



Integration Model of “Riau Hijau” Program Implementation in Achieving Sustainable Development Goals in Riau Province

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Abstract

The "Riau Hijau" program represents a strategic initiative by the provincial government of Riau to integrate environmental conservation with sustainable development goals (SDGs). This study aims to develop an integrated implementation model for the Riau Hijau program to achieve the SDGs in Riau Province effectively. The findings reveal significant gaps in coordination, resource allocation, and community engagement, which hinder the program's success. Based on these insights, we propose a model incorporating multi-stakeholder collaboration, robust monitoring and evaluation frameworks, and enhanced capacity-building initiatives. This integrated model aims to ensure the sustainable management of natural resources, reduce environmental degradation, and promote socio-economic development. The study underscores the importance of a holistic approach to policy implementation, which aligns local environmental initiatives with global sustainable development targets. By implementing the proposed model, Riau Province can advance towards a more sustainable and resilient future, balancing ecological preservation with economic growth and social well-being.

Keywords: Implementation Integration Model, Riau Hijau, Sustainable Development Goals (SDGs)

1. Introduction

The Riau Hijau Program is an effort by the Riau Provincial government to optimize the management of natural resources to improve the welfare of the community towards sustainable development. The program is based on Riau Governor Regulation No. 9 of 2021 which emphasizes the importance of nature conservation and sustainable management of natural resources. Sustainable development is a concept that emphasizes the importance of optimizing natural resource management to improve community welfare. The goal of sustainable development in Riau Province is to achieve environmentally sound development in a comprehensive and integrated manner.

The Riau Hijau Program is an effort by the Riau Province government to optimize the management of natural resources to improve the welfare of the community towards sustainable development. Here are some reasons for the importance of this program in (www.ppid.riau.go.id), (infopublik.id):

1. **Environmental Damage and Pollution Control:** The Riau Hijau Program aims to improve the control of environmental damage and pollution through the optimization of natural resource management.
2. **Natural Resource Management:** This program also aims to improve the quality of natural resource management to improve community welfare.
3. **Energy Mix from Renewable Energy Resources:** The Riau Hijau program also aims to increase the energy mix of renewable energy resources to improve community welfare.
4. **Government Commitment:** The Riau Hijau Program is the commitment of the Riau Province government to improve the welfare of the community towards sustainable development.
5. **Support from Various Elements of Society:** The Riau Hijau Program cannot be carried out alone by the Environment and Forestry Agency (LHK), but must involve various elements of society and mutual cooperation of all parties.
6. **Green Economy and Low Carbon Awards:** The Riau Provincial Government has won special awards for Green Economy and Low Carbon, demonstrating the government's commitment to the environment.
7. **Impact on Riau's Economy:** Riau's economy showed a strong recovery trend with growth of 4.88% in Q2 2022, higher than the previous quarter.
8. **Support from Private Sector:** Companies in Riau are committed to making Riau Green, such as PT Riau Andalan Pulp and Paper (RAPP) (mediacenter.riau.go.id).
9. **Greening Plant Seedling Planting:** The Riau Hijau program is carried out through a reforestation movement of planting plant seedlings in various areas in Riau to reduce greenhouse gas emissions.
10. **Program Achievements:** The achievements of the Riau Hijau program are very satisfactory, by increasing the control of environmental damage and pollution, improving the quality of natural resource management, and increasing the energy mix from renewable energy resources.

Sustainable natural resource management is an important strategy to improve community welfare. Here are some examples of how sustainable natural resource management can improve people's welfare according to <https://infopublik.id>:

1. **Controlling Environmental Damage and Pollution:** Sustainable natural resource management can help control environmental damage and pollution. For example, the Riau Hijau program conducted by the Riau Provincial Government has successfully reduced greenhouse gas emissions and improved air quality in Riau Province (fitrariau.org).
2. **Natural Resource Management:** Sustainable natural resource management can help improve the quality of natural resource management. For example, the Riau Hijau program has successfully improved natural resource management in Riau Province, such as palm oil and peat management.
3. **Energy Mix from Renewable Energy Resources:** Sustainable natural resource management can help increase the energy mix from renewable energy resources. For example, the Riau Hijau program has successfully increased the use of renewable energy in Riau Province, such as solar and wind energy.
4. **Government commitment:** Sustainable natural resource management requires strong government commitment. For example, the Governor of Riau, Syamsuar, has emphasized the importance of the Riau Green program to improve the welfare of the Riau people towards sustainable development.
5. **Support from various elements of society:** Sustainable natural resource management requires support from various elements of society. For example, the Riau Hijau program has successfully gained support from various elements of society, such as the Chinese community and the private sector.
6. **Green and Low Carbon Economy Awards:** Sustainable natural resource management can help increase green and low-carbon economy awards. For example, the Riau Provincial Government has won special awards for Green and Low Carbon Economy.
7. **Impact on Riau's Economy:** Sustainable natural resource management can help boost Riau's economy. For example, Riau's economy showed a strong recovery trend with growth of 4.88% in Q2 2022, higher than the previous quarter.

The main objective of this research is to develop an integration model for the implementation of the Riau Hijau program in achieving SDGs in Riau Province.

2. Research Methods

The research method used is a literature study by identifying the main sources from which literature will be collected, including: articles from indexed and reputable journals, relevant reference books, previous related academic research, reports from government agencies, NGOs, and international organizations, and papers presented at scientific conferences as well as sources from online media.

3. Results and Discussions

A. Implementation Integration Model of Riau Green Program

Implementation integration is a process that involves combining several systems, sub-systems, or components into one system that functions in an integrated and harmonious manner. This process is carried out to improve the efficiency, effectiveness, and quality of the system, as well as to meet broader organizational needs (Hudaya & Barni, 2022).

The Riau Hijau Program is an effort by the Riau Provincial government to optimize the management of natural resources to improve the welfare of the community towards sustainable development. Here are some examples of how the Riau Hijau program implementation integration model works:

1. **Natural Resource Management:** The Riau Hijau program focuses on sustainable natural resource management. For example, the program has successfully improved natural resource management in Riau Province, such as palm oil and peat management (<https://infopublik.id>) (Manalu, 2020).
2. **Energy Mix from Renewable Energy Resources:** The Riau Hijau program also focuses on improving the energy mix of renewable energy resources. For example, the program has successfully increased the use of renewable energy in Riau Province, such as solar and wind energy.
3. **Government Commitment:** The Riau Hijau program requires strong government commitment. For example, the Governor of Riau, Syamsuar, has emphasized the importance of the Riau Green program to improve the welfare of the Riau people towards sustainable development (Subhan et al., 2022).
4. **Support from various elements of society:** The Riau Hijau program requires support from various elements of society. For example, the program has managed to gain support from various elements of society, such as the Chinese community and the private sector.
5. **Green Economy and Low Carbon Awards:** The Riau Hijau program can help increase

green and low-carbon economy awards. For example, the Riau Provincial Government has won special awards for Green and Low Carbon Economy.

6. Impact on Riau's Economy: The Riau Hijau program can help improve Riau's economy. For example, Riau's economy showed a strong recovery trend with growth of 4.88% (yoy) in the second quarter of 2022, higher than the previous quarter which recorded growth of 4.72%.

An integration model that can be applied in the implementation of sustainable development programs in Riau Province:

1. Ecosystem Integration Model
This approach emphasizes holistic natural resource management, considering the interactions between components in an ecosystem (Sayer & Campbell, 2004). Development policies must integrate the management of forests, peatlands, rivers, and other ecological elements to maintain the balance and sustainability of the ecosystem (Millennium Ecosystem Assessment, 2005).
2. Stakeholder Integration Model
This model emphasizes the involvement and collaboration of various stakeholders, including government, private sector, local communities, and non-governmental organizations (Ansell & Gash, 2008). Integration can be done through the formation of forums, public consultations, and joint decision-making to align interests and achieve sustainable development goals (Reed, 2008).
3. Policy Integration Model
This approach emphasizes the alignment and synchronization of policies in various sectors related to sustainable development, such as the environment, economy, and social (Rowe & Frewer, 2000). Policy integration can be done through the preparation of comprehensive and cross-sectoral sustainable development strategies and action plans (Lafferty & Hovden, 2003).
4. Spatial Planning Integration Model
This approach emphasizes integrated land use and spatial planning to maintain a balance between economic development and environmental conservation (Selman, 2000). Integration can be done through spatial planning based on zoning, ecological corridors, and strategic area development (Selman, 2006).

The implementation of sustainable development programs in Riau Province can use a combination of various integration models, adjusted to regional conditions and needs. An integrated and collaborative approach is expected to increase the effectiveness and sustainability of development

programs.

Based on a literature review, here are some integration models that can be applied in the context of regional or local development:

1. Regional Policy Integration Model
This approach emphasizes the synchronization and harmonization of regional development policies in various sectors, such as economic, social, and environmental (Meijers & Stead, 2004). Integration can be done through the preparation of comprehensive and cross-sectoral regional development strategies and action plans (Tosun & Lang, 2017).
2. Regional Spatial Planning Integration Model
This approach emphasizes integrated land use and spatial planning to maintain a balance between economic development and environmental conservation (Selman, 2006). Integration can be done through spatial planning based on zoning, ecological corridors, and strategic area development on a regional scale (Scholl, 2013)
3. Regional Institutional Integration Model
This approach emphasizes strengthening integrated institutions and governance at the regional level, including coordination between local governments, the private sector, and communities (Bache & Flinders, 2004). Integration can be done through the formation of forums, public consultations, and joint decision-making to align interests and achieve regional development goals (Ansell & Gash, 2008).
4. Regional Development Partnership Integration Model.
This approach emphasizes the development of strategic partnerships between government, the private sector, and communities to support sustainable regional development (Healey, 1998). Integration can be done through the development of business models, financing schemes, and development programs that involve various stakeholders (Bramwell & Sharman, 1999).

The implementation of these integration models in the context of regional or local development must be adjusted to local conditions and needs. An integrated and collaborative approach is expected to increase the effectiveness, efficiency, and sustainability of regional development programs.

B. Implementation of the Riau Green Program

Based on the literature review, an evaluation of the effectiveness of the integration model used in the Riau Hijau Program can be carried out as follows:

1. Regional Policy Integration Model
Evaluation: The Riau Hijau Program has

- attempted to integrate various cross-sector policies such as economic, environmental, and social through the preparation of the Riau Green Regional Action Plan. Effectiveness: Quite effective in synergizing policies, but still needs to improve coordination and stronger synergy between related agencies/departments.
2. **Regional Spatial Planning Integration Model**
Evaluation: The Riau Hijau Program has integrated land use and spatial planning through zoning and development of strategic areas based on conservation. Effectiveness: Quite effective in maintaining a balance between economic development and environmental sustainability, but still needs improvement in implementation and monitoring.
 3. **Regional Institutional Integration Model**
Evaluation: The Riau Hijau Program has involved various stakeholders, including local governments, the private sector, and the community, through public consultation forums and joint decision-making. Effectiveness: Quite effective in aligning interests, but still needs to improve capacity and stronger institutional commitment.
 4. **Regional Development Partnership Integration Model**
Evaluation: The Riau Hijau Program has developed strategic partnerships between government, private sector, and community, such as ecosystem-based financing schemes. Effectiveness: Quite effective in supporting the sustainability of the program, but still needs to increase diversity and a wider scale of partnerships.

In general, the Riau Hijau Program has been quite effective in implementing integration models in the context of regional development. However, there are still several aspects that need to be improved, such as coordination, institutional capacity, and diversity of partnerships, in order to increase the effectiveness and sustainability of the program.

This Riau Hijau Program must be supported by sufficient finances from the Riau provincial government, the Central Government and the private sector, for this reason it is necessary to increase the legality of the program from the original Governor's Regulation to a Regional Regulation, so that the existence of the Riau Hijau Regional Regulation will have a significant impact on the success of the program. It is hoped that in the future the Riau Hijau program will be followed by regencies and cities throughout Riau Province.

The social, economic, and environmental impacts of the Riau Green program can be done by analyzing several aspects, namely:

1. **Social Impact:**
Increasing the involvement and empowerment of local communities in the management of natural resources and the environment. Increasing community access to basic services, such as clean water and sanitation (Increasing community capacity and awareness in preserving the environment and reducing disaster risks However, there are still issues related to social inequality and conflicts of interest that need to be addressed more comprehensively
2. **Economic Impact:**
Increasing community income and welfare through livelihood diversification Increasing economic added value from more sustainable natural resource management Creation of new jobs and business opportunities for the community However, there are still challenges related to the development and market access for local products that have not been.
3. **Environmental Impact:**
Reducing the rate of deforestation and forest degradation and increasing forest cover Increasing the ability to adapt and mitigate climate change Improving water quality, flood control, and improving river ecosystems However, there are still issues related to the restoration of damaged ecosystems and waste management that need more attention.

4. Conclusion

1. **The Importance of Forest and Peatland Conservation**
The findings show that Riau's forests and peatlands play an important role in maintaining ecological balance, such as carbon storage, water management, and biodiversity (Murdiyarso et al., 2010). Development policies should prioritize forest and peatland conservation, by limiting land conversion and increasing the recovery of damaged ecosystems (Wijedasa et al., 2017).
2. **Wise Utilization of Natural Resources**
Economic development in Riau must be carried out by considering the principles of sustainable development, such as efficient use of resources, recycling, and minimizing waste (Selman, 2017). The development of environmentally friendly economic sectors, such as ecotourism, organic farming, and green industry, must be a priority (Buckley, 2012).
3. **Empowering Local Communities**
The findings show that local communities have traditional knowledge and practices that can contribute to sustainable forest and peatland management (Berkes et al., 2000). Development policies must involve and empower local communities, so that they can

- become partners in conservation efforts and utilization of natural resources (Colfer, 2005).
4. Cross-Sector Coordination and Partnership Sustainable development in Riau requires good coordination between government, private sector, and civil society (Lemos & Agrawal, 2006). Policies must encourage the formation of effective partnerships among stakeholders to align interests and achieve sustainable development goals (Ansell & Gash, 2008).

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