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A Portrait of Green Economy Governance in Sustainable Development in Eastern Indonesia

Syamsul Bahri Abd. Rasyid [1], Misran [2], Herdin Arie Saputra [3]

[1]Department of Government Studies, Universitas Amal Ilmiah (UNA'IM) Yapis Wamena, Papua Pegunungan, Indonesia

[2]Public Administration, Universitas Gadjah Mada, Yogyakarta, Indonesia

[4]Department of Political Science and Area Studies, Ural Federal University named after the first President of Russia B. N. Yeltsin, Yekaterinburg, Russian Federation

✉ syamsulbahri100296@gmail.com

Abstract: Despite its potential benefits to humanity, the green economy fails to ensure an optimal balance and is instead a political concern. The global crisis includes climate disasters and is characterized by climate change, biodiversity loss, massive deforestation, administrative challenges, and other ecological damage. These exacerbate concerns for the environment, society, and economic balance. However, public understanding of green governance is lacking in Southeast Asia, which is considered a potential obstacle to public consensus on forest-dependent interests. Media coverage of forest governance is considered an important source of information in shaping public opinion as it generates digital representations. This study aims to investigate the presence of green economic governance in sustainable development in online news articles through content analysis of media coverage. Over two years (01/01/2020-01/01/2022), researchers collected Indonesian-language articles using the NCapture feature of NVivo 12 Plus, specifically focused on the topic "Environment." A total of 191 national and regional articles provided coverage. The result showed that the regional media Kabapulau.co.id dominates the level of reporting on green economy discourse in North Maluku, and the five online media are equally prominent regarding the natural resource efficiency index. This does not confirm that the environmental management carried out in North Maluku has adhered to the principles of green economy and sustainable development, considering that most of the news carried out by each media contradicts the indicators of green economy and sustainable development goals.

Keywords: Green Economy; Environmental Development; Indonesia.

1. Introduction

The green economy is a subset of the concept of sustainable development that offers a development system without compromising the ecosystem (Wahyudin, 2016). Kasztelan (2017) states that the green economy concept is part of the SDGs oriented toward the synergy of economic growth and environmental protection (Kristianto & Nadapdap, 2021). The concept of the green economy itself is also framed within the SDGs (Wiratma & Nurgiyanti, 2019). However, because the green economy represents the use of natural resources (Sulista, 2019) and the environment based on profit motives, it can create depletion and destruction if it does not pay attention to the balance of nature (Alisjahbana & Murniningtyas, 2018). Previously, at the Earth Summit in Rio de Janeiro (Earth Summit), 3-14 June 1992, the concept of sustainable development became an international agreement to integrate these three aspects (Heart of Borneo, 2014). Furthermore, on 25 September 2015, UN member states raised a series of 2030 sustainable development agendas, which included 17 goals (SDGs), coinciding with the United Nations General Assembly (UNGA) at the UN office (UCLG (United Cities and Local Governments), 2018).

Indonesia's green economy concept emphasizes the efficient use of natural resources, recognizing the value of natural capital, internalizing environmental costs, taking into account the reduction of greenhouse gas emissions, increasing resilience, building an inclusive and equitable local economy (local varieties with high value) (Bangsawan, 2024; Hutagalung & Hermawan, 2018; Ramadhan et al., 2023; Soesanta et al., 2023), alleviating poverty (Nurfindarti, 2019), creating decent jobs, and ensuring sustainable economic growth (Bappenas, 2013, 2014; GGGI, 2016). According to UNEP, there are 11 sectors related to the green economy, namely agriculture, building, urban, energy, fisheries, forestry, processing/manufacturing industry, tourism, transportation, waste, and water (Alisjahbana & Murniningtyas, 2018; Bappenas, 2011; Munawaroh & Fajri, 2023). Based on the grouping carried out by the Indonesian SDGs Secretariat, the goals included in the green economy are reflected in goals 7, 8, 9, 10, and 17 (Alisjahbana & Murniningtyas, 2018).

North Maluku has targeted that by 2020, it will improve the implementation of sustainable management of all types of forests, stop deforestation, restore degraded forests, and significantly increase forestry and reforestation globally (BPS Provinsi Maluku Utara, 2021a). This is because the forest area in North Maluku is decreasing yearly. Based on data released by GFW (2021), in 2000, North Maluku still had 2.83 million hectares of natural forest, which accounted for 90% of the land area of North Maluku province. The traces of companies operating in North Maluku to date, namely companies that hold Mining Business Permits (IUP), Business Permits for the Utilization of Timber Forest Products and Natural Forests/Industrial Plantation Forests (IUPHHK-HA/HTI), and Plantation Permits for Palm oil, have resulted in the loss of 156 thousand hectares of primary forest and 262 thousand hectares of tree cover in North Maluku, which is equivalent to 201 million tons of CO_2 emissions (Figure 1). Furthermore, Forest Watch Indonesia (FWI) analysis also found that North Maluku's forest area has decreased from year to year, as shown by FWI in comparing forest cover and deforestation maps between 2000 and 2016 (Figure 2).

Green economic governance significantly impacts people's livelihoods (Dressler et al., 2016, 2021). The likelihood of attaining environmental sustainability is comparatively greater in Southeast Asia (Lei et al., 2023). Civil society organizations implement it through discourse in practical terms (Satizábal et al., 2020). This demonstrates that the general population strongly focuses on green economic governance.
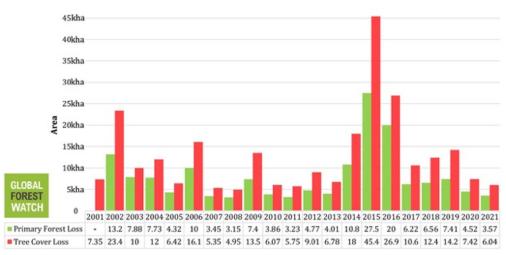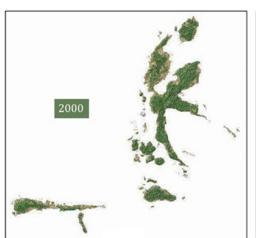
Figure 1. North Maluku's Deforestation

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Primary Forest Loss	-	13.2	7.88	7.73	4.32	10	3.45	3.15	7.4	3.86	3.23	4.77	4.01	10.8	27.5	20	6.22	6.56	7.41	4.52	3.57
Tree Cover Loss	7.35	23.4	10	12	6.42	16.1	5.35	4.95	13.5	6.07	5.75	9.01	6.78	18	45.4	26.9	10.6	12.4	14.2	7.42	6.04

Source: GFW (2021)

Figure 2. North Maluku Forest Cover and Deforestation Map (2000 and 2016)

Source: FWI (2018)

Mismanagement of natural resources has resulted in increasingly severe ecological damage, which, in the end, has a profound impact on the islands of North Maluku. Furthermore, the ecological destruction due to the massive-scale mining industry not only occurred on the mainland of Halmahera, the largest island, but was also received by small islands such as Gee Island, Gebe Island, Pakal Island, Taliabu Island, Loloda Island, Obi Island, and Bacan Island (Kilkoda, 2015). In addition to shaving, peeling, and dredging the bowels of the islands in North Maluku, the company's activities (mining) also exclude the existence of local commodities such as nutmeg, cloves, copra (coconut), and sago. As a result, the people living around the mining areas depend on the mining economy, which is momentary (unsustainable) (JATAM, 2021; Syahni, 2021).

The media has influenced the development of public opinion (Huang et al., 2023), significantly shaping the policy agenda by communicating (Kim et al., 2024; Liu, 2023; Sanz-Hernández et al., 2020; Wang & Cai, 2018). In addition, local media also plays an important role in influencing the wider community (Dalisay, 2012). Therefore, media coverage is expected to influence people's perceptions of the green economy. At the same time, media analysis is seen as an important component in explaining decision-making processes and contributing to legitimizing such processes (Vaara & Tienari, 2010). Media analysis is also important in examining the

interaction between green growth sectors and digital media (Wu et al., 2023). Given the current context, this study reserves the right to address such research questions, specifically exploring the place of green economy governance within a sustainable development framework.

According to Lasswell (1948) communication model delineates five fundamental elements of mass media communication: communicator, message, media, audience, and effect. The concept of media analysis, as utilized in prior studies on state forest management and sustainability (Gutierrez Garzon et al., 2022), indicates a strengthening of sustainability and forest management terminology. Research by Korhonen et al. (2016) on forest sector sustainability in four European nations suggests the necessity of enhancing stakeholder communication, utilizing social media more actively, empowering organizations, and improving collaboration.

Many previous studies have discussed the green economy. Based on the author's search, at least 15 previous journal articles (both in the Scopus and Google Scholar databases) in the last ten years (2013-2022) examine Indonesia's green economy. Of the 10 out of 15 previous studies, research conducted by Pratiwi (2013) showed that Indonesia's agricultural sector was predicted as a green economy locomotive. 98% of respondents' perceptions stated that the agricultural sector in Indonesia was actually in bad condition. This also shows that the younger generation's interest in entering the agricultural profession in Indonesia could be much higher. However, Sukarniati (2014) explained that there is no relationship between environmental understanding and education and involvement in green economy activities. Meanwhile, Pasuruan showed that local wisdom significantly influences the development of the green economy (Sutikno & Batoro, 2017). Local economic development and regional superior products can be optimized by implementing green revolution policies in leading sub-districts as agropolitan areas (Misbahuddin, 2018).

Another study conducted by Arinta (2019) showed that urban farming can improve economic growth and environmental efficiency. At the same time, the agricultural base in Central Java from 2013 to 2018 did not use the concept of a green economy (Susanti & Wicaksono, 2019). Low-carbon transition initiatives cannot overcome various forms of injustice and may even create new injustices (Elliott & Setyowati, 2020). On the other hand, education, health, and income significantly affect the green economy (Faried, 2020). Another study by Wiyekti (2021) revealed that only the forestry and energy sectors have a positive relationship with environmental quality in Indonesia. It is further explained that Indonesia's processing industry has the highest impact on environmental quality. Then, with the application of green economy principles through the "Bali Bersih and Hijau" program, people are increasingly aware of the importance of maintaining balance and preserving the surrounding nature so that, in the end, sustainable tourism will be realized (Priantoko et al., 2021).

The difference between this research and previous research lies in the selection of indicators used in the concept of green economy in the framework of sustainable development, the research location, the methodology used in the research, and the software used for data analysis. Therefore, this study aims to answer the question: to what extent does online news cover the topic of green economic governance in the context of sustainable development? It used media analysis to analyze the availability of this information to a wide audience. The research provides an overview of the potential influence of online news article coverage on public opinion formation

and the cognitive processes involved in discussing the topic. However, it is important to determine which specific issues should be considered (von Gross, 2008).

2. Methods

The research method employed in this study is qualitative, aiming to elucidate the concept of the green economy and its implementation in North Maluku during the years 2020 and 2022. Qualitative research entails thorough gathering facts and information to give researchers a holistic understanding of occurrences (Hardani et al., 2020). Qualitative research was carried out using a descriptive approach, where descriptive analysis is employed to examine records or documents as sources of data, such as official documents and documents, with a high level of accuracy (Hardani et al., 2020). The study employs NVivo 12 plus software for descriptive analysis, including the NCapture capability to capture news. The online news media articles utilized in this study encompass media outlets with a specific emphasis on environmental matters, regional media sources that commonly report on environmental concerns, and one of the top national-scale mainstream media platforms in Indonesia, as determined by the Alexa poll conducted in 2021 (Alexa.com, 2021). The time interval for the news taken was from January 1, 2020, to January 1, 2022, while the selection of online news media analysis was based on the number of internet users, which is already more than 200 million users (Agustini, 2021).

Table 1. Name of Online News Site and Amount of News

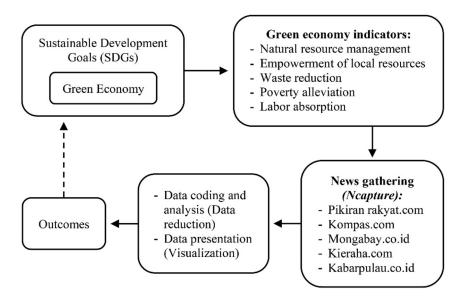| Online News Media	Links	Number of News
Pikiran-rakyat.com	ternate.pikiran-rakyat.com/maluku-utara	35 news
Kompas.com	www.kompas.com/tag/maluku-utara	16 news
Mongabay.co.id	www.mongabay.co.id/tag/maluku-utara/	25 news
	www.mongabay.co.id/?s=-+maluku+utara	
	www.mongabay.co.id/?s=-+malut	
Kieraha.com	kieraha.com/	53 news
Kabarpulau.co.id	kabarpulau.co.id/	62 news
Total		191 news

Figure 3. Theoretical Framework

The researchers categorized the indicators of the green economy concept within the context of sustainable development by analyzing indicators cited in prior studies and literature relevant to the research issue. In addition, the research was carried out by collecting news articles from online news outlets that specialize in environmental matters, regional news outlets that report on various environmental issues, and reputable online news sources in Indonesia. After gathering the news with the NCapture feature, it was systematically arranged and read individually. Subsequently, the data was inputted into predetermined NVivo 12 plus program nodes to facilitate subsequent organizing and visualization (data reduction). The data underwent verification and was subsequently presented as research findings. The data that was shown was subsequently explicated by taking into account the nodes (indicators) that had been encoded within the green economy idea.

3. Results and Discussion

3.1. Green Economy Governance

The green economy is intended to operationalize the linkages of economic, social, and environmental pillars (including legal and governance) in sustainable development (Bappenas, 2013). The sections analyzed in online news media about the green economy are indicators that become the benchmark for the Global Green Growth Institute in implementing the implementation of a green economy in Indonesia, where increasing the quantity and quality of employment in the green sector (Faturohim et al., 2023), reducing carbon emissions (including reducing consumption that produces waste) (Adlin, 2021), poverty alleviation and efficient use of natural resources (Bappenas, 2013, 2014; GGGI, 2017) and building an inclusive and equitable local economy (Bappenas, 2014; GGGI, 2016).
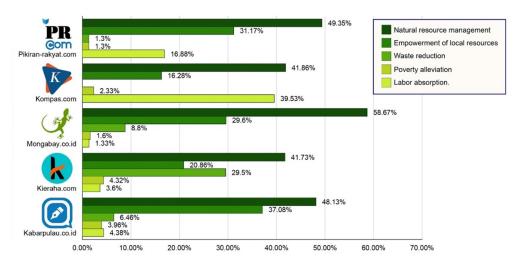
Based on the results of a search conducted by the author regarding environmental issues in North Maluku for two whole years (1 January 2020 -1 January 2022), which was then analyzed using NVivo 12 plus, it can be seen that the news media mainly publish about environmental issues in Indonesia. The regional media, namely www.kabarpulau.co.id with 62 news stories, and www.kieraha.com with 53 news stories, followed by the Indonesian version of the news portal specifically for environmental issues, namely www.mongabay.co.id with 25 news stories, and national mainstream media such as www.pikiran-rakyat.com (35 news) and www.kompas.com (16 news).

3.2. In North Maluku

3.2.1. Crosstab Analysis

Furthermore, based on a crosstab query analysis using NVivo 12 Plus, it was found that of the five selected indicators, the indicator of efficiency in using natural resources is the most frequently mentioned in every news medium (see Figure 4). Furthermore, based on the crosstab query analysis using NVivo 12 plus, it was found that the efficiency of natural resource use is the most frequently mentioned indicator in every news media (Figure 4). However, the news coverage by each press tends to report on environmental and social indicators that are always victims of the economic aspect.

On www.pikiran-rakyat.com media, the efficiency indicators in using natural resources raise issues related to deforestation, mining activities, efforts to build a factory for electric vehicle battery raw materials, and reforestation actions to preserve the identity of Makian Island as Kenari Island. Meanwhile, the issues

Figure 4. Green Economy in North Maluku

Source: NVivo 12 Plus (2022)

mentioned for the indicators of local resource empowerment are the identity of Tidore Island as an area for clove and nutmeg spices (in addition to Makian Island with its walnuts), the nickel wealth that is being sought to build a smelter factory, and the region's specialties in traditional events. Furthermore, the waste reduction indicators mentioned in this media are not specifically about waste reduction but only mention the waste transportation carried out by mining company partners (technical). As for poverty alleviation indicators, it briefly mentions that one-eighth of Indonesian citizens have not been able to buy food that meets their nutritional needs. At the same time, for employment, Pikiran-rakyat.com reports on job openings carried out by mining companies in Central Halmahera and South Halmahera.

On www.kompas.com, all of the news covered is positive, with news about economic transformation through mining companies and efforts to make Indonesia one of the producers of lithium batteries (utilization), the use of Kucing Island as a tourist spot, and the opening of tens of thousands of job vacancies by mining companies.

Meanwhile, as a portal that focuses on environmental issues, www.mongabay.co.id mentions many things with extended notes on ecological management in North Maluku. The issues mainly reported lead to mining issues (followed by the issue of oil palm plantations), such as the issue of massive land clearing for mining, which has an impact on the loss of people's living space due to mining activities (including indigenous peoples) as well as the loss of local commodities like nutmeg, cloves, and copra, as well as many plant pests attacking residents' plantations due to imbalances in the food chain caused by the continuously eroding forests. Regarding labor absorption indicators, the news content tends to be technical because it cites local government statements about the presence of mines that contribute positively to job creation. Meanwhile, indicators of poverty alleviation, on the contrary, are where the presence of mining companies creates a system of community dependence on the mining economy, which in the news is referred to as structural impoverishment based on government legitimacy. As with poverty alleviation indicators, waste reduction indicators also apply the other way around because mining activities pollute the air and water (rivers and seas). The waste reduction (positive) reported by Mongabay.co.id is about waste being used as works of art.

Furthermore, in the regional media www.kieraha.com, environmental issues that are summarized in the indicators of the efficiency of the use of natural resources are not much different from Mongabay.co.id media, where the issues discussed are about forest cover clearing, concession permits, and mining activities, to the issue of endemic animals. Meanwhile, on indicators for empowering local resources, kieraha.com mentions optimizing independent local food and commodities to meet the local economy, such as cloves, nutmeg, copra, cassava, local rice, waxy vegetables, bamboo shoots, and other local commodities that are closely related to a green economy, namely nickel mining. Furthermore, regarding waste reduction indicators, Kieraha.com is more concerned about the amount of waste that increases from year to year, as well as coal waste excluded from the B3 list and location permits for the disposal of tailings produced by mines. The poverty alleviation indicators on kieraha.com are related to data on poverty in North Maluku, which is increasing, as well as the issue of cultivating and empowering local food as the primary food source and providing promising economic impacts for the community.

Lastly, in the news media of www.kabarpulau.co.id, there are discussions about the indicators of efficiency in natural resource utilization, specifically in relation to environmental issues concerning the green economy. These issues involve converting land for plantation and mining activities, resulting in deforestation. It is feared that these activities will further harm the community and exacerbate natural damage. The narrowing of living spaces for residents, including indigenous peoples, endangers the endemic animals of North Maluku, as evidenced by their migration in search of new habitats. Other topics discussed include the conservation of the charred Maluku bird and local food management based on traditional knowledge, which is considered more ecologically sound.

Meanwhile, in the indicators of local resource empowerment, the issues raised are around area management with the concept of ecotourism to attract tourists, the utilization of local commodities and food as daily necessities and sources of economic income, and even as ingredients for medicinal purposes (such as toyon trees). Other issues raised include the protection of the biodiversity of birds endemic to North Maluku and the problem of land conversion into mining concession areas, which reduces the living spaces of residents, including indigenous peoples. Additionally, the publication of new findings on beetle species in the forests of North Maluku is highlighted.

Furthermore, regarding waste reduction indicators, the issues discussed revolve around the discourse on the location permit to dispose of tailings waste into the sea. The concern is that this practice may contaminate marine biota and ultimately affect the health of those who consume it. Other concerns include pollution caused by mining activities, which contribute to air pollution and negatively impact residents' health. Additionally, there is a focus on using waste as fertilizer and pandan leaves for making mats, which can help reduce the waste production rate.

Regarding poverty alleviation indicators, the mentioned issues are related to areas rich in natural resources but suffer from poverty, commonly referred to as the "curse of natural resources." Utilizing local commodities and food is seen as a potential solution to reducing poverty. On the topic of employment indicators, the discussions focus on the employment of mining workers, which is considered to create pseudo-welfare and the exclusion of Indigenous people in mining areas due to the influx of tens of thousands of workers from outside the region. These issues are also connected to the creativity in processing local commodities as a source of economic income for farmer groups and the community (Gunawan et al., 2022).

Overall, on average, the five media used in this study have a high percentage of critical activities that do not consider environmental factors and disregard their social impacts. This results in the gradual erosion of people's living spaces due to these activities. The indicators in the green economy used in this study also indicate the opposite, as the reports from the five media tend to fluctuate when it comes to green economy practices, which goes against the principles of sustainable development goals. Additionally, among the five media outlets, Kompas.com is the only one that has yet to provide elaborate and critical reporting on environmental issues related to the green economy. This is because the news content is concise and tends to have a positive tone when mentioning environmental issues in North Maluku.

The areas always mentioned in every online news media are Weda (Central Halmahera), Obi Island, and Gane (South Halmahera). These two areas are where nickel mining and oil palm plantations are located. On Obi Island, there is a nickel smelter, namely the High-Pressure Acid Leaching (HPAL) production operating facility from PT. Halmahera Persada Legend (HPL) worth 1 billion US dollars (more than Rp14 trillion) which was inaugurated by the Coordinating Ministry for Maritime Affairs and Investment of the Republic of Indonesia, Luhut Binsar Pandjaitan, on June 23, 2021 (Anwar, 2021). Meanwhile, in Gane, there are oil palm plantations where the forest that can be converted into oil palm plantations is 11,03.9 hectares owned by PT Gelora Mandiri Membangun (PT GMM), a subsidiary of the Korindo Group (Belseran, 2021), as well as preparations for the construction of a battery raw material processing plant. Nickel-based by PT Indonesia Weda Bay Industrial Park (PT IWIP) in Central Halmahera (AsiaToday.id, 2021). Other areas that are often mentioned concerning mining companies are the Gebe Island area (Central Halmahera) and the Maba area, which is the administrative area of East Halmahera, which is a mining concession area belonging to PT Aneka Tambang (PT Antam) (Syahni, 2021).

Mining areas that are often mentioned by the five online news media selected here tend to criticize mining production activities that do not consider environmental
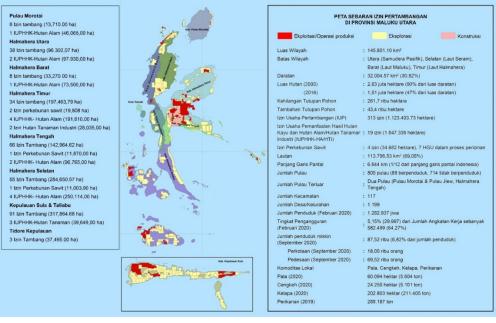

Figure 5. Map of Mining Permit Distribution in North Maluku Province

factors, as well as normative matters related to obtaining concession permits based on regulations issued by the government, which in turn is eliminating community plantation lands where local commodities that are the backbone of the local economy are slowly turning to an entirely dependent mining economy. The media that strongly criticized these activities were Mongabay.co.id, Kieraha.com, Kabarpulau.co.id, and Pikiran-rakyat.com. At the same time, Kompas.com was the only media that chose to be safe in reporting related environmental issues (especially mining and oil palm plantations in North Maluku).

Furthermore, in addition to the issue of mining and palm oil in South Halmahera, Central Halmahera, and East Halmahera, which were reported by the five online media, other issues that were mentioned were the issue of reforestation in Obi Island and Ternate City, and the identity of Makian Island as a walnut-producing island, the identity of Tidore Island as a cosmopolis area of clove and nutmeg spices, until the results of the Fill the Nutrient Gap (FNG) analysis that at least one in eight Indonesians cannot afford food that meets their nutritional needs (Pikiran-rakyat.com). Meanwhile, the issues raised by kompas.com were using Cat Island as a tourist destination and the 2021 Sula Arts and Cultural Expo Festival as a medium to introduce tourism and local resources.

On Mongabay.co.id, apart from focusing on the ecological, social, economic, and cultural impacts of mining concessions and oil palm plantations, other issues raised are the issue of reclamation (Pagama Island and Ternate City), loss of tree cover (Halmahera Central, North Halmahera, Sula Islands, and South Halmahera), the threat of endemic birds, environmental awareness movements, forest management that has not been maximized, Clove Afo ecotourism (Tongole), farming activities based on local wisdom (Tobaru), mangrove ecosystems, local food utilization, to processing waste into works of art (Tafure). Furthermore, other issues raised by kieraha.com are the management of white copra (Jailolo), the presence of trembesi trees that damage sidewalks and drainage (Ternate City), poaching of endemic animals, local food and its management, which is still used as the primary source of economic income (Kalaodi, Guraping, and North Maluku in general), mangrove reforestation (Tidore Islands), optimization of land for local food as food availability for the community (Morotai Island), the amount of waste that reaches 150 tons per day (Ternate), to the issue of increasing poverty and unemployment.

Finally, in the news media of Kabar Island.co.id, the issues mentioned are the problem of the threat of endemic animals, increasing deforestation, mangrove ecosystems and their use for tourist destinations (Guraping), the integration of history and nature to become tourist attractions in the oldest cloves in the world, namely Clove Afo (Ternate), the use of waste for plant cultivation, the use of local commodities such as cloves, nutmeg, coconut, and walnuts on Makian Island to be used as a source of food and a source of economic income, local food management based on local wisdom (Tobaru), to news coverage on the conservation of the Moluccan charred bird in Galela.

The authors examine the extent to which online news media platforms address environmental development issues and explore their connection to the economic and social aspects of sustainable development. Furthermore, the author analyzes the topics most commonly discussed by the online news media platforms Pikiran-rakyat.com, Kompas.com, Mongabay.co.id, Kieraha.com, and Kabarpulau.co.id. By employing word frequency analysis using NVivo 12 plus, it has been determined that among the 191 reports generated by these five online news media outlets, the predominant topics associated with the green economy are forests, plantations,

companies, mines, areas, waste, and permissions. The most frequently discussed topics in the news can be seen in Table 2, where the size of each topic is directly proportional to its frequency of mention (larger size indicates more frequent mentions) in each news story.
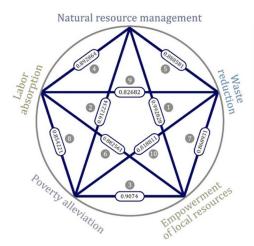
Table 2. List of Dominant Topics on Green Economy in North Maluku

Word	Count	Word	Count
hutan (forest)	993	*tambang* (mine)	404
utara (north)	824	*pangan* (food)	386
maluku	787	mangrove	381
warga (citizens)	708	*pulau* (island)	362
halmahera	689	*lingkungan* (environment)	355
masyarakat (people)	686	*alam* (nature)	345
kawasan (area)	644	*pemerintah* (government)	319
lahan (land)	591	*pisang* (banana)	274
perusahaan (company)	520	*sampah* (waste)	266
desa (village)	494	*wilayah* (region)	265
kebun (garden)	469	*tanaman* (plant)	262
daerah (county)	458	*air* (water)	258
burung (bird)	430	*izin* (license)	250
ternate	428	*kota* (city)	250
padi (paddy)	408	indonesia	246

Source: NVivo 12 Plus (2022)

From the results of the word frequency analysis using NVivo 12 Plus, which was conducted reporting about the green economy in North Maluku, as shown in Table 2 above, it can be understood that the issues most frequently discussed by the five news media outlets are issues strongly linked to deforestation, mining, and oil palm. This is evident in topics such as forests, residents, Halmahera, communities, areas, land, companies, plantations, mines, mangroves, environment, government, regions, and permits. These topics are more often discussed in the reports of media outlets Mongabay.co.id, Kieraha.com, and Kabarpulau.co.id, as deforestation rates increase in North Maluku, along with the issuance of mining and oil palm plantation operating permits by the government. The conversion of land also has an impact on the continually shrinking living space of residents (including indigenous peoples), compromising environmental factors, exacerbating social inequality, and threatening the lives of animals that inhabit the forests of North Maluku. This, of course, goes against the goals of the Global Green Growth Institute (GGGI) and the Indonesian government in reducing poverty and social inequality, maximizing the value of ecosystem services, reducing greenhouse gas emissions, and building resilient communities, economies, and environments. Additionally, climate change (GGGI, 2017) undermines green growth efforts that acknowledge the value of natural capital, increase resilience, and promote inclusive and fair practices (GGGI, 2014b, 2014a, 2018).

In dominant topic analysis, one of the most well-known techniques for finding dominant topics is the Latent Dirichlet Allocation (LDA) method. LDA is a statistical topic model with the aim of automatically identifying groups of related terms that approximate real-world topics. In this study, we use the LDA approach from Blei, Ng, Jordan, & Lafferty to uncover the main discussion topics and their trends over time (de Melo & Figueiredo, 2021). Some of the main aspects that are often used include keyword frequency, discussion length, word density, inter-word relationships, and text structure. Keyword frequency is one of the simplest ways, where the repeated

Figure 6. Correlation Between Indicators

Source: NVivo 12 Plus (2022)

occurrence of certain words or phrases indicates a focus on the topic (de Melo & Figueiredo, 2021).

Additionally, to examine and depict the strong connection between indicators, the authors utilized the Pearson correlation analysis tool in NVivo 12 Plus software. The Pearson correlation coefficient is a statistical instrument utilized to quantify the magnitude of the linear association between two variables or indicators (Azhar & Zulkarnaini, 2013). The Pearson correlation coefficient has a value range of -1 to 1 (Mu et al., 2018; Schober & Schwarte, 2018). A value closer to 1 suggests a greater association between the indicators/variables, while a value closer to -1 indicates a weaker relationship. Figure 6 displays the visualization of the correlation between indicators.

The correlation coefficient's positive and negative signs reflect the direction of the link. A positive sign signifies a direct proportionality between the indicators/ variables. Conversely, a negative sign indicates an inverse link between indicators/ variables. Regarding the interpretation of the value, the Pearson correlation coefficient has the following significance: The range of correlations can be categorized as follows: 0 to 0.2 indicates a very weak relationship, 0.2 to 0.4 indicates a weak relationship, 0.4 to 0.7 indicates a moderate to strong relationship, 0.7 to 0.9 indicates a strong relationship, and 0.9 to 1 indicates a very strong correlation. Figure 6 demonstrates the existence of relationships between each indicator, exhibiting varying degrees of correlation. The indicators that exhibit a highly significant correlation are those related to the efficient utilization of natural resources, the empowerment of local resources, and poverty reduction, as their values exceed 0.9. The association between these three indicators and the waste reduction and employment indicator is regarded as strong because its correlation coefficient is below 0.9.

The close relationship between indicators of efficient use of natural resources, empowerment of local resources, and poverty alleviation is dominant in every online news media, especially news that contains environmental, social, and economic issues in mining areas. In Central Halmahera, South Halmahera, East Halmahera, and North Halmahera, as well as areas of entrenched oil palm plantations in South Halmahera. The granting of permits and the conversion of land to mining activities and oil palm plantations allegedly caused the erosion of people's living spaces and increased deforestation. They made people dependent on the mining economy. The Sustainable Development Goals metadata summarizes these in the pillars of social

development, environmental development, and economic development (including the pillars of legal development and governance).

4. Conclusion

The green economy is a concept framed within the Sustainable Development Goals (SDGs), in which the pillars of environmental, social, and economic development, supported by legal development and governance, are integrated into a whole that cannot be separated. Economic development does not neglect environmental factors and aims to reduce social inequality. Based on the description of the findings above, this study concludes that the online news media that most often reports about the green economy is Kabarpulau.co.id. Meanwhile, the most dominant indicator is the efficient use of natural resources for all media. Meanwhile, in the word frequency analysis on the green economy concept, it was found that the topics most frequently reported by the five online news media are forests, Halmahera, areas, land, companies, mines, and permits. The list of topics that are often reported on is mostly related to the problems of mining companies and oil palm plantations, which can be seen from the representation of the meaning of these topics.

Furthermore, the cluster analysis shows that each indicator has a relationship with a different level of relationship closeness. This indicates that the indicators that represent a green economy and sustainable development, namely the pillars of environmental, social, and economic development, as well as law and governance, are interconnected, where activities in one aspect can impact other aspects. This research also has limitations in its raw materials, namely online news media, and has yet to use a quantitative approach for more general measurements. Therefore, a mixed-method approach, case study/field research, and its composition with NVivo 12 plus software are needed for further research to enrich research findings.

References

Adlin. (2021). Waste Management System in Pekanbaru City: City Government Capability, Issues, and Policy Alternatives. *Jurnal Bina Praja, 13*(3), 395–406. https://doi.org/10.21787/jbp.13.2021.395-406

Agustini, P. (2021, September 12). *Warganet Meningkat, Indonesia Perlu Tingkatkan Nilai Budaya di Internet.* Ditjen Aptika. https://aptika.kominfo.go.id/2021/09/warganet-meningkat-indonesia-perlu-tingkatkan-nilai-budaya-di-internet/

Alexa.com. (2021). *Top Sites in Indonesia.* Alexa.com. https://www.alexa.com/topsites/countries/ID

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

Anwar, M. C. (2021, June 23). *Demi Mobil Listrik, Luhut Resmikan Smelter Nikel Senilai Rp 14 Triliun di Pulau Obi.* Kompas.com. https://money.kompas.com/read/2021/06/23/184534726/demi-mobil-listrik-luhut-resmikan-smelter-nikel-senilai-rp-14-triliun-di-pulau?page=all

Arinta, Y. N. (2019). Implementasi Maqashid Syariah dengan Pengembangan Ekonomi Hijau Melalui Urban Farming. *International Journal Ihya' 'Ulum al-Din, 21*(2), 192–211. https://doi.org/10.21580/ihya.21.2.4834

AsiaToday.id. (2021, March 30). *IWIP Mulai Bangun Pabrik Baterai Berbasis Nikel pada 2022.* AsiaToday.id. https://asiatoday.id/read/iwip-mulai-bangun-pabrik-baterai-berbasis-nikel-pada-2022

Azhar, H. F., & Zulkarnaini. (2013). Model System Dinamics Hubungan Penduduk dan Konversi Hutan Menjadi Perkebunan Sawit Terhadap Erosi Tanah di Kecamatan Koto Gasib Kabupaten Siak. *Jurnal Ilmu Lingkungan, 7*(2), 128–147. https://doi.org/10.31258/jil.7.2.p.128-147

Bangsawan, G. (2024). Transforming Poverty Alleviation Policies: Adapting the Regional Innovation Architecture Approach. *Jurnal Bina Praja, 16*(1), 21–36. https://doi.org/10.21787/jbp.16.2024.21-36

Bappenas. (2011). *Langkah Menuju Ekonomi Hijau: Sintesa dan Memulainya.*

Bappenas. (2013). *Kumpulan Pemikiran Pengembangan Green Economy di Indonesia (Tahun 2010 – 2012)*. Kementerian PPN/Bappenas.

Bappenas. (2014). *Prakarsa Strategis Pengembangan Konsep Green Economy.* Kementerian PPN/Bappenas.

Belseran, C. (2021, January 1). *Cerita dari Gane: Saat Seteru Antar Warga dan Hama Merebak Pasca Kebun Sawit Datang.* Mongabay. https://www.mongabay.co.id/2021/01/01/cerita-dari-gane-saat-seteru-antar-warga-dan-hama-merebak-pasca-kebun-sawit-datang/

BPS Provinsi Maluku Utara. (2021a). *Indikator Tujuan Pembangunan Berkelanjutan Provinsi Maluku Utara 2020*. Badan Pusat Statistik Provinsi Maluku Utara. https://malut.bps.go.id/id/publication/2021/04/28/5197270a5f014fec2a6ba33d/indikator-tujuan-pembangunan-berkelanjutan-provinsi-maluku-utara-2020.html

BPS Provinsi Maluku Utara. (2021b). *Provinsi Maluku Utara dalam Angka 2021. Badan Pusat Statistik Provinsi Maluku Utara.* https://malut.bps.go.id/id/publication/2021/02/26/557a48120446046de02e94c8/provinsi-maluku-utara-dalam-angka-2021.html

Dalisay, F. S. (2012). The Spiral of Silence and Conflict Avoidance: Examining Antecedents of Opinion Expression Concerning the U.S. Military Buildup in the Pacific Island of Guam. *Communication Quarterly, 60*(4), 481–503. https://doi.org/10.1080/01463373.2012.704567

de Melo, T., & Figueiredo, C. M. S. (2021). Comparing News Articles and Tweets About COVID-19 in Brazil: Sentiment Analysis and Topic Modeling Approach. *JMIR Public Health and Surveillance, 7*(2), e24585. https://doi.org/10.2196/24585

Doaly, T. (2015, March 9). *Ratusan Izin Tambang di Maluku Utara Libas Wilayah Adat, Kok Bisa?* Mongabay. https://www.mongabay.co.id/2015/03/09/ratusan-izin-tambang-di-maluku-utara-libas-wilayah-adat-kok-bisa/

Dressler, W. H., de Koning, J., Montefrio, M., & Firn, J. (2016). Land Sharing Not Sparing in the "Green Economy": The Role of Livelihood Bricolage in Conservation and Development in the Philippines. *Geoforum, 76*, 75–89. https://doi.org/10.1016/j.geoforum.2016.09.003

Dressler, W. H., Smith, W., Kull, C. A., Carmenta, R., & Pulhin, J. M. (2021). Recalibrating Burdens of Blame: Anti-swidden Politics and Green Governance in the Philippine Uplands. *Geoforum, 124*, 348–359. https://doi.org/10.1016/j.geoforum.2020.01.024

Elliott, L., & Setyowati, A. B. (2020). Toward a Socially Just Transition to Low Carbon Development: The Case of Indonesia. *Asian Affairs, 51*(4), 875–894. https://doi.org/10.1080/03068374.2020.1835000

Faried, A. I. (2020). Analisis Meredam Angka Kemiskinan Melalui Pendekatan Ekonomi Hijau di Desa Pahlawan Kecamatan Tanjung Tiram Kabupaten Batu Bara. *Ekonomikawan: Jurnal Ilmu Ekonomi dan Studi Pembangunan, 20*(1), 1–11. https://doi.org/10.30596/ekonomikawan.v20i1.3425

Faturohim, A., Akbar, A., Hidayat, B. A., & Saksono, H. (2023). An Analysis of Urban Poverty and Unemployment. *Jurnal Bina Praja, 15*(2), 309–324. https://doi.org/10.21787/jbp.15.2023.309-324

FWI. (2018). *Deforestasi Tanpa Henti 2018: Potret Deforestasi di Sumatera Utara, Kalimantan Timur dan Maluku Utara.* Forest Watch Indonesia. https://fwi.or.id/deforestasi-tanpa-henti-3-provinsi/

GFW. (2021). *Maluku Utara, Indonesia Deforestation Rates & Statistics*. Global Forest Watch. https://www.globalforestwatch.org/dashboards/country/IDN/18/

GGGI. (2014a). *KIPI Maloy: Moving Towards Green Growth*. Global Green Growth Institute.

GGGI. (2014b). *KSN Mamminasata: Menuju Pertumbuhan Ekonomi Hijau*. Global Green Growth Institute.

GGGI. (2016). *Pertumbuhan Ekonomi Hijau dan Perencanaan Investasi: Panduan untuk Menggunakan Analisis Biaya - Manfaat yang Diperluas (ECBA)*. Global Green Growth Institute.

GGGI. (2017). *Bagaimana Pertumbuhan Ekonomi Hijau Membantu Indonesia Mengelola Lanskap Secara Berkelanjutan?*

GGGI. (2018). *Kawasan Ekonomi Khusus Sei Mangkei: 1*. Global Green Growth Institute.

Gunawan, F. X. C., Mesa, A. N. L. M., Syah, R. F., Simandjorang, B. M. T. V., & Fitri, S. E. (2022). Farmers and Poverty: Farmer Complaints and Problems in Mutunggeding Village. *Jurnal Bina Praja, 14*(3), 529–541. https://doi.org/10.21787/jbp.14.2022.529-541

Gutierrez Garzon, A. R., Bettinger, P., Abrams, J., Siry, J. P., & Mei, B. (2022). Forest Sustainability in State Forest Management Plans: A Content Analysis. *Journal of Sustainable Forestry, 41*(1), 92–113. https://doi.org/10.1080/10549811.2021.1884575

Hardani, Auliya, N. H., Andriani, H., Fardani, R. A., Ustiawaty, J., Utami, E. F., Sukmana, D. J., & Istiqomah, R. R. (2020). *Metode Penelitian Kualitatif & Kuantitatif* (H. Abadi, Ed.). CV. Pustaka Ilmu.

Heart of Borneo. (2014). *Strategi Implementasi Pembangunan di Jantung Kalimantan (Heart of Borneo/ HoB) Melalui Pendekatan Ekonomi Hijau*. Coordinating Ministry for Economic Affairs of the Republic of Indonesia.

Huang, W., Yu, X., & Hong, X. (2023). Research on the Influencing Factors of Online Public Opinion Evolution based on Configuration Perspective. *Proceedings - 2023 16th International Symposium on Computational Intelligence and Design, ISCID 2023*, 9–12. https://doi.org/10.1109/ISCID59865.2023.00011

Hutagalung, S. S., & Hermawan, D. (2018). Evaluation of Local Government Innovation Program in Lampung Province. *Jurnal Bina Praja, 10*(2), 241–250. https://doi.org/10.21787/jbp.10.2018.241-250

Ichi, M. (2021a, February 9). *Akademisi: Ancaman Ekosistem Halmahera Serius*. Kabar Pulau. https://kabarpulau.co.id/akademisi-ancaman-ekosistem-halmahera-serius/

Ichi, M. (2021b, February 15). *Jumlah Pulau di Malut Masih Diperdebatkan*. Kabar Pulau. https://kabarpulau.co.id/jumlah-pulau-di-malut-masih-diperdebatkan/

JATAM. (2019, April 12). *Pulau Kecil dan Pesisir Maluku Utara Kian Terancam*. JATAM. https://jatam.org/id/lengkap/pulau-kecil-dan-pesisir-maluku-utara-kian-terancam

JATAM. (2021, April 16). *ANTAM Porak-Porandakan Halmahera Timur*. JATAM. https://jatam.org/id/lengkap/antam-porak-porandakan-halmahera-timur

Kementerian Pertanian Republik Indonesia. (2021). *Data Lima Tahun Terakhir*.

Kilkoda, M. (2015). *Pulau-Pulau Kecil dan Persoalan Ruang Hidup di Maluku Utara*. Intip Hutan.

Kim, S. H., Kotva, Z. R., Zain, A., & Chen, Y. (2024). Black Lives Matter and Partisan Media. *Journalism and Media, 5*(1), 78–91. https://doi.org/10.3390/journalmedia5010006

Korhonen, E., Toppinen, A., Lähtinen, K., Ranacher, L., Werner, A., Stern, T., & Kutnar, A. (2016). Communicating Forest Sector Sustainability: Results from Four European Countries. *Forest Products Journal, 66*(5–6), 362–370. https://doi.org/10.13073/FPJ-D-15-00046

Kristianto, A. H., & Nadapdap, J. P. (2021). Dinamika Sistem Ekonomi Sirkular Berbasis Masyarakat Metode Causal Loop Diagram Kota Bengkayang. *Sebatik, 25*(1), 59–67. https://doi.org/10.46984/sebatik.v25i1.1279

Lasswell, H. D. (1948). *The Structure and Function Ofcommunication in Society*. Lyman Bryson.

Lei, L., Ozturk, I., Murshed, M., Abrorov, S., Alvarado, R., & Mahmood, H. (2023). Environmental Innovations, Energy Innovations, Governance, and Environmental Sustainability: Evidence From South and Southeast Asian Countries. *Resources Policy, 82*, 103556. https://doi.org/10.1016/j.resourpol.2023.103556

Liu, H. (2023). How Media's Factor and Governmental Factor Affected Individual's Opinion on Haze in China. *Environmental Research Communications, 5*(4), 045007. https://doi.org/10.1088/2515-7620/ACCDB8

Misbahuddin. (2018). Kajian Optimalisasi Potensi Produk Unggulan dan Ekonomi Lokal dengan Prinsip Ekonomi Hijau, Ekonomi Biru, dan Ekonomi Pariwisata Kabupaten Majene Provinsi Sulawesi Barat. *Jurnal Bisnis dan Kewirausahaan, 7*(3), 296–310. https://doi.org/10.37476/jbk.v7i3.331

Mu, Y., Liu, X., & Wang, L. (2018). A Pearson's Correlation Coefficient Based Decision Tree and Its Parallel Implementation. *Information Sciences, 435*, 40–58. https://doi.org/10.1016/j.ins.2017.12.059

Munawaroh, S., & Fajri, M. N. (2023). Regional Branding as an Effort to Promote a Sustainable Environment. *Jurnal Bina Praja, 15*(1), 73–83. https://doi.org/10.21787/jbp.15.2023.73-83

Nurfindarti, E. (2019). Strategy and Roadmap for Achieving Sustainable Development Goals in Serang City. *Jurnal Bina Praja, 11*(2), 219–235. https://doi.org/10.21787/jbp.11.2019.219-235

Pratiwi, S. N. (2013). The Agricultural Sector As the Main Power of the Green Economy in Indonesia. *International Journal of Green Economics, 7*(1), 35–43. https://doi.org/10.1504/IJGE.2013.055370

Priantoko, A., Anbia, E. F., Wulan, G. M. R., & Panggabean, N. (2021). Tinjauan Penerapan Ekonomi Hijau dalam Pariwisata di Provinsi Bali. *Jurnal Indonesia Sosial Teknologi, 2*(1), 16–22. https://doi.org/10.59141/jist.v2i01.74

Ramadhan, A., Syah, A. F., Plamonia, N., Andreani, S., & Yohanitas, W. A. (2023). Development of Sustainable Regional Innovation Towards Gemilang Tangerang Regency: Study in the Tangerang Regency. *Jurnal Bina Praja, 15*(1), 145–161. https://doi.org/10.21787/jbp.15.2023.145-161

Sanz-Hernández, A., Esteban, E., Marco, P., & Soriano, G. (2020). Forest Bioeconomy in the Media Discourse in Spain. *Ambio, 49*, 1897–1911. https://doi.org/10.1007/s13280-020-01390-0

Satizábal, P., Dressler, W. H., Fabinyi, M., & Pido, M. D. (2020). Blue Economy Discourses and Practices: Reconfiguring Ocean Spaces in the Philippines. *Maritime Studies, 19*(2), 207–221. https://doi.org/10.1007/s40152-020-00168-0

Schober, P., & Schwarte, L. A. (2018). Correlation Coefficients: Appropriate Use and Interpretation. *Anesthesia and Analgesia, 126*(5), 1763–1768. https://doi.org/10.1213/ANE.0000000000002864

Soesanta, P. E., Putra, I. R. A. S., & Hutagalung, O. H. (2023). The Development of a Sustainable Tourism Area for Borobudur Temple as a City Branding Theme for Magelang Regency. *Jurnal Bina Praja, 15*(1), 111–122. https://doi.org/10.21787/jbp.15.2023.111-122

Sukarniati, L. (2014). Keterlibatan Perempuan dalam Aktifitas Ekonomi Hijau (Studi Kasus di Wates Kota Magelang). *Optimum: Jurnal Ekonomi dan Pembangunan, 4*(1), 66–77. https://doi.org/10.12928/optimum.v4i1.7821

Sulista, S. (2019). The Sustainability of Livelihoods of Villages around the Tin Mine in Bangka Islands. *Jurnal Bina Praja, 11*(1), 43–52. https://doi.org/10.21787/jbp.11.2019.43-52

Supriyadi. (2019, April 12). *Pulau Kecil dan Pesisir Maluku Utara Terancam Punah*. PW AMAN Maluku Utara. https://malut.aman.or.id/2019/04/12/pulau-kecil-dan-pesisir-maluku-utara-terancam-punah/

Susanti, D. D., & Wicaksono, A. M. (2019). Membangun Ekonomi Hijau dengan Basis Pertanian di Provinsi Jawa Tengah Tahun 2013 – 2018. *Jurnal Litbang Provinsi Jawa Tengah, 17*(2), 159–167. https://doi.org/10.36762/jurnaljateng.v17i2.795

Sutikno, B., & Batoro, J. (2017). Analisis Kearifan Lokal Terhadap Pembangunan Ekonomi Hijau di Kabupaten Pasuruan. *Malia: Jurnal Ekonomi Islam Universitas Yudharta Pasuruan, 8*(2), 243–256. https://doi.org/10.35891/ml.v8i2.599

Syahni, D. (2021, May 4). *Operasi PT Antam Cemari Pesisir Halmahera Timur*. Mongabay. https://www.mongabay.co.id/2021/05/04/tambang-antam-cemari-pesisir-halmahera-timur/

UCLG (United Cities and Local Governments). (2018). *Tujuan Pembangunan Berkelanjutan yang Perlu Diketahui oleh Pemerintah Daerah*. UCLG (United Cities and Local Governments).

Vaara, E., & Tienari, J. (2010). On the Narrative Construction of Multinational Corporations: An Antenarrative Analysis of Legitimation and Resistance in a Cross-Border Merger. *Organization Science, 22*(2), 370–390. https://doi.org/10.1287/orsc.1100.0593

von Gross, F. (2008). Agenda-Setting. In *Handbuch Medienpädagogik* (pp. 282–285). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-91158-8_40

Wahyudin, D. (2016). Strategi Konsep Ekonomi Hijau Sebagai Sustainable Development Goals di Indonesia. *Prosiding Seminar STIAMI*, 34–45.

Wang, H., & Cai, T. (2018). Media Exposure and Chinese College Students' Attitudes Toward China's Maritime Claims and Disputes in the South and East China Seas. *Cogent Social Sciences, 4*(1), 1–15. https://doi.org/10.1080/23311886.2018.1482995

Wiratma, H. D., & Nurgiyanti, T. (2019). Pembangunan Pariwisata Kulon Progo Melalui Konsep Green Economy dan Blue Economy. *Nation State: Journal of International Studies, 2*(2), 161–172. https://doi.org/10.24076/NSJIS.2019v2i2.164

Wiyekti, N. (2021). Transisi Menuju Ekonomi Hijau, Berkaitan dengan Kualitas Lingkungan Era Desentralisasi di Indonesia. *Jurnal Ilmiah Komputasi dan Statistika, 1*(1), 32–39.

Wu, S., Wang, Z., Su, C., & Zhang, W. (2023). Digital Media and Green Development Path in Asia: Does Digital Financial Inclusion Matter? *Sustainability, 15*(14), 11359. https://doi.org/10.3390/su151411359