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Research Article

Digitalization of Green Economy Policy Model in Provincial Government

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Abstract.
Most of the development has only focused on increasing economic productivity without looking at the impacts, namely environmental damage and increasing poverty levels. This study aims to analyze the extent to which public officials understand the Green Economy Policy, identify its design at three levels of the leadership, and to analyze this digitalization model that can increase the *levels of awareness.* The method used in this research is descriptive and qualitative with an *ex-post analysis* technique toward green economy policies implemented through green growth education and training curricula. Based on the data obtained, this study found that public officials in the Government of East Kalimantan Province have an awareness of the importance of green policies. However, no differences were observed in the design of the development policy model at each leadership levels. In addition, the internalization of the Green Economy Policies remains partial at a certain level due to limitations in its implementation strategy. Thus, this study recommends the need for a clear focus on the implementation of Green Economy Policy models at each leadership level as well as the internalization of digital-based Green Economy Policies in order to reach wider and faster policy targets.

Keywords: pro green policy, level of awareness, development policy model

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1. INTRODUCTION

East Kalimantan Province has an increasingly strategic position with the establishment of the new state capital region in the region. Geographically, East Kalimantan Province has tremendous natural resource potential, but it also has natural resource challenges that have the potential to cause environmental damage. In the 1980s, data showed that districts/cities in the East Kalimantan Province had the potential for natural damage due to environmental exploitation amounting to 25% of the total national production in East Kalimantan [1]. In addition, based on data in 2010, East Kalimantan's coal production reached 60% of the total. This means that government policies so far tend not to strengthen awareness of protecting the environment and minimal involvement of local communities.

The potential of natural resources and mining in East Kalimantan makes the province one of the lungs of the world, but the challenges of natural resource management have the potential to cause disasters for its citizens. This is because since the Dutch colonial era around 1894, East Kalimantan has been extracting its own nature through mining activities, such as oil and natural gas extraction and continues to this day. In general, East Kalimantan still relies economically on logging, coal dredging, and the opening of oil palm plantations. In addition, there are also many other environmental issues that should also be a priority for the government to resolve. According to data from the Department of Environment (DLH) of East Kalimantan Province in 2019 [2], there are 10 environmental issues, namely: (1) Water, air and soil pollution caused by human activities. (2) Unresolved solid waste management and hazardous and toxic waste (B3). (3) Flooding that continues to occur every year in several locations even though it is currently only a temporary inundation. (4). Utilization and management of natural resources that do not apply environmentally friendly and sustainable principles. (5) Coastal and marine degradation. (6) Land damage due to coal mining activities. (7) Forest degradation, (8) Declining biodiversity, (9) Disturbances to protected and protected areas that are still very high, (10) Not optimal implementation of management plans and environmental / biodiversity protection.

At present, government policies have not had a significant influence on the environmental sector. The government tend to be more focused on developments that have an impact on the environment and tend not to be pro-people, whereas in fact as a public servant, the government must be able to restore environmental conditions that occur in East Kalimantan and not focus on the establishment of the State Capital.

On the other hand, DLH East Kalimantan also complained about limited equipment to access the application of environmentally friendly technology. As well as limited facilities and infrastructure for monitoring environmental quality and environmental laboratories. The problem of overlapping laws and regulations in environmental management is also one of the issues faced. In addition, there is also weak control and law enforcement related to environmental issues. It was also mentioned that coordination between sectors has not gone well in the implementation of DLH development in East Kalimantan Province. In addition, environmental improvement is said to be still partial due to the lack of integration of cross-sectoral environmental management.

Efforts to improve environmental conditions in East Kalimantan Province are one of the implementations of the Green Economy (*Pertumbuhan Ekonomi Hijau*/ PEH) mainstreaming policy. Mining, plantation, and forest areas that are sustainable through structuring the balance between humans and the environment through the principles of

good governance certainly provide benefits for various socio-economic aspects [3][4]. A green environment is not only beneficial for ecosystem sustainability now, but also in the future. Achieving harmony between 'economic growth' and 'environmental sustainability' is not an easy task, but it is possible. The real condition of massive environmental changes due to the development project of the National Capital City (IKN) in East Kalimantan Province should be directed to meet the indicators in the mainstreaming of environmentally friendly PEH. Thus, the direction of government policies and programs that are managed must contribute to ensuring a sustainable and green environment.

Since 2020, the East Kalimantan Provincial Government has participated in the FCPF-Carbon Fund program, which is part of an effort to provide Result Based Payment (RBP) rewards in the form of incentives for governments that have contributed to reducing carbon emissions. This program is part of the REDD+ program. All areas of East Kalimantan Province have implemented carbon emission reduction programs, especially in collaboration with KLHK and its Technical Implementation Units. At the level of the East Kalimantan Provincial Government, the stakeholders involved are regional apparatus at the provincial, regency/municipality, and village levels, the private sector, communities, and universities, non-governmental organizations, the media, and others.

The State Administration Institute, as an educational institution for the State Civil Apparatus, collaborates with the Global Green Growth Institute (GGGI) to provide strengthening to government officials so that they have a high commitment to support Green strategic policies, especially mainstreaming Green Economic Growth. LAN developed green growth training guidelines for three levels of leadership of public officials (*Aparatur Sipil Negara*/ ASN) in the central and regional governments. These guidelines certainly apply to the East Kalimantan Provincial government. However, the gap between the condition of ASN's level of awareness before the introduction of the PEH mainstreaming policy and afterward needs to be explored through, among others, local government policy and action plans. Therefore, the research intends to identify how much change in the awareness of public officials within the East Kalimantan Provincial Government towards the PEH Policy? The contribution of this research is first: to identify the level of awareness of public officials on PEH mainstreaming policy; and second, to offer a best practice model of provincial level green economy policy implementation for replication in other regions.

2. THEORETICAL STUDY

2.1. Sustainable Development and Green Economy

Sustainable development is a development paradigm that balances economic, social, and natural resource aspects. Sustainable development emphasizes development that meets the needs of the present without reducing the ability of future generations to meet their needs. The conditions needed in the implementation of sustainable development are ecological, economic, social, and cultural, political, and defense and security sustainability [5].

A Green Economy can be defined as one that results in increased human well-being and social equity, while significantly reducing environmental risks and ecological scarcities, a green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. A green economy can be thought of as low carbon, resource-efficient, and socially inclusive in its simplest expression. In a green economy, growth in income and employment should be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services [6].

In line with the sustainable development agenda, ecological sustainability is closely related to efforts to encourage policies towards a green economy that will improve human welfare and ensure social equality. At the same time, the green economy reduces the risk of environmental degradation and ecological scarcity. Therefore, the green economy is part of a sustainable development model [7]

At the local government level, the government's role is not just a policy maker or even an implementer of development policies. Rather, they play an important role as catalysts of change and as successful linkages between global goals and local communities [8]. Local governments must be able to maintain continuity between the government's sustainable development agenda and PEH mainstreaming policies.

2.2. Green Economy Policy

Green economy policy become a strategic decision for a leader in reposning the global environment issues. Green economy policy is believed to be able to answer the interdependence between interdependence between the economy and ecosystems and negative impacts of economic activity on climate change and global warming. Several policies need to be taken immediately, including:

First, a national government policy needs to protect certain areas that have past the safe limit for exploitation, conversion, and/or development given their importance to the environment. In addition, it strictly limits other areas to be developed for reasons of economic growth economic growth through careful management to protect threatened species, water quality, and other ecological values.

Second, it provides alternative economic alternatives for local communities that allow them to continue to thrive without destroying the biodiversity of their area.

Third, private investors, whether from the

energy or mining subsectors, agribusiness, tourism development, hospitality and others that have an interest in preserving biodiversity. Others who have an interest in maintaining the biodiversity in their region remains intact and can attract global investment in intact and can attract global investment in profitable projects that are profitable, respectful of the the natural world, while helping the standard of living of the local population.

Fourth, local governments must be able and willing to preserve areas that should be protected by not selling them for money or allowing themselves to be corrupted by interests of loggers and miners.

Fifth, involve local or international experts who understand how to measure biodiversity biodiversity with sophistication and accuracy, as well as land use planning to determine exactly which areas need to be protected and which areas can be developed for proper environmental management.

Sixth, support various initiatives to organize primary, secondary, and tertiary education to raise the awareness of the younger generation to local infrastructure [9].

3. METHODS

This research is intended to provide an empirical study of green economy policies within the provincial government, therefore this research uses a qualitative research approach with an ex-post analysis method. According to Taylor and Bogdan (1984) in Moleong [10] qualitative research can be interpreted as research that produces descriptive data in the form of oral or written words and observable behavior of the people studied. Data sources are obtained from key informants or people who are considered to understand the situation and circumstances that occur. The selection of informants uses a purposive sampling technique where the determination is made by considering sources that are considered to understand and be close to the problem of bureaucratic reform of the apparatus. Data, according to its source, is divided into two, namely primary data and

secondary data. Data collection techniques used in this research include interviews and document review. In collecting data, researchers conducted indepth interviews with informants so that researchers were expected to explore what was behind a phenomenon encountered in the field.

The next technique that researchers conducted was documentation, which is the collection of data from several documents both obtained from the East Kalimantan Provincial Government, as well as other sources that are considered valid. Documentation was carried out from beginning to end so that all activities and research processes were well recorded. Furthermore, observation is a method of collecting data used to obtain data through observation and sensing. In this study, researchers will directly observe the social movements of women who play a role in environmental conservation in East Kalimantan Province.

Ex-post analysis is a method part of descriptive policy analysis [11]. The purpose of this method is to look at historical data from policies before new policies are implemented. There are two types of this method, also referred to as after-the-fact analysis, namely: restrospective and evaluative. Restrospective relates to the interpretation of what happened in past policies. While evaluative is related to how the intersection between past and present policies. Ex-post policy analysis can see modeling in policies from issue identification, agenda-setting, policy formulation, and decision making. Specifically for this research, ex-post analysis looks at the gaps immediately and after decision making occurs.

4. RESULTS AND DISCUSSION

Green economic development is actually not a new thing. When the world globally pays attention to the importance of the green economy in human life, green economic development begins to receive more attention and seriousness from various parties. The World Bank with its Sustainable Development Goals (SDG) agenda that requires every country to be able to play an active role in creating development that can be sustainable and environmentally friendly has opened up thoughts for every policy maker to be more careful in making policies.

The Indonesian government has taken a considerable role in realizing this sustainable development, one of which is realized in the form of a commitment to green economic development (PEH). One of the vanguard of PEH mainstreaming is the State Administration Institute (LAN). Since 2018, LAN as a non-ministerial government institution (LPNK) with a core-business in the field of education and training (diklat) collaborates with

the Global Green Growth Institute (GGGI) to organize training for government officials at echelon 3 and 2 levels to build a level of awareness about PEH. The goal of this training is to create agreement between government actors in order to produce policies that truly consider environmental aspects.

LAN's position as an institution that can enter various levels of policy actors is an added value to encourage the rapid transmission of the "green virus" to all lines of government. However, LAN and GGGI cannot walk alone because sectoral issues require strategic institutions that are certainly engaged in specific sectors. LAN, in this case, plays a role in transmitting the perspective or awareness of policy makers which will also have an impact on increasing public awareness. The strategic role of LAN is such that it collaborates between policy makers in the sphere of government and society, ultimately contributing to change, When that change occurs, the world will not be the same as before. The world we all live in will be greener, making it more livable for all of us and future generations.

Departing from the above thoughts, step by step training towards increasing awareness in PEH continues to be carried out. Training modules and programs continue to be developed addressing various issues such as: global warming, climate change, green transformation, and others. Training is conducted regularly with participation including echelon III and II level officials throughout Indonesia. Since the PEH training was launched in 2020, LAN in collaboration with GGGI has produced training alumni who have become agents of change. The training combines learning experiences both introduction to the substance and practical learning in the field in the form of scooping immersion. This learning model will directly deploy trainees to PEH policy targets such as urban slum environments. The hope is that participants will realize that PEH policy-making efforts will not be possible if the policy targets involve people who do not have the same awareness to improve the quality of life together.

The methods used in the training require direct observation in the field to design targeted action plans. However, the sustainability of the training has been hampered by the COVID-19 pandemic crisis. The training plan that had been scheduled in such a way had to be adjusted. Between March 2020 and February 2021, at least two training agendas failed to take place. The adaptation of learning patterns during the pandemic requires the training to use a hybrid model, which makes it difficult to measure the level of success in increasing trainees' awareness of PEH.

4.1. Green Economy Development Movement in East Kalimantan

East Kalimantan is the second largest province after Papua which has a large natural area in the form of forests and hills. it is not surprising that Kalimantan as a whole is called the lungs of the world. With a very strategic forest function and a mining sector that is still being promoted, there is the potential for environmental damage if there is no joint commitment related to green economic development. This commitment to sustainable development is contained in a firm vision and mission with its vision "beranni for sovereign East Kalimantan" and the fourth mission, namely Sovereign in sustainable natural resource management.

Green development began during the reign of Governor Awank Faroek when local governments began to realize that their natural resources were depleting as a result of exploitation and mining and the resulting disasters.

In 2009 East Kalimantan was one of the founders of the Governor's Task Force on Climate and Forests (GCF Task Force) along with the Governor of the state of California. East Kalimantan Province declared Kaltim Green at the 1st East Kalimantan Submit on January 7, 2010. This declaration became the starting point of the green economy development movement in East Kalimantan. The declaration is a commitment by both the Provincial and District/City Governments and all elements of society in East Kalimantan to realize Sustainable and Equitable Development.

This commitment was strengthened by the formulation of the "East Kalimantan Forward Vision 2030: The Realization of Equitable and Sustainable Green Economic Growth (Green Economy with Equity)". The vision is the beginning of the need for economic transformation based on non-renewable resources to renewable resources. The achievement of this vision is carried out by harmonizing and maintaining the balance of economic, environmental and social pillars in economic planning and development that form a green economy.

This initiation was then followed up with the establishment of the East Kalimantan Regional Council on Climate Change (DDPI-Kaltim) in 2011-2012. Interestingly, DDPI-Kaltim is the only DDPI in Indonesia. The main tasks of DDPI are: (1) Coordinating climate change control activities, including adaptation, mitigation, technology transfer, and funding activities. (2) Increasing the capacity of the parties in identifying emissions and inventorying carbon sequestration potential. (3) Monitoring the implementation of policies on climate change control. (4) Linking regulations and mainstreaming climate change adaptation and mitigation. (5) Strengthening publications and research to encourage other regions to be more responsible in controlling climate change.

In 2013, coinciding with the 2nd East Kalimantan Summit, there was a decision to transform the green economy. East Kalimantan's economy was originally based on nature, namely mining, but with this transformation decision, the East Kalimantan economy began to develop services and livestock and agriculture. The Governor of East Kalimantan together with other GCF Governors signed the Rio Branco Declaration in Acere Brazil in 2014.

In 2015 East Kalimantan was selected nationally as a province for the implementation of the Forest Carbon Partnership Facility (FCPF) - Carbon Fund program which lasts until 2020.

In 2016 East Kalimantan established the Green Growth Compact (GGC) which aims to expand and strengthen the collaboration of the parties to accelerate the realization of Kaltim Green goals. This year, East Kalimantan was also elected as the chair of the GCF Task Force for the 2016-2017 period. As evidence of East Kalimantan's commitment to economic transformation, it developed a Green Economy Master Plan.

In 2018, several regional regulations and governor regulations related to green economy development were issued, among others: East Kalimantan Regional Regulation No. 7/2018 on Sustainable Plantations, and East Kalimantan Governor Regulation No. 38/2018 on the Implementation of Social Forestry. In 2019, East Kalimantan Regional Regulation No. 7 of 2019 on Climate Change Adaptation and Mitigation was also issued. In 2020, the Emission Reduction Payment Agreement was signed, and the Forest Carbon Partnership Facility (FCFF)-Carbon Fund 2020-2024 was implemented, where donor countries provide funds for local governments or countries that are able to reduce their carbon emissions.

4.2. Level of awareness of public officials within the East Kalimantan Provincial Government on Pro-Green Policies

Strengthening the awareness of public officials within the East Kalimantan Provincial Government regarding the Pro Green Policy is made through several approaches, including: a formal approach through policies and regulations, the second is an informal approach, namely building awareness through the use of traditions or local wisdom that has developed in East Kalimantan society.

Building a commitment to development in East Kalimantan takes time and effort. Policy strengthening is done by issuing regional regulations and governor regulations. Regional regulations were issued covering: Spatial and Regional Planning (RTRW),

Forest and Land Fire Control, Guidelines for Recognizing Indigenous Peoples, Environmental Protection and Management, Sustainable Plantation, and Climate Management.

Governor Regulations cover: Regional Greenhouse Gas Action Plan (RAD GRK), Social Forestry Management, Inspirational Citizen Action for Change (SIGAP), ANKT Criteria, ANKT Management in Plantation Area, Benefit Sharing Mechanism in GHG Emission Reduction Program. In RAD GRK, GHG emission reduction has started since 2010 with a target of 15.6% by 2020. This emission reduction is calculated from various sectors, including energy, transportation, and industry as well as waste management.

Strengthening awareness in green development is also mentioned in East Kalimantan's regional slogan as "Bumi Etam" which means Our Earth. By interpreting the earth as belonging to all, it is hoped that all regional apparatus and the community in carrying out their economic activities can be guided by environmental sustainability.

Green policies are already being implemented in East Kalimantan. If we do development without looking at the impact on the environment, then wait for the impact. So an EIA is carried out to prevent negative impacts. It is all a promise from entrepreneurs including the government. related to environmental impact.

The mechanism for strengthening awareness is carried out through socialization. Socialization is carried out to all SKPDs, communities and business actors.

Socialization to SKPDs was carried out by including green development issues in the East Kalimantan RPJMD. So that all SKPDs must link their activities with green economic development.

Socialization to the community and indigenous peoples related to pro-green development is carried out with development partners. even socialization is carried out to rural areas, including to the forest. The goal is to build community understanding to maintain a green environment.

Socialization to business actors is also carried out, for example with hoteliers. one of them is the socialization of local government regulations at both the East Kalimantan Provincial level and the Mayor's regulation No. 1 of 2019, stipulating that hotels and restaurants immediately reduce the use of disposable plastic containers (bottles and plastic mineral water) so that hotels can provide mineral water dispensers in each room corridor.

This research conducted interviews with several stakeholders from different backgrounds, from bureaucratic apparatus, academics, and non-government organizations to be able to explore the extent of the level of awareness held by public officials. Based on the data obtained from this research, it is known that in general, people in East

Kalimantan can be said to have a fairly good awareness related to the importance of green development.

4.3. Green Economy Policy Model at Three Levels of Leadership

To be able to realize the achievement of goals that prioritize social, economic and environmental aspects of development, a development policy model called the pro-green development policy model is needed. In essence, a policy is the result of a political decision from the leader or authorized official. Therefore, in its implementation, the designed development policy model needs to look at the level of authority of officials in a structured manner.

Based on the data obtained from this study, it is known that the pro-green development policy model can be seen from three levels of leadership structure; namely first-level officials, second-level officials, and third-level officials.

The first level official is the highest level official in the government. With their authority, officials at this level have strategic authority in determining the strategic policy direction of the organization they lead. Strategic decisions made by officials at this level are related to the grand design of development planning that will be chosen by the organization. The pro-green development policy model that is directed is one that can lead to a leadership model that empathizes and wants to experience directly (immersion).

In the East Kalimantan Provincial government, officials at this first level include having a high commitment to pro-green development issues. This is evident from the strategic policies implemented which can be said to be almost evenly determined in all regional apparatus. Even down to the industrial sectors, one of which is in the tourism industry.

Besides, East Kalimantan is the only region that has a Regional Council on Climate Change (DDPI). The only council in Indonesia that serves this function is DDPI East Kalimantan. Overall, DPPI's roles include: (1) strengthening regulations and integrating the green economy; (2) coordinating, collaborating, facilitating, and mobilizing partners' resources; (3) helping the government, public, and private sectors develop their human resources; and (4) improving the system for adapting to and mitigating climate change.

At the second level, the development policy model is more directed at how the cascading of the strategic policy direction of empathetic leadership with the form of program planning and activities that support the realization of this form of commitment. Leadership at this second level within the East Kalimantan Provincial Government is more specific to sectoral areas. Some of them are in the Social Service, Environmental Service, and Economic Bureau which are the focus of this study. In the Social Service,

the pro-green policy is directed at programs and activities that can support aspects of social justice and inclusivity. An example is from the activities of providing assistance to marginalized communities, the elderly, and the poor.

At the third level of the leadership structure, the pro-green development policy model is more directed at the execution of the implementation of planned programs and activities. How can officials at this level implement the awareness that has been built by officials at the first level and the second level to prioritize a pro-green development model that can ensure the sustainability of human life and the surrounding natural environment in harmony.
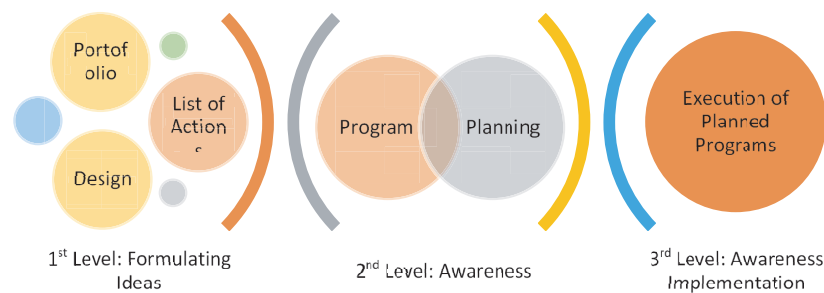
Source: Data collected 2022

Figure 1: The Model: Green Economy Policies at 3 Level of Leadership. **Source: Data collected 2022**.

4.4. Digitalization Practices in the Pro-Green Development Policy Model

In connection with the rapid development of technology, this also affects how the pro-green development policy model is implemented. Based on the data obtained from this study, it is known that in today's rapidly developing digital transformation, it has an influence on how the leadership's commitment to transforming this pro-green development policy in the form of program and activity innovations. This 'Kaltim green' commitment is also one of the tangible forms of how the digital transformation of this pro-green policy model is implemented, as shown in the figure below:

Kaltim Green policy is elaborated by involving relevant stakeholders through intensive and continuous cooperation. This innovative approach in building awareness of East Kalimantan Green through institutional cooperation that involves a balance of partnership between the community, government, and industry, including academics, reinforces the success of awareness building in supporting pro-green policies.

5. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

From the analysis, the awareness of East Kalimantan provincial government officials is already at a high level. This means that without or with their participation in the PEH training program initiated by LAN-GGGI, they already understand the importance of mainstreaming PEH in the existing development policy master plan.

LAN in this case needs to carefully determine the leveling of the PEH training program in order to achieve a level of awareness of PEH mainstreaming that is at least similar at every level of government throughout Indonesia. Of course, this is not an easy job considering that the pandemic crisis has changed learning patterns so that they are always adaptive. The results of this study identify the use of learning platforms as something that cannot be avoided. Therefore, modifications to the digital learning model to increase the level of awareness of government officials about mainstreaming PEH policies must be developed immediately.

5.2. Recommendations

This study proposes several recommendations in order to enhance and improve the achievement of the goals:

1. To ensure the continuance of PEH mainstreaming training, an action plan must be implemented promptly, followed by monitoring and assessment.

2. Promotions that are still believed to be lacking in encouragement, so that LAN is more aggressive in claiming PEH training as a key business in the future LAN must have the confidence to penetrate ministries and agencies in order to capture broader involvement.

3. (LAN must contribute more in encouraging excellent ASN who are aware of PEH by establishing a digital system to disseminate the essence of PEH,)

4. The impetus for the development of the National Capital (IKN) is a golden opportunity for LAN to develop cadres of strong leaders who understand the green economy in order to respond to the genuine concerns of climate change

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