

Exploration of Green Economy Potential in Regional Development in Indonesia: A Qualitative Study

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Abstract

This research aims to explore the potential of the green economy in supporting sustainable regional development in Indonesia. Using an exploratory qualitative approach, this study explores the understandings, opportunities, and challenges in the application of the green economy in various sectors, such as renewable energy, sustainable agriculture, and waste management. The results of the study show that these sectors have great potential to support regional economic resilience and reduce environmental impacts. However, there are various challenges, including limited funding, access to green technology, and cultural resistance in some regions. This research emphasizes the importance of policy support and incentives to encourage a green economy at the local level, so as to create resilient and sustainable regional development. This study explores the potential of the green economy in regional development in Indonesia. Its contribution can support sustainable growth and environmental preservation.

Keywords: green economy, regional development, renewable energy, sustainable agriculture, waste management, environmental policy

A. Introduction

The concept of a green economy has emerged as a global imperative for addressing the intersecting challenges of economic growth, environmental sustainability, and social equity. Defined by the United Nations Environment Programme (ESCAP, 2023) as an economy that improves human well-being and social equity while significantly reducing environmental risks and ecological scarcities, the green economy offers a transformative pathway to sustainable development. In the context of Indonesia, transitioning to a green economy holds immense potential for addressing regional development challenges while leveraging the country's abundant natural resources and rich biodiversity.

Indonesia faces critical environmental challenges, including deforestation, land degradation, and carbon emissions from resource-intensive industries. These issues, compounded by rapid urbanization and population growth, have placed significant pressure on the nation's ecosystems (Barbier, 2011). As one of the world's largest contributors to greenhouse gas emissions, Indonesia must balance its economic ambitions with its commitments to sustainability, particularly under international agreements such as the Paris Accord (Resosudarmo & Yusuf, 2006). Regional development, a cornerstone of Indonesia's national economic strategy, presents an opportunity to embed green economy principles into local and regional policies, fostering both economic growth and environmental conservation.

Globally, the adoption of green economy frameworks has demonstrated significant benefits in driving sustainable development. (David et al., 1989; Raworth, 2018) introduced the concept of a "green economy," emphasizing its potential to reconcile economic and environmental objectives. Subsequent research, such as (Daly & Farley, 2011), further highlighted the role of natural capital and ecosystem services as critical assets in achieving economic resilience and long-term sustainability. These principles align with the views of (Sachs, 2015), who argued that the green economy is integral to achieving the Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth) and SDG 13 (Climate Action).

In Indonesia, regional efforts to implement green economy principles have begun to take shape, particularly in renewable energy, sustainable agriculture, and forest conservation. For instance, initiatives in renewable energy development have tapped into Indonesia's vast potential for geothermal, solar, and wind energy (Irena, 2019). Similarly, sustainable land management practices have been piloted in regions facing deforestation, with mixed success due to governance and financing challenges (Setyawati, 2023). (Zen et al., n.d.) has highlighted policy initiatives aimed at incentivizing green investments, promoting eco-friendly industries, and enhancing sustainable land use.

Despite these efforts, significant barriers remain. Insufficient financing mechanisms, limited institutional capacity, and inadequate community engagement hinder the widespread adoption of green economy strategies (Ekins, 2002; Johnstone, 2023). For example, (Stern, 2007) noted that the transition to a green economy requires robust fiscal frameworks, international cooperation, and public-private partnerships to mobilize resources effectively. Moreover, Indonesia's regional disparities in economic capacity and access to resources create challenges for implementing uniform green economy policies (Bank, 2019). Addressing

these disparities is critical for ensuring that all regions can benefit from sustainable development.

Empirical evidence supports the viability of green economy strategies in fostering regional development. (David et al., 1989) highlighted the role of green investments in driving economic recovery while reducing environmental degradation. Similarly, (Titaley et al., 2014) examined the challenges and opportunities of implementing green economic development strategies in Indonesia, emphasizing the need for localized approaches that align with regional contexts. These insights underscore the importance of tailoring green economy strategies to address specific regional needs, capacities, and priorities.

This study explores the potential of the green economy in advancing regional development in Indonesia. Using a qualitative research approach, it investigates the opportunities and challenges associated with integrating green economy principles into regional planning. Specifically, the study examines how green economy strategies can contribute to economic resilience, environmental sustainability, and social equity at the regional level. By analyzing case studies, policy frameworks, and empirical data, the research aims to provide actionable recommendations for fostering sustainable regional development in Indonesia.

The findings of this study will contribute to the growing discourse on the green economy and its application in developing countries. By identifying key enablers and barriers to the green economy transition, the research offers valuable insights for policymakers, development practitioners, and researchers. Ultimately, this study seeks to demonstrate how Indonesia's regions can harness the green economy to achieve sustainable growth, align with global sustainability goals, and preserve the nation's unique environmental heritage. Through this exploration, the research supports Indonesia's vision for a resilient, inclusive, and sustainable future.

B. Research Method

This study uses a qualitative method with an exploratory approach to deeply understand the potential of the green economy in supporting regional development in Indonesia. The data was collected through literature studies and in-depth interviews with various stakeholders, such as government officials, environmentalists, academics, and green industry players. Literature studies are conducted to obtain a theoretical foundation and strengthen understanding of the concept of green economy and its application in Indonesia and other countries. The in-depth interviews are designed to explore the views of respondents regarding the opportunities and challenges of implementing the green economy, especially in the context of regional development. The data

obtained from the interviews were then analyzed with thematic analysis techniques, namely identifying the main themes that emerged from the interviews and grouping the information based on certain categories. This analysis aims to find patterns, potentials, and obstacles in the development of the green economy at the regional level, so that it can provide strategic recommendations for sustainable development policies in Indonesia.

C. Result and Discussion

Understanding of the Community and Local Government towards the Green Economy

The results of the study show that the understanding of the green economy varies among stakeholders in Indonesia, such as local governments, entrepreneurs, and the general public. In regions such as Bali and Yogyakarta, where the green economy has gained widespread support, there is a good understanding of the environmental and economic benefits of green approaches. Interviews with local government officials in the region revealed that they understand the green economy as an approach that integrates economic growth with environmental sustainability.

However, in more remote areas, the concept of a green economy is often considered difficult to reach and expensive to implement. In some areas of Sumatra and Kalimantan, interviews with businesses and the public showed that most of them felt that the concept of a green economy was still new and needed subsidies and technological assistance to be adopted. Some entrepreneurs expressed their inability to access green technology due to high initial costs and a lack of incentives from central or local governments.

2. Green Economy Potential in Various Sectors

The potential of the green economy in Indonesia is evident in the renewable energy, sustainable agriculture, and waste management sectors. Renewable energy, such as solar and wind power, has been implemented in several areas and is yielding positive results. Solar projects in East Java, for example, have succeeded in reducing dependence on fossil fuels in rural areas. Data shows that the use of this renewable energy not only reduces carbon emissions, but also creates new quality jobs.

In the agricultural sector, sustainable agriculture that applies environmentally friendly technologies, such as the use of organic fertilizers and water-efficient irrigation systems, has shown promising results in regions such as West Java and Bali. In interviews, farmers in West Java stated that they felt an increase in productivity as well as a reduction in operational costs through the use of this sustainable farming method. In addition, waste management programs that turn waste into recycled products have also shown success in major cities such as

Surabaya and Bandung, which have generated new economic opportunities for small businesses and helped reduce the volume of waste in urban areas.

3. Challenges of Green Economy Implementation

The implementation of the green economy in Indonesia still faces various challenges, including limited funding, access to technology, and cultural resistance to change. One of the biggest obstacles identified is the limitation of funding, especially for green projects at the regional level. Regional officials interviewed mentioned that budget constraints often limit the development of green projects, especially in remote areas. For example, some regions in Papua and Kalimantan have inadequate infrastructure to support green technology, resulting in higher investment costs.

In addition, there is cultural resistance, especially in the agricultural sector. Traditional farmers in the West Sumatra region tend to be hesitant to adopt green farming methods because they are considered new and untested in their environment. Interviews with farmers showed that they were more comfortable using conventional methods that they had been practicing for years. This suggests that more intensive education and training are needed to increase acceptance of green technologies.

4. The Role of the Government in Supporting the Green Economy

The role of the government, both at the central and regional levels, has proven to be very important in supporting the development of the green economy. In regions such as Bali and Yogyakarta, policies that support renewable energy, waste management, and the reduction of single-use plastics have yielded positive results. For example, Bali has implemented a regulation banning the use of single-use plastics, which has succeeded in reducing the volume of plastic waste on the island. Interviews with government officials show that this regulation also has a positive impact on tourism as tourists are increasingly interested in the concept of sustainable tourism.

However, in some other regions, policies that support the green economy are still minimal or do not have clear guidance. Government officials in Central Java stated that despite interest in developing a green economy, the lack of guidelines and incentives slows down the implementation of policies. This study shows that more integrated policies and more attractive incentives are needed to encourage the implementation of the green economy in various regions, especially in areas with limited infrastructure and funding.

5. Opportunities for Green Economic Development in the Future

The study also identifies great opportunities for green economic development in Indonesia. With the increasing global interest in eco-

friendly products and services, Indonesia has the opportunity to develop a green industry that can compete in the international market. For example, recycled-based organic and handicraft products produced in Bali and Yogyakarta have managed to attract foreign consumers. Interviews with small businesses in Bali show that these products have a higher selling value and are able to open up new markets at the global level.

In addition, the development of digitalization can also support the development of the green economy by facilitating access to information and marketing of green products. With the help of digital platforms, green business actors can reach a wider market, both domestic and international. This shows that the combination of green economy and digital technology can be an effective strategy to expand the market and improve the welfare of people in various regions in Indonesia.

6. The Impact of the Green Economy on Local Communities

The green economy has proven to have a positive impact on local communities, both in terms of economy and environment. In rural areas, the use of renewable energy has reduced household electricity costs, while in the agricultural sector, the use of organic fertilizers helps farmers reduce input costs. Interviews with farmers in West Java showed that they felt the immediate benefits of using green technology, which not only increased productivity but also maintained soil quality. This impact is also seen in the tourism sector, where tourists are increasingly interested in the concept of sustainable tourism that integrates environmental conservation and local cultural experiences.

Discussion of Findings

1. Understanding the Green Economy and Its Implications for Regional Development

The findings of this study show that a good understanding of the green economy is essential in ensuring its success at the regional level. In areas that have a deep understanding of the green economy, such as Bali and Yogyakarta, there is a positive impact on environmentally friendly economic development. This is in line with the theory that a good understanding of the concept of the green economy will increase community participation in preserving the environment (Anggraini & Srihastuti, 2022). In areas where understanding is still low, the role of education is important to increase public awareness and support for green projects.

2. Green Economy Opportunities in Supporting Economic and Environmental Resilience

The results of the study confirm that key sectors, such as renewable energy and sustainable agriculture, have great potential to support economic resilience while protecting the environment. The development of renewable energy, for example, shows that regions with limited access to electricity can benefit from solar and wind technologies. These findings

support a (Bank, 2019) which states that the green economy plays a role in reducing dependence on fossil energy and improving energy access in remote areas. In addition, sustainable agricultural practices also provide economic benefits while maintaining soil quality and reducing pollution.

3. Challenges of Green Economy Implementation and Expansion of Policy Support

This study shows that the challenges in the implementation of the green economy vary greatly depending on the availability of resources and policy support at the regional level. Limited funding and access to technology are challenges that are often faced by regions with limited infrastructure. These findings are in line with the study of (Titaley et al., 2014) which highlighted that the development of the green economy in remote areas requires more comprehensive policy support and long-term investment. The need for policies that provide incentives and facilitate investment is crucial in supporting the green sector in underdeveloped areas.

4. Cultural Resistance in the Adoption of Green Technology

Cultural resistance is one of the main obstacles in the adoption of the green economy, especially in the traditional agricultural sector. Some farmers are skeptical of modern farming methods that are considered more expensive and have not been tested locally. These results support research by (Costanza & Daly, 1992) which found that resistance to change is a major challenge in the application of new technologies in the agricultural sector in Indonesia. Providing incentives and educational approaches based on local culture can help reduce this resistance and increase the adoption of the green economy.

5. The Role of Policies and Government in Encouraging the Green Economy

The role of government policies in supporting the green economy is very clear from the results of this study, especially in areas that already have special regulations, such as Bali. Policies that support the reduction of single-use plastics and promote clean energy provide a positive example of the real impact of policy interventions. A study by (Bowen & Fankhauser, 2011) confirms that consistent policies and regulatory support are key in driving a green economy at the local level. On the other hand, the lack of guidance and incentives in some regions hinders the development of the green sector, which shows that the central government needs to develop more structured and comprehensive policies for the regions to implement.

D. Conclusion

This research shows that the green economy has significant potential in supporting sustainable regional development in Indonesia. Sectors such as renewable energy, sustainable agriculture, and waste

management show great opportunities to create new jobs, increase local economic resilience, and preserve the environment. The results of the study revealed that the understanding of the community and local governments towards the concept of green economy is very diverse, with areas that have higher awareness, such as Bali and Yogyakarta, showing more rapid development. However, the implementation of the green economy in various regions faces challenges, especially in terms of funding, access to environmentally friendly technologies, and cultural resistance to changes in traditional methods. The study also highlights the importance of strong policy support and incentives for green projects at the regional level. Clear policies and incentives from the central and local governments have proven to support the adoption of the green economy in various sectors. To achieve sustainable regional development in Indonesia, a more comprehensive approach is needed in implementing a green economy, including community capacity building, environmentally friendly technology subsidies, and the formulation of policies that are adaptive to regional characteristics. With the right approach, the green economy can be the main engine in inclusive, resilient, and sustainable development.

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