indonesia's Forest Performance Progress

Forest Area Certainty Aspect

Indonesia is an archipelagic countrythe largest in the world where 120.5 million hectares or 63 percent of the total land area is designated as State Forest Areas. Most of Indonesia's remaining land area is already in the form of non-forest areas or public lands, known as Areas for Other Uses (APL). In addition, 5.3 million hectares of its water area is designated as a marine conservation area managed under the Ministry of Environment and Forestry authority. As of December 2021, this total area is 125.8 million hectares.

The expansion of plantation forests is aimed at meeting the needs for wood processing and reducing dependence on natural forests. The target of establishing 11.227 million hectares of plantations by 2030 has been outlined in the NDC and the Long Term Strategy for a Low Carbon Scenario Compatible with the Paris Agreement (LTS-LCCP). As of 2019, area plantation forest concessions in Indonesia reached 5.117 million hectares.

According to the APHI roadmap document,plantation forest under concession plantation forests (PBPH plantation forests) in 2019 was 3,140 million hectares, while in 2020 it was 3,500 million hectares. What remains of the quota is the difference between the target area and the actual area that has been developed.

Table 1. Targets for Establishment of Plantation Forests as Climate Mitigation Actions under the NDC-CM1 and LTS-LCCP Scenarios

Mitigation Action	Actual (x 1000 ha)	NDC Target (x 1000 ha)			Net Sink Target (x 1000 ha)		
	2019	2011-2024	2011-2030	Remaining quota[2]	2011-2024	2011-2030	Remaining quota
Forest plantation establishment	5.117[1]	9.307	11.227	6.110	9.307	11.227	6.110

Notes: [1]Based on satellite data, the area of forest plantations is 0.816 million hectares in non-forest area (APL) and 4.303 million hectares in forest area (forest species area covers 2.479 million hectares, and non-forest species area covers 1.824 million hectares).

SOURCE: Operational Plan of Indonesia FOLU Net Sink 2030

Aspects of Justice for Forest Resources

One step of the Governmenthandle forest management in the nature of social forestry programs. the social forestry program is focused on areas prone to deforestation and where communities depend on the forest as defined in the Indicative Map of Social Forestry Areas (PIAP). These programs are carried out through rehabilitation activities applying several techniques, such as agroforestry, ongoing mentoring and institutional development of social forestry groups. Government Regulation regardingForestry Management states that tenure conflicts can be resolved with social forestry. Through relevant social forestry activities, conflicts between communities, between communities and concessionaires, and between communities and forest managers can be resolved. By the end of March 2022, 618 complaints had been received, of which files were returned as incomplete. Of the cases received, 266 were in the assessment stage, 195 were in mediation, and 65 of them were closed with an agreement to end the conflict.

Government regulations also statethat forest utilization through social forestry schemes is carried out to realize forest sustainability, community welfare, and environmental and socio-cultural balance. Therefore, it is necessary to provide approval, recognition and capacity building for the Community. Social forestry provides communities with legal access to production and protection forests for planting timber species and using non-timber forest products andenvironmental services.

Since 2018, conservation partnerships covering an area of 232,975.04 Ha have been signed. They involve 508 community groups or a total of 17,823 people in 375 villages in 76 conservation areas under 58 technical implementing units (UPT) from the Ministry of Environment and Forestry.

Table 2. Total partnerships based on community empowerment and ecosystem restoration (Units)

Year	Area (ha)	Partner	Member	Village	KK	UPT
2018	10,831.68	45	1,632	25	11	11
2019	98,359.98	163	5,723	129	43	38
2020	66,142.96	117	3,769	90	36	33
2021	51,285.76	165	6,307	138	39	32
2022*	6,354.67	18	392	13	6	6
Grand Total	**232,975.04**	**508**	**17,823**	**375**	**76**	**58**

SOURCE: KLHK, 2022

NOTES:
KK: Conservation Area, UPT: Technical Management Unit.

Aspects of Law Enforcement Capacity

Forest-related crimes, in most caseswell organized and transnational, involving many parties. Crime by its nature is cross-border and involves cross-border criminal syndicates. Therefore, effective law enforcement instruments are needed to stop this crime. In the end, law

enforcement related to forest crime is intended to create a deterrent effect, increase a culture of compliance, and restore state and community losses. Therefore, there are three interrelated instruments used in forest crime cases (see Fig4) consists of administrative sanctions, civil lawsuits, and criminal charges. Administrative sanctions are targeted at companies that do not comply, Criminal sanctions are aimed at punishing violators, while civil lawsuits are intended to restore the environment and compensate for losses.

Another innovation to provide a deterrent effect is the multidoor approach. In this approach, additional penalties, as well as restoration and related natural resources law enforcement are carried out by other ministries/agencies that have the authority to enforce natural resource laws, not only the Ministry of Environment and Forestry. Strengthening cooperation between investigators will intensify efforts to recover losses due to forest crime. Efforts to force recovery are not only based on forestry laws but can also use laws in other sectors such as Law No. 27/2007 Management of Coastal Zone and Small Islands and Law No. 8/2010 Prevention and Eradication of Money Laundering. Furthermore, through the implementation of "follow the money, follow the suspect's method, a multidoor approach lightens the tracking burden of other tracking actors and increases enforcement effectiveness. In 2021, the Ministry of Environment and Forestry Investigation is empowered to investigate money laundering related to environment and forestry crimes. Going forward, the Ministry will continue to seek resolution of forestry cases by imposing predicate crimes and crimes related to money laundering.

Table 3. Law enforcement for forest and land fires (2015-2021)

No	Sanction Type	Year							
		2015	2016	2017	2018	2019	2020	2021	TOTAL
1	Supervision of Companies	53	30	13	42	58	43	5	244
2	Administrative Sanctions	23	133	11	10	351	186	308	1,022
3	Civil Lawsuits	20	0	0	0	0	0	0	20
4	Criminal Cases	0	1	1	2	1	5	2	12
5	Facilitation of Police and Prosecutors Cases	31	26	9	5	10	7	7	95

SOURCE: Statistik Tahun 2021 Direktorat Jenderal Penegakan Hukum Lingkungan Hidup dan Kehutanan

Forest Management Transparency Aspect

Establishment of SVLK (TimberLegality Assurance System) is guided by three key principles-good governance, representation and credibility. In implementing this system, the Government functions as a regulator, with various stakeholders involved in the assessment and verification procedures, such as the National Accreditation Committee (KAN), business entities and their representative organizations, and independent monitors, including non-governmental organizations and academic institutions.

SVLK provides two forms of certification,Sustainable Production Forest Management Certification (S-PHPL) and Timber Legality Certification (SLK). In the case of S-PHPL, Natural Forest PBPH owning HPHs made significant progress in achieving sustainable management production forest certification. In the case of SLK, the focus is on the downstream sector (industrial timber, registered log stockpiles near factory timber known as TPT-KB, handicraft/home industry, and exporters), in terms of the legality of these business units, and from the wood they source as raw material for production, processing, and marketing. The upstream sector is also required to take part in the SLK, including PBPH for plantation forests, community forests, community forests, and permits to use timber produced from non-forestry activities (PKKNK).

SVLK implementation hasimplications for improving forest governance in Indonesia, including in terms of increasing the level of transparency and availability of public information, deregulating licensing in the regions, improving management practices and achieving better compliance. As of December 2021, 5,302 management units or business entities have obtained PHPL or SLK certificates.

Table 4. Facilities Provided To Msmes To Implement SVLK (2015-2021)

ACTIVITY	2015	2016	2017	2018	2019	2020	2021
Certification	21 Private Forests and 18 MSME	13 MSME	2 MSME	120 MSME	353 MSME	0	73 MSME
Surveillance	22 Private Forests and 1 MSME	2 MSME	13 MSME	32 MSME	53 MSME	9 MSME	229 MSME

SOURCE: KLHK, 2022

Analysis of Indonesia's latest e-government index and forest governance strategy

According to the OECD, e-government refers to "the government's use of new information and communication technologies as applied to all governmental functions". The World Bank added that new technologies "have the ability to transform relationships with citizens, businesses and other arms of government", indicating the importance of e-government development in our lives. E-government is known by many terms such as: "electronic government, also known as e-gov, digital government, online government"

The Online Services Index (OSI) has been enhanced to allow government portals to be assessedbased on five criteria—institutional framework (IF), service delivery (SP), content provision (CP), technology (TEC) and e-participation (EPI)—with the OSI as a whole calculated based on normalized scores for each sub-index.

Based on the UN, Indonesia has an online service index value of 0.7644 in 2022. This figure is above the sub-region average, the region is even still above the world average. This index value is built on the 5 criteria previously mentioned. The highest score was contributed by the institutional framework and content provision criteria. While the lowest value contributed by technology criteria.

There are several positive trends in digital development and e-government that facilitate efforts to leave no one behind. The delivery of e-services to vulnerable populations has increased as the production, collection, storage, analysis and dissemination of data is easier and cheaper, new digital devices are more affordable and more accessible, and mobile and mobile broadband coverage and subscription fees have increased. There are many opportunities to improve social support services and digital inclusion through e-government; digital social cash transfer is just one example. The real opportunity for digital government to realize the SDGs lies in offering affordable services tailored to the needs of vulnerable segments of the population. According to an assessment that measures the extent to which systems, institutions,

Table 5. Challenges to forestry sector governance in Indonesia

Aspect	2014	2022	Governance challenges
Forest Area Certainty	Not optimal inventory and verification of tenure claims in forest areas	Encouraging the improvement of functions and protected areas through planning and stewardship of forests, utilization and management of results	Changes to the Nomenclature of Forest Functional Areas
Forest Resources Equity Aspect	The utilization gap between the business world and society	There is a community empowerment-based conservation partnership	New paradigm and national, regional and global strategic challenges Ratification of the Paris Agreement, the Asean Economic Community and other Regional Sustainable Development Goals (SDGs).

Transparency and Integrity Aspects of Forest Management	• Lack of action plans to prevent corruption • Not all business actors have certification of sustainable plans and a timber legality assurance system	• Encouraging the improvement of the quality of human resources who have the competency of being technologically literate and free from corruption • Improving public services carried out by the government through standardization of business processes at the environmental and forestry services • Development of e governance index	Regulations that support e-digital development, procedures and preparedness of government and human resources
Aspects of Law Enforcement Capacity	• Deforestation is caused by illegal business, illegal logging and environmental degradation • Low tenure conflict resolution	• Promote sustainable development through increased net production • Encouraging increased forest rehabilitation • Encourage the adoption of a multidoor approach.	Many clash with other interests, such as the absence of forest area consolidation throughout Indonesia, the process of determining forest areas only through designation (on the map), internal forestry that is not synchronized, mining business, energy, indigenous peoples related to customary law, regional autonomy, regional expansion, spatial planning, over-cutting, the ever-changing political law of forest management.

Furthermore, the Government launched the Information System for Administration of Forest Products (SIPUHH) as a web-based information system that is used as a means of electronic recording and reporting in the implementation of administration of forest products, in January 2016. SIPUHH is useful for reducing bureaucratic costs in the forestry business sector, and making companies more efficient, more structured, and more compliant. This system has been able to simplify bureaucratic procedures, requiring fewer government officials to work so that the process can be faster with accurate information. SIPUHH is the main public service facility in administering forest products, operating 24 hours a day and providing services to more than 3,000 peoplebusiness actors who produce wood, manage distribution centers, and produce primary forest products. SIPUHH can be accessed athttp://sipuhh.menlhk.go.id.

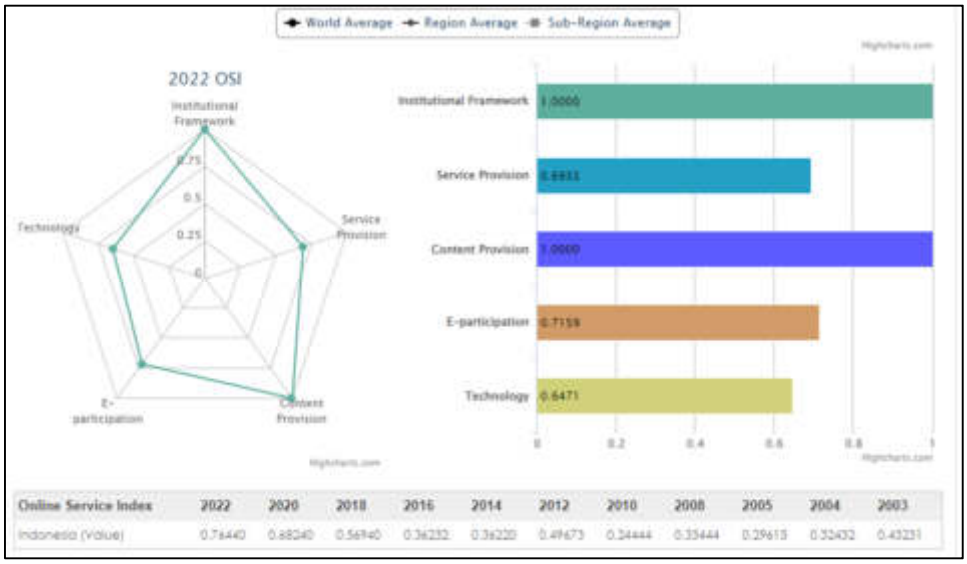

Figure 1. Online Service Index based on criteria

CONCLUSION

Based on the results above, it can be concluded that the transparency aspect is the weakest aspect in Indonesian forest governance in 2014. This indicates the need for systemic improvements to control the rate of deforestation and forest degradation related to corrupt practices. The government continues to make improvements and innovations in implementing good governance in the forestry sector. In the future, forest management policies must continue to meet new paradigms and strategic challenges at national, regional and global levels, such as meeting the demands of the SDG's and other international agreements. Indonesia's E-government Development Index continues to experience improvement. For the online service index, technology and service provision are the most important components to be improved. Meanwhile, for the telecommunication infrastructure index, the thing that is still weak is the component of fixed broadband subscriptions. Good forest governance plays an important role so that forest governance for regional development becomes effective. Steps to eradicate corruption through e-government can increase the effectiveness of regional development governance and performance. It is necessary to formulate Goals, Targets, Strategies and Policies in the context of Improving Indonesian Forest Management Performance.

REFERENCE

APHI/Asosiasi Pengusaha Hutan Indonesia. (2019). Roadmap Pengembangan Hutan Produksi 2019-2045. Asosiasi Pengusaha Hutan Indonesia. Bakar,

S.N. (2022). Indonesia's FOLU Net Sink 2030: Inovasi Tata Kelola Lingkungan Hidup dan Kehutanan. Pidato Pengukuhan Profesor Kehormatan dalam Bidang Ilmu Manajemen Sumber Daya Alam pada Fakultas Pertanian Universitas Brawijaya [Unpublished Manuscript]. Universitas Brawijaya. Bappenas,

KLHK & LIPI. (2016). IBSAP 2015- 2020, Bappenas, KLHK dan LIPI.

BBSDLP. (2011). Peta Lahan Gambut Indonesia Skala 1:250.000. Balai Besar Penelitian dan Pengembangan Sumberdaya Lahan Pertanian. Badan Penelitian dan Pengembangan Pertanian, Kementerian Pertanian.

BBSDLP. (2019). Peta Lahan Gambut Indonesia Skala 1:50.000. Edisi Desember 2019. Besar Penelitian dan Pengembangan Sumber Daya Lahan Pertanian. Badan Penelitian dan Pengembangan Pertanian.

BRGM. (2022). Hijaukan Mangrove, Pulihkan Gambut, Tingkatkan Kesejahteraan. Laporan Tahunan 2021. Badan Restorasi Gambut dan Mangrove.

Burung Indonesia. (2021). Infografis Status Burung di Indonesia 2021.

Breakey, H.; Cadman, T.; Sampford, C. Governance Values and Institutional Integrity. 2016. In Governing the Climate Change Regime. Routledge: Oxfordshire, UK : pp. 34–62.

Cadman, T. 2011. Quality and Legitimacy of Global Governance: Case Lessons from Forestry; Taylor & Francis: Abingdon, UK.

Ekawati S, Hariyanto D, Marinus KH, Handoyo, Fentie JS, Bayu S, Krisno DR. 2015. Sintesis Penelitian Integratif Penguatan Tata Kelola Kehutanan. Kementerian Lingkungan Hidup dan Kehutanan.

Hetemaki, L., 2019. The role of science in forest policy–Experiences by EFI. For. Policy Econ. 105, 10–16.

Hill, M. & Varone, F. (2021). The Public Policy Process. Routledge. Taylor & Francis Group.

ITTO & FAO. (2009). Forest governance and climate-change mitigation. Policy Brief.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2008. Governance matters VII: Aggregate and individual governanceindicators, 1996–2007. World Bank Policy Research Working Paper No. 4654, June 24, 2008.

KLHK. (2017). Sistem Informasi dan Data Indeks Kerentanan. Direktorat Adaptasi Perubahan Iklim, Direktorat Jenderal Pengendalian Perubahan Iklim, Kementerian Lingkungan Hidup dan Kehutanan.

KLHK. (2021a). Deforestasi Indonesia Tahun 2019-2020. Direktorat Inventarisasi dan Pemantauan Sumber Daya Hutan, Direktorat Jenderal Planologi Kehutanan dan Tata Lingkungan.

KLHK. (2021b). Rekalkulasi Penutupan Lahan Indonesia Tahun 2020. Direktorat Inventarisasi dan Pemantauan Sumber Daya Hutan.

KLHK. (2021c). Laporan Inventarisasi Gas Rumah Kaca, Monitoring, Pelaporan, dan Verifikasi Nasional Tahun 2021. Direktorat Jenderal Pengendalian Perubahan Iklim. Direktorat Inventarisasi GRK dan Monitoring, Pelaporan, Verifikasi.

KLHK. (2021d). Operational Plan of Indonesia FOLU Net Sink 2030. Directorate General of Forestry Planning and Environmental Governance.

KLHK. (2022a). Direktorat Pengendalian Kerusakan Ekosistem Gambut, Direktorat Jenderal Pengendalain Pencemaran dan Kerusakan Lingkungan.

KLHK. (2022b). Statistik Direktorat Jenderal Pengelolaan Daerah Aliran Sungai dan Rehabilitasi Hutan Tahun 2021. Direktorat Jenderal Pengelolaan Daerah Aliran Sungai dan Rehabilitasi Hutan. Kementerian Lingkungan Hidup dan Kehutanan.

KLHK (2022c)Kementerian Lingkungan Hidup dan Kehutanan. The State of Indonesia's Forests 2022 Towards FOLU Net Sink 2030.

Lemos, M.C. & Agrawal, A. (2006). Environmental Governance. Annual Review of Environment and Resource, 31(1), 297-325.

Luintel, H.; Bluffstone, R.A.; Scheller, R.M. 2018. The effects of the Nepal community forestry program on biodiversity conservation and carbon storage. PLoS ONE, 13, e0199526.

Meyer et al. 2002. The Pyramid. A diagnostic and planning tool for good forest governance. Worls bank dan WWF. IIED.

Ostrom, E. 2010. Polycentric systems for coping with collective action and global environmental change. Global Environmental Change 20(4):550-557. https://www.sciencedirect.com/science/ article/abs/pii/S0959378010000634

Syaufina. 2015. Research Status on the Relationship between Forest Fire and Biodiversity and Human Dimension in Indonesia. In: Damayanti EK, Fernandez JC, editors. Proceedings of the National Seminar on Promoting Research on Forest and Land Fire Mitigation, Adaptation and Impact to Human and Biodiversity, held in BogorIndonesia, April 28, 2015. Bogor (ID): SEAMEO BIOTROP.

The Ministry of Environment and Forestry (2016). National Forest Reference

[UN] United Nations. 2023. UN E-Government Knowledgebase. [Diakses 20 Mei 2023]. https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/78-Indonesia

UNEP (2009). Environmental Governance, A Fact Sheet provided for 2009 UNFCCC Conference in Copenhagen. United Nations Environment Programme.

UNDP Indonesia. 2015. Indeks Tata Kelola Hutan Indonesia 2014. UNDP Indonesia.

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): Post Technical Assessment by UNFCCC. Directorate General of Climate Change. The Ministry of Environment and Forestry.