

MASTER PLAN AND ROADMAP FOR REGIONAL DEVELOPMENT 2019-2045

Toward Green Growth In *Bumi Sepucuk Jambi Sembilan Lurah*

Jambi Provincial Government

Master plan and roadmap for regional development 2019-2045

Toward Green Growth In Bumi Sepucuk Jambi Sembilan Lurah

Jambi Provincial Government 2019

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General Information:

This document is a complete text of the Jambi Renewable Natural Resources Based Economic Growth Masterplan 2019-2045. The master plan and roadmap for green growth is generated by discussion and agreements among stakeholders in Jambi Province, through stakeholder involvement, the integration of various development plans, and supported by adequate data and information. It is important to realize that there are some constraints on the availability of data in the preparation of the Green Growth Master Plan so that at the implementation stage of the Road Map, several steps and data are still needed to sharpen and improve the accuracy of the analysis that has been done. It should be understood that the preparation of the Green Growth Road Map is carried out at the provincial level, so that the level of detail, scale and accuracy of data and analysis are adjusted to this level. If this Road Map is to be adopted at the district level, further analysis is needed with sufficient data for that level.

Because of the limited time for the preparation of the Green Growth Master Plan, there are still several processes that should carried out to solicit comprehensive inputs from both the national and district levels that concern the local context. Thus, this Green Growth Master Plan document should be treated as a living document that can always be improved, both through improving data, input and additional learning from implementation pilots at the site level. Besides, with the development of time, given the rapid dynamics in many ways in this era of globalization, this document must be reviewed and updated from time to time.

Preparatory Team:

The preparation of this document involved stakeholders comprising representatives from the Jambi Provincial Government under the coordination of the Regional Development Planning Agency (Bappeda), district government agencies (OPD), NGOs/CSOs, associations of private sectors (GAPKI, GAPKINDO, and APHI), academics and other civil society elements. World Agroforestry (ICRAF), Bogor, Indonesia facilitated the activities, developed the methodology and analyzed the data for the development of the Green Growth Plan supported by the Green Trade Initiative Foundation/Yayasan Inisiatif Dagang Hijau (YIDH).

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The Government of Jambi conveys high appreciation to all stakeholders who contributes and assists the process of developing Green Growth planning

Foreword by The Governor Of Jambi

We praise and thank God Almighty because of His grace; we were allowed to improve the welfare of Jambi Province.

Jambi Province has an area of 5,343,572 hectares and consists of nine districts and two cities. In the year 2018, the population is 3.5 million. Jambi Province has a geographically strategic location close to the Indonesia-Malaysia-Singapore Growth Triangle (IMS-GT). Moreover, Jambi's natural resources are abundant across its landscape from the lowlands to the highlands, land, and sea. Jambi Province is a major producer of agricultural commodities such as rice, rubber, palm oil, cinnamon, coffee, areca nut, fish and livestock, as well as mineral such oil and coal. These main commodities of Jambi Province have potential economic benefits for the regional economy and the people of Jambi.

Historically, the mining and quarrying sector dominates the Regional Gross Domestic Product (RGDP) of Jambi Province. However, since 2014, the sectors of agriculture, forestry, and fisheries have emerged as the greatest contributors to the GRDP with an increasing share of up to 29.41%. Due to its ecosystems, farming systems and economic roles, regions within the province are recognized as upstream, midstream, and downstream development zones.

Due to natural resources-based economic activities that are unsustainable, various problems, ranging from the degradation of land cover, forest and land fires, underdeveloped human resources and institutional capacity, up to land ownership conflicts, have been encountered by Jambi Province, despite its economic growth. Through the green growth expected outcomes, Jambi Provincial Government seeks to boost economic growth from the land-based sector via sustainable land-use management, increasing human resources and institutional capacity, and increasing connectivity and sustainable value chains. The series of strategies and the roadmap is compiled from stakeholders' study in Jambi Province and analyzed using a foresight, scientific model. The synthesis is formulated into the master plan that translates the vision expected outcomes of green growth based on renewable natural resources in Jambi Province.

The governor and the ranks of the government of Jambi Province acknowledge the efforts of the technical team and all those who have been involved in the preparation of the master plan. We believe this document can guide the province, district and city governments, the community, and sustainable development partners in Jambi Province in achieving sustainable green growth. Through a green growth, Jambi Province simultaneously contributes strongly to the Nawa Cita, the Nationally Determined Contributions (NDC), the Paris Agreement, and the Sustainable Development Goals.

Jambi, November 2019

Governor of Jambi Province

Dr. H. Fachrori Umar, M. Hum

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Glossary

APBD	Regional Budget					
APBN	National Budget					
APHI	Indonesian Forest Entrepreneurs Association					
APL	Other Purposes Area					
Bappenas	National Development Planning Agency					
Bappeda	Regional Development Planning Agency					
BAU	Business as Usual					
вот	Build Operate Transfer					
BPN	National Land Agency					
BPS	Statistics Indonesia					
BRG	Peatland Restoration Agency					
BUMDes	Village-owned Enterprise					
CH4	Methane gas					
CO2eq	Carbon dioxide equivalent					
CPO	Crude Palm Oil					
CSR	Corporate Social Responsibility					
DAK	Special Allocation Fund					
DID	Regional Incentive Funds					
DPSIR	Driver Pressure State Impact Response					
DTK	Special Transfer Fund					

FGD	Focus Group Discussion
FLEGT	Forest Law Enforcement, Governance and Trade
FLORAS	Forest Landscape Opportunity Restoration Assessment
FMU	Forest Management Unit
FSC	Forest Stewardship Council
GAP	Good Agricultural Practice
GAPKI	Indonesian Oil Palm Association
GAPKINDO	Rubber Association of Indonesia
GGP	Green Growth Plan
Gapoktan	Association of Farmers Groups
GHG	Greenhouse Gas
На	Hectare
HCS	High Carbon Stock
HCV	High Conservation Value
HD	Village Forest
НКМ	Community Forest
HPH	Forest Concession Rights
НРК	Convertible Production Forest
нті	Industrial Plantation Forests
HTR	Community Plantation Forest

INSTANT	Information System for Sustainable Land Management				
ISP0	Indonesia Sustainable Palm Oil				
IUPHHK	Business License of Timber Forest Product Utilization				
KPI	Key Performance Indicator				
LP2B	Sustainable Food Crops Farmland				
LQ	Location Quotient				
LUMENS	Land-use Planning for Multiple Environmental Services				
M&E	Monitoring and Evaluation				
NGO	Non-governmental organization				
OPD	Local Government Agency				
GRDP	Gross Regional Domestic Product				
PINA	Non-Government Budget Investment				
PP	Government Regulation				
PPLH	Environmental Protection and Management				

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Executive Summary

Background

Jambi Provincial Government has made sustainable development a priority by targeting on green growth. Achieving green growth means increasing the productivity of the agricultural and forestry sector while protecting its forests and peatlands. Today, Jambi Province's economy depends on its wealth of natural resources through the contribution of agriculture, forestry, and fisheries. Natural resources-based sectors accounted for 29.41% of the GDP of Jambi Province in 2017. This utilization of natural resources has supported community welfare, reflected from the poverty rate that is lower than the Sumatra island and national. Even so, an economy that depends on natural resources risks environmental degradation through land clearing, land conversion, and the exploitation of natural resources. The adoption of the green growth approach is expected to increase the productivity of the agriculture and forestry sector while strengthening sustainable environmental management and restoring forests and degraded lands. Green growth seeks to synergize the roles and partnerships between the government, the private sector, and civil society in realizing balanced land management that supports social welfare. This Green Growth Master Plan contains approaches, strategies, and a roadmap to achieve green growth in Jambi Province from 2019 to 2045.

Opportunities

Jambi's socio-economic conditions and advantages can be optimized to achieve green growth. The natural resource-based economy in Jambi is supported by high-value commodities such as rubber, timber, rice, coconut, cinnamon, coffee, and areca nuts. In general, the main considerations of green growth planning in Jambi Province include: (i) Regional governments' policy support and partnerships with various parties for sustainable development; (ii) Leading plantation commodities as a strategic economic sector; and (iii) A strategic location for the marketing and distribution of these commodities.

Challenges

The main risk of a natural resources-based economy is the environmental pressures leading to environmental degradation. Some of the examples of the observable impacts are the critical state of the Batanghari Watershed due to the high sedimentation, regular drought and flooding in some regions, and annual forest and land fires disasters in Jambi Province. A World Bank report from 2016 on forest and land fires showed that the Jambi Province sustained IDR 11.8 trillion of economic losses due to fires in 2015. As such, an effective green growth strategy is needed to address the five main challenges faced by Jambi Province, namely: (i) Unbalanced management between protected and cultivation areas; (ii) Massive natural disasters, including land and forest fires caused by human interventions; (iii) Overlapping licenses and land tenure conflicts; (iv) Unsuccessful land restoration of former mining areas; (v) Incomplete plantation master plans, including the land allocation for the main commodities.

The Green Growth Expected Outcomes for Jambi Province

The green growth for Jambi Province is adapted from five expected outcomes of national-level green growth:

- 1. Sustainable economic growth
- 2. Inclusive and equitable growth
- 3. Social, economic, and environmental resilience
- 4. Healthy and productive ecosystems that provide environmental services
- 5. Reduction of greenhouse gas emissions

The Scope of Green Growth

The land-based sector (forestry, plantations, agriculture, and fisheries) is the primary focus in the preparation of the green growth master plan. The plan seeks to stimulate the development of seven leading commodities, i.e., rubber, coffee, palm oil, cinnamon, coconut, areca nut, and rice. The green growth plan recommends in detail aspects of increasing productivity through various GAP efforts, infrastructure improvements, and strengthening agricultural, plantation and forestry institutions. Improvement of the value chain that promotes the fair distribution of benefits for farmers to the parties involved. The GGP also conveyed the need to develop various downstream industries based on local needs and stakeholder aspirations. Another recommend regarding the improvement of governance and management of natural resources and human resources in Jambi Province through improved access to livelihood capital.

Approach

The Jambi Province Green Growth Master Plan is based upon a landscape approach, particularly a jurisdictional approach in this case. This approach bridges the interests of development and environmental sustainability through balancing the various demands of competing land-uses. The document and the analysis were prepared based on three main principles: (i) inclusiveness, (ii) integration and synchronization, and (iii) data validity. The analysis applies the systems approach in both problem identification and in formulating the strategies to deal with these problems. Besides. the green growth master plan uses a cross-sectoral and regional economic analysis approach through input-output analysis. Whereas, land-use dynamics are modelled based on data on land requirements and proximate drivers of land-use changes. This modelling approach is used to simulate various policy scenarios, land allocation, agricultural and plantation expansion, changes in productivity, and commodity prices to understand the exante impacts of the scenarios. Some indicators of ecosystem services, in addition to economic indicators, such as GHG emissions, habitat fragmentations, and watershed buffering capacity, are produced from the ecological model. Together with the economic and land-use change models, the ecological model constitutes the suite of models. which is packaged as a tool called LUMENS (Landuse planning for multiple environmental services).

Master Plan for Green Growth in Jambi Province

The Jambi Province Green Growth Master Plan is built upon three strategies, as follows:

- 1. Land-use, land restoration, and the sustainable increase in land productivity
- 2. Human resources and institutional capacity through increasing access to livelihood capitals and environmental services
- 3. Connectivity and sustainable value chains

The economic growth supported by land-based economic sectors in Jambi Province requires proper land-use planning to avoid adverse future environmental impacts. Therefore, strategy 1 addresses land-use planning that can balance the allocation and restoration of lands as well as increase land productivity sustainably. The demand for cultivated land needs to be balanced with the need for the ecological protection of the landscape. This can be achieved through the allocation of lands for uses that suit its biophysical and socio-economic characteristics. These efforts are complemented by the recovery of landscape functions or the restoration of degraded land. An appropriate land allocation can ensure land development in line with its functions. Therefore, the increase in land productivity is required in the agriculture, plantation, forestry, and fisheries sectors. The application of the appropriate technology and good agricultural practices maximize the production per unit of land and reduce the need for agricultural expansion.

Strategy 2 improves the enabling condition and increases the capacity of smallholder communities to participate actively in achieving green growth. The strategy addresses the access to livelihood capitals, as well as through recognition of their contributions in maintaining ecosystem health. and therefore services to meet a broader societal need. This strategy covers five livelihood capitals, i.e., natural capital, social capital, financial capital, physical capital, and human resources capital. This strategy also addresses the importance of establishing and implementing mechanisms for incentives, disincentives, and innovative funding for environmental services. The reward mechanism of environmental services is important in ensuring the sustainability of financial and non-financial investments to reduce greenhouse gas emissions, increase resilience, preserve environmental guality, and provide environmental services that benefit the community.

Strategy 3 focuses on the connectivity of producers and consumers through the development of connecting infrastructure and value chains as well as processing industries for the main commodities. The development of downstream industries increases the added value of plantation commodities, on the condition that the economy of scale of the raw agricultural products allows. Furthermore, increasing the connectivity between economic centres can stimulate equitable development and facilitate the flow of goods and services.

Roadmap for Green Growth in Jambi Province

The green growth roadmap outlines three strategies comprising 37 interventions. Each intervention has the desired outcome, a recommended indicator, and enabling policy. Furthermore, each intervention is broken down into activities along with an indication of the timeframe for their implementation into three periods between 2019 and 2045. Financing options are also listed for each activity consisting of Specific Allocation Funds, Provincial Budget, District/City Budget, Village Funds, Regional Grants, Public-Private Partnerships, Regional Loans, Bonds, and Environmental Economic Instruments. Also, three business cases are provided to address. potential thematic programs as follows: (i) the development of downstream rubber industries: (ii) the development of the timber industry; and (iii) the improvement of the value chain of coconut. These business cases also outline the investment options for the private sectors.

The Projected Impact of the Green Growth Master Plan

Based on five expected outcomesfor green growth in Jambi Province, sixteen macro indicators were compiled and analyzed under two development scenarios: business as usual (BAU) and green growth. The master plan for green growth in Jambi Province leads to the reduction of greenhouse gas emission intensity to 0.86 tons CO2eg/IDR million in the year 2045. This emission intensity is much lower than in the BAU scenario, which leads to 1.31 tons CO2eg/IDR million. This means that green growth can reduce 34% emission intensity compared to BAU. The green growth scenario also projects a reduction in deforestation by 96.93%. The plan is also expected to increase biodiversity, indicated by lower habitat fragmentation or higher Degree of Integration for Focal Area (DIFA) of 10.23, compared to the DIFA of 7.95 in the BAU scenario. In addition to indicators of environmental quality, economic indicators are also taken into consideration. The application of the green growth scenario will increase GRDP by around 13.6% more than in the BAU scenario. Other economic indicators, such as labour absorption, wages, and business benefits, showed a similar trend.

Green Growth Governance

Green Growth plan is a comprehensive plan to integrate all the stakeholder in the implementation stage. Its implementation cannot be separated from other development plan and local-level stakeholders integration. The government should lead Green Growth as the initiator and facilitator. The green growth master plan is a long-term priority that the local regulations should refer to. The plan must be mainstreamed into long-term development plans and in regional spatial plans. This effort ensures the sustainable implementation of green growth across multiple election periods. For this, green growth should be mainstreamed into government planning, implementation, and M&E processes at multiple stages. The mainstreaming stages include: (1) ensuring regional development programs include green growth indicators; (2) allocating some of the regional budgets for green growth activities; (3) monitoring and evaluation of measurable and future outcomes. The third one includes the process of integrating green growth plan indicators into regional development performance indicators.

Effectivecommunication and strategic partnerships among multiple stakeholders are crucial for green growth to be implemented successfully. The green growth plan is very dependent on existing local people's conditions. As such, it is better to prepare it as regional planning that is in line with local government policies, environmental and social conditions. Moreover, in order to spread out the understanding of green growth for local people, it required effective communications in the form of stakeholder partnership program. Partnerships have to be developed from shared commitment and cooperation between parties. This document has mapped strategic partnership targets through the identification of parties linked to green growth. Multi-stakeholder involvement in green growth

governance is needed to mobilize funding from various sources, i.e., from the government, the private sector, as well as grants from various institutions.

The monitoring and evaluation (M&E) is crucial in ensuring the transparency, the communications, the accountability, and the reviews of the sustainability and success of green growth governance. In evaluating the implementation of green growth plan, it is necessary to focus on how green growth plan can be impactful in generating positive outcomes. In the green growth assessment, the design of macro indicators was built from participatory processes among stakeholders in Jambi Province, and therefore should capture their areen growth expectation. Improved data collection mechanisms were used by prioritizing disaggregate data, focusing on indicators, and standardizing assessment indicators are an important part of Monitoring & Evalution process.



SARAYANAF NGANIE NG BARAT

KMB, FANDUNGAAIRING UMUR

Jambi toward green growth

'Sepucuk Jambi Sembilan Lurah' refers to national unity, the unity of the people and territory of Jambi in the frame of the Unitary State of the Republic of Indonesia. It symbolizes the wealth of resources and the greatness of the Province of Jambi, from sialang lantak besi until durian batakuk Rajo and Tanjung Jabung. The Provincial Government of Jambi carries out the vision of 'Jambi Tuntas in 2021' i.e., Orderly Excellent Pleasant Fair and Prosperous. This stresses the urgency of implementing green growth which is in line with economic growth in Jambi Province.

Chapter 1 Jambi toward Green Growth



'Sepucuk Jambi Sembilan Lurah' refers to national unity, the unity of the people and territory of Jambi in the frame of the Unitary State of the Republic of Indonesia. It symbolizes the wealth of resources and greatness of the Province of Jambi, from *sialang lantak besi* until *durian batakuk Rajo* and *Tanjung Jabung*. The Provincial Government of Jambi carries out the vision of 'Jambi Tuntas in 2021', i.e., Orderly, Excellent, Pleasant, Fair, and Prosperous. This vision stresses the urgency of implementing green growth, which is in line with the economic growth in Jambi Province.

The Jambi Province Green Growth Roadmap will be used as the foundation for developing policies and implementing green growth in Jambi. It is consistent with the global commitment to the Sustainable Development Goals (SDGs) and the national green growth programs and targets. In general, the green growth master plan and roadmap for Jambi Province encourages the province to achieve sustainable green growth using land-based renewable resources and their derivatives. Nationally, green growth master plans and roadmaps are expected to support the achievement of nationally determined contributions (NDC) in reducing greenhouse gas emissions.

The Jambi Province Green Growth Master Plan integrates development plans and regional spatial plans to achieve shared goals in an inclusive, integrative, and informed manner. With the increasing awareness and commitment of stakeholders at the provincial and district level, the green growth master plan and roadmap are expected to be mainstreamed consistently into the Regional Medium-Term Development Plans (RPJMD) and the Regional Spatial Plans through multistakeholder involvement in the areas of policy development and Strategic Environmental Assessments (SEA).

The Jambi Province Green Growth Roadmap is based on spatially outlined green growth scenarios. It contains material to support policies, strategies, interventions, and programs. The roadmap is also equipped



with green growth indicators related to SDGs indicators as a basis for monitoring and evaluation.

1.1 Green Growth in Indonesia

Indonesia's Green Growth Program was launched in 2015 by the Minister of National Development Planning. It refers to national planning that respects and protects natural capital, increases resilience and grows the local economy inclusively and equitably. Indonesia's national expected outcomes for green growth include:

- 1. Sustainable economic growth
- 2. Inclusive and equitable growth
- 3. Socio-economic and environmental resilience
- 4. Healthy and productive ecosystems that provide environmental services
- 5. Reduction of greenhouse gas emissions

The Indonesian government has also adopted the sustainable development goals in its development plans, i.e., the RPJPN 2005-2025, RPJMN 2014-2019, and the RPJMN 2020-2024 draft. One of Indonesia's development missions in the RPJPN 2005-2025 is to 'Create a Beautiful and Sustainable Indonesia', which is carried out through:

- 1. Improving governance and implementing development that can maintain a balance between utilization and sustainability;
- The utilization of natural resources and the environment, while maintaining functions, the carrying capacity, and comfortable living in the present and the future. This is achieved through harmonious land-use management that plans for settlements, socioeconomic activities, and conservation efforts while increasing the economic utilization of natural resources and the environment sustainably;

Green economic growth can be defined as an effort to foster economic growth and development while ensuring that natural capitals can continue to generate products and environmental services for basic human welfare.

Green growth is a paradigm that seeks to improve human welfare and social equality by significantly reducing environmental risks and ecological scarcity (UNEP, 2010). The sustainable increase in the productivity of natural resources management is a way to improve community welfare.

The concept of sustainable development is the root and goal of green growth. Sustainable development itself has been introduced in the 1980s as an initial step to overcome the earth's environmental challenges. At present, there are 17 Sustainable Development Goals (SDGs) that countries around the world seek to achieve through global commitments.

Following the development of the concept of sustainable development, the concept of green growth was first proposed in 2005 as a new and low-emissions sustainable development model. Green growth is further developed into a way to achieve sustainable development goals. The concept of green growth demonstrates that protecting the environment does not mean sacrificing human welfare.

 Improving the management of natural resources and the environment to support the quality of life, provide aesthetics and comfort, and improve the protection and use of biodiversity as a foundation for development.

The government's commitment to reducing greenhouse gas emissions have been voiced in the RPJMN 2014-2019. In this medium-term development plan, Indonesia commits to lowering greenhouse gas emissions by 26% by the year 2019 for five priority sectors, i.e., forestry and peatland, agriculture, energy and transportation, industry and waste, and adaptation strategies to increase community resilience toward the impact of change climate in vulnerable areas. The RPJMN 2020-2024 draft also notes that Indonesia considers carrying capacity and environmental capacity in low carbon development planning.

1.2 Legislation and Regulatory Support for Green Growth

The regulatory framework and development planning documents provide a policy basis for implementing green growth. Constitutionally, Indonesia's policies and regulations are an adequate regulatory umbrella for the implementation of green growth in various areas covering various regulations concerning the environment, spatial planning, national development planning, sustainable development planning, greenhouse gas reduction, and strategic environmental assessments.

Law No. 32/2009 on Environmental Protection and Management

The application of green growth in Indonesia is marked by the issuance of Law no. 32/2009. This regulation has set quality standards for environmental planning, as well as the obligation to carry out an analysis of the carrying capacity of the environment in all planning documents. The law also discusses innovative funding for green development. The emergence of this law encourages the central and regional governments to give more attention to environmental aspects and the process of green development through policies and programs that are based on environmental economic instruments.

Law No. 26/2007 on Spatial Planning

Spatial integration is relevant for implementing green economy programs as it aims to align spatial planning with spatial allocation. Legislation on spatial planning clearly emphasizes the importance of environmental sustainability in spatial planning. The spatial planning law stipulates that spatial planning should consider three aspects: (i) establishing the harmony between the natural environment and the built environment, (ii) ensuring the integrated use of natural and man-made resources by considering human resources, and (iii) ensuring the protection of spatial functions and preventing negative impacts on the environment due to spatial utilization (Article 3).

Law No. 25/2004 on the National Development Planning System

This law is the legal basis for long-term, medium-term, and short-term development planning on the central and regional levels. Although the law does not discuss aspects of environmental sustainability explicitly, article 2 urges governments to pay special attention to this issue through the mandate to implement the environmentally-sound development. This legislation stipulates that planning involves the combination of stages into an integral cycle.

Presidential Decree No. 59/2017 on Implementation of the Sustainable Development Goals

As a regulation derived from the National Development Planning System Law, this regulation adopts and mandates a more comprehensive sustainable development. It stipulates that national development plans must be aligned with the Sustainable Development Goals (SDGs) as found in the document Transforming Our World: The 2030 Agenda for Sustainable Development. Regional governments must prepare regional SDG Action Plans (RAD TPB) because of this commitment.

Presidential Decree No. 61 of 2011 on the National Action Plan for Reducing Greenhouse Gas Emissions

This presidential decree focuses on GHG mitigation scenarios in the development sectors. It mandates regions to develop Regional Action Plans for Reducing Greenhouse Gas Emissions (RAD GRK). These action plans are integral parts of the provincial and district/city development strategies. RAD TPB and RAD GRK should be integral parts of the regional development planning to maximize synergy and avoid conflicting impacts.

Government Regulation No. 46/2016 on Strategic Environmental Assessment Implementation

In addition to the obligation to prepare RAD TPB and RAD GRK, the government must also carry out a Strategic Environmental Assessment (KLHS). Based on the implementing regulations (Ministry of Environment and Forestry Regulation No. 69/2017), environmental impact assessments must be integrated into the preparation of the two planning documents.

1.3 The Potential of the Green Growth Master Plan and Roadmap

Implementing 'green' development is not easy, despite the support of regulations and policies. Notably, there is a gap between the development plan and the spatial plan that makes it difficult to assess the level of sustainability and the 'green' indicators of a development program. Guidelines for the synchronization between development plans and spatial plans are available but rarely practiced. The gap becomes problematic in implementing green growth planning since programs should be spatially-explicit to ensure maximum productivity with minimum negative environmental impacts.

The green growth master plan and roadmap combine development planning and spatial planning. The primary aim of the green growth plan is to find a synergy between development goals and the sustainability of natural resources within the framework of achieving SDGs. This green growth plan follows the landscape approach¹ to generate spatially explicit assessments. Land resources are the focus of the analysis because of their strategic relevance to the fulfillment of various community needs. Analyses of land aspects produce strategies and activities that are easy to map spatially. The master plan for green growth can be a meeting point between the spatial plan and the development plan in achieving economic growth with a low environmental impact with multi-stakeholder involvement.

1.4 Jambi Province's Initiatives and Commitment Toward Green Growth

Jambi Provincial Government has demonstrated commitment and initiative by striving toward green growth. These initiatives include efforts to increase the production

Sayer et al. (2013), https://www.globallandscapesforum. org/about/what-is-the-landscape-approach/



of the agricultural and forestry sector while protecting and restoring forests and peatland. This is achieved through the strengthening of partnerships with the private sector, NGOs, conservationists, and civil society. Jambi has the momentum to begin the transformation towards green growth through political support, networking, and abundant natural resources.

The development of a macro plan and roadmap for green growth in Jambi follows a process that involves stakeholders, considers all aspects, and is supported by valid data and analysis. This plan and roadmap should be able to accommodate the global demand for products with high economic value while maintaining a healthy ecosystem and ensuring livelihoods equality for the whole society.

Through good planning, Jambi will not only be able to achieve the target of green growth but can also be an example for other provinces. At the same time. Jambi makes a significant contribution to Indonesia's efforts in achieving the Sustainable Development Goals. The planning process for Jambi's Green Growth Plan (GGP) is conducted through an iterative study of several development scenarios that consider aspects of land requirements of various stakeholders, social capital land allocation policies, land suitability, economic benefits (regional, business, and farmers scales) as well as environmental aspects. This comprehensive study resulted in a spatial land-use plan, the option of environmentallyfriendly silviculture practices for leading commodities, the increase in product values. and market improvements. In the end, the green development scenario is expected to achieve equitable economic growth with minimal environmental impacts (Figure 1-1).



Figure 1-1. The planning process for green growth in Jambi Province



KAB. TANJUNGJABUNG BARAT

KAB. TANJUNGJABENG TIMUR

Overview of Natural Resource Management in Jambi Province

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Ecologically, Jambi is home to various types of natural ecosystems, ranging from sub-mountainous ecosystems at Bukit Barisan to mangrove ecosystems at Tanjung Jabung Timur. Furthermore, Jambi's ecosystems' diversity stands out with the presence of peatland ecosystems that cover 14% of the total land area in Jambi or 4% of all peatland in Indonesia

Chapter 2 An Overview of the Natural Resources Management in Jambi Province

2.1 The Natural and Socio-Economic Conditions in Jambi

Jambi Province covers an area of 5.3 million hectares and is located in the central part of Sumatra Island. It has promising development potential in the form of renewable natural resources: (1) agriculture, forestry, and fisheries account for around 29% of Jambi's GRDP in 2017; (2) the largest area of landused in the year 2016 was for oil palm (> 1 million hectares); (3)in the last few years, the production of rice in Jambi has been above the national average; (4) agro-processing industries thrive in Jambi Province. In Jambi, rubber processing industries contributed more than 70% of the GRDP of the industrial sector in the year 2015; (5) export commodities that support the regional economy, among others rubber, the production forest industry, rice, coconut, cinnamon, coffee, and areca nuts (Arenga sp.) have sufficient suitable land sited at various locations in Jambi.

Ecologically, Jambi is home to various types of natural ecosystems, ranging from the submountainous ecosystem in the Bukit Barisan region to the mangrove ecosystems in the East



Tanjung Jabung area. This is further added by peatland ecosystems, which cover 14% of the total land area in Jambi or 4% of all peatland in Indonesia (National FEG Map, 2017).

Viewed from socio-economic indicators, the percentage of poor people in Jambi Province (7.9%) (BPS, 2018), is quite far below the national percentage of 9.8% (Figure 2-1). Compared to other provinces in Sumatra, the percentage of poor people in Jambi is



Figure 2-1. Comparison of the poverty rate in Jambi Province with other provinces in Indonesia

ranked third, behind West Sumatra and Riau. The relatively low poverty rate and relatively high Human Development Index (HDI 69.9 in 2017; BPS, 2018) in Jambi Province indicate that natural resource-based development can improve the welfare of society.

The progress achieved by Jambi Province is not without negative impacts. Notably, the degradation of environmental functions in the province is quite high, as seen from the conversion of natural ecosystems, which has decreased the quantity and quality of environmental services. The state of the Batanghari Watershed, the largest watershed in Jambi, is currently one of the direst in Indonesia. High levels of sedimentation and fluctuating river flows cause various environmental disasters such as drought and flooding. Successive forest and land fire incidents exacerbate this condition over the past few years. In the year 2015, the forest and land fires in Jambi Province affected an area of 115 thousand hectares (Sipongi, 2018).

Planning for green growth requires а comprehensive understanding of the development activities in Jambi and their consequences for environmental functions. Indeed, the planning process of formulating strategies. interventions. and areen development activities must be well-targeted. effective, and have and have a widespread effect. The chapter on the overview of natural resources in Jambi Province describes the dynamics of renewable resource management as well as the various consequences for ecological functions and the quality of environmental services in Jambi in the last 30 years.



The success of the development activities of a region that depends on the utilization of renewable natural resources is observable through an analysis of land-use dynamics. Changes in land-use in the Jambi Province are mostly triggered by the clearing of land for plantations for commodities such as palm oil and rubber. The expansion of plantation land is the greatest among other land-use changes (Table 2-1). Deforestation, or the conversion of primary forests into other land-uses, is the second-highest form of land conversion. Nevertheless, the expansion of plantations and deforestation shows a declining trend between the period of 2010-2015 and 2015-2018. In contrast, in these two periods, degradation and the expansion of agriculture land increased.

Land-use changes can be observed based on the extent of land for each function in the period of 1990-2018. Land cover is divided into 26 classes to determine changes and shifting trends during the last 28 years (Table 2-2 and Figure 2-2). During this period, primary forest mostly changed into secondary swamp forest and secondary high-density forest. Although it was the most extensive land cover. primary forest areas faced a continued decline from one year to the next whereas secondary high-density forest experienced the most significant decline in land cover from the vear 1990 until 2018. In contrast, oil palm has experienced the most significant expansion of 1.1 million hectares since 1990. Similarly. the extent of land for rubber plantations also tends to gradually increase from one year to the next. However, the total increase of rubber land area is only half of oil palm plantations. Based on this analysis, it can be concluded that forests experience the greatest land conversion pressure. Forest land tends to be converted into plantations, especially, oil palm and rubber.

The analysis of land cover dynamics shows that the highest deforestation rate occurred between 1990 and 2000 (Figure 2-3). Most of the deforested land, about 33%, converted into rubber plantations. Also, primary forests experience land conversion, mostly into secondary swamp forests during the same period.

From 2000 through 2005, there was a decrease in deforestation compared to the previous period. The conversion of primary forests to secondary forests also decreased significantly. As in the previous period, the land conversion was driven by the expansion of rubber plantations.

In the 2005-2010 period, a land conversion

	1990-2000	2000-2005	2005-2010	2010-2015	2015-2018	Jumlah
Deforestation	508.506	155.107	367.410	214.762	143.894	1.389.679
Degradation	154.482	25.967	82.975	29.794	48.925	342.143
Expansion of plantation land	639.836	321.828	464.087	491.664	459.563	2.376.978
Expansion of agricultural land	146.651	52.349	22.385	31.473	46.470	299.328
Expansion of agroforestry	268.014	163.244	221.517	221.663	155.980	1.030.418

Table 2-1. Extent of conversion in the period of 1990-2018 (ha)

trend emerged that was triggered by oil palm plantations. This conversion resulted in a significant increase in land for oil palm plantations compared to the previous period, reaching 85,938 ha. In the subsequent period (2010-2015), rubber re-emerged as the main trigger for land conversions, followed closely by oil palm and industrial timber forest. Despite land conversion still occurring, the rate of land degradation decreased by 42%. continued to decrease by 33% from 2015 to 2018. In this period, the area for rubber plantations declined, while the area of shrubs increased significantly to 18,890 ha. This condition shows that a substantial amount of land has begun to be abandoned or has not been used productively. Although historically the rate of deforestation and land degradation has declined in every period, the conversion of land-use into plantations was quite extensive.

Like the previous period, the degradation rate

	the design of the design	Area (Ha)					
No.	10. Land Cover Class/Tand-use		2000	2005	2010	2015	2018
1	Primary forest	958.510	810.478	768.965	711.218	656.749	606.759
2	Secondary high-density forest	975.363	742.492	661.292	427.929	278.989	173.974
3	Secondary low-density forest	200.969	143.128	131.121	104.809	103.317	127.311
4	Primary swamp forest	454.202	284.328	259.993	158.946	136.132	100.443
5	Secondary swamp forest	275.398	248.776	153.157	161.879	130.036	124.822
6	Primary mangrove forest	4.506	2.189	1.586	365	62	5
7	Secondary mangrove forest	3.958	4.900	5.268	5.915	5.274	4.226
8	Industrial timber forest	0	32.134	81.426	132.828	229.304	290.387
9	Mixed plantation	36.912	51.150	24.550	29.462	62.468	69.483
10	Coffee agroforestry	31.967	49.498	61.852	80.166	56.451	51.332
11	Rubber agroforestry	606.674	516.631	501.715	467.463	349.068	188.852
12	Rubber	661.454	926.562	977.691	1.029.804	1.093.910	1.140.830
13	Oil palm	184.022	414.971	542.303	798.367	1.037.059	1.313.681
14	Cinnamon agroforestry	16.862	24.773	28.199	40.492	75.735	80.189
15	Cinnamon	14.546	20.176	20.728	12.984	17.165	21.293
16	Coconut agroforestry	68.100	80.963	97.258	112.788	119.133	127.957
17	Coconut	27.322	43.676	43.891	46.435	50.249	43.085
18	Теа	3.583	3.583	3.583	3.583	3.583	3.583
19	Rice fields	79.761	123.876	132.833	111.799	94.390	64.045
20	Other annual crops	48.296	117.147	89.761	55.343	48.682	45.217
21	Shrubs	44.311	44.068	83.334	166.825	86.014	93.196
22	Grass	5.250	21.309	18.892	36.253	27.328	2.326
23	Cleared land	48.525	35.789	47.995	37.279	65.932	45.890
24	Settlements	27.006	34.887	40.089	44.551	50.434	58.501
25	Pond	3	16	18	17	36	113
26	Waterbody	58.476	58.476	58.476	58.476	58.476	58.476

Table 2-2. Land cover based on land cover class





Figure 2-2. The dynamics of changes in natural forest land cover for the period 1990-2018

2.3 Greenhouse Gas Emissions (GHG)

Land conversion in Jambi Province contributes to the production of greenhouse gas emissions. The magnitude of the produced emissions is calculated using the method of stock difference and the decomposition rate of peat. The analysis focused on changes in the land sector that occurred from 1990 through 2018. Mineral soils contribute 76.1% of emissions, whereas, the rest comes from peatland. Historically, the highest GHG emissions occurred between 1990 and 2000. The map of emissions from the land sector for 28 years (Figure 2-4) shows that West Tanjung Jabung District is the largest cumulative emitter. If only the period of 2015-2018 is observed, East Tanjung Jabung District is the most significant producer of emissions followed by the districts of Muaro Jambi and West Tanjung Jabung.



Figure 2-3. The rate of greenhouse gas emissions from the land in the period of 1990-2018

2.4 Regional Economy and Strategic Economic Sectors

The growth rate of Jambi Province's Gross Regional Domestic Product (GRDP) ranks fifth among all provinces on the island of Sumatra. Between 2001 and 2017, the average economic growth of Jambi Province was 5.6%. Jambi's GRDP growth rate is above Sumatra Island (3.9%) and the national average (4.9%) as illustrated in Figure 2-5. In 2013, Jambi's economic growth rate was recorded as the highest on the island of Sumatra, but the following year, this economic growth stagnated (2.9% in 2017).



Figure 2-4. GRDP growth rate of Jambi Province and the other provinces on Sumatra Island for the period of 2001-2017



Figure 2-5. Jambi Province GRDP per economic sector for the period of 2001-2017



Figure 2-6. GRDP growth rate of Jambi Province for the sectors of agriculture, forestry and fisheries in the period of 2001-2017

Based on data of Statistics Indonesia for 2017, the agriculture, forestry, and fisheries sectors have the most considerable contribution to the GRDP of Jambi Province. The average GRDP contribution of these sectors in the period of 2001-2017 reached 27% (Figure 2-6), followed by the mining and manufacturing sectors that contributed 26% and 12%, respectively. The agriculture, forestry, and fisheries sectors are some of the leading causes of deforestation and land degradation. Moreover, the GRDP growth rate of these sectors is relatively volatile over time (Figure 2-7).

2.5 Strategic Plantation Commodities

Jambi Province has 1,682,557 ha of plantations, 1,348,305 ha (80.13%) of which are community plantations (Plantations Agency Jambi Province, 2016). Most of the total plantation area is used for rubber plantations (49.34%), followed by oil palm (34.68%), coconut (8.79%), cinnamon (3.42%), Robusta coffee (1.63%), and areca nuts (1.53%) (Table 2-3).

Commodity	Area (ha)	Production (ton)	Productivity (ton/ha)	Location
Rubber	665,334	668,926	1.01	Merangin, Sarolangun, Batanghari
Palm oil	476,413	1031,215	2.16	Muaro Jambi, East Tanjung Jabung, Bungo
Coconut	118,543	104,528	0.88	West Tanjung Jabung, East Tanjung Jabung
Cinnamon	46,132	56,253	1.22	Kerinci, Merangin
Robusta coffee	24,575	13,434	0.55	Merangin
Arabica coffee	2,272	-	-	Kerinci
Areca nut	20,694	12,594	0.61	East Tanjung Jabung, West Tanjung Jabung

Table 2-3. Area and production of key plantation commodities in 2016

The Regional Short-Term Development Plan (RPJPD) has stipulated the development of downstream industries for regional agroindustrial commodities but this has not been optimal. The fourth five-year development directive(2020-2025)focusesonstrenathenina strategic industrial sectors through a variety of ways: (1) expanding the access of leading products from the processing industry into the regional, national, and international markets: (2) developing human resources potential by relying on regional strengths. The Regional Medium-Term Development Plan (RPJMD) contains two objectives that relate to the management of commodities, i.e., improving the management of natural resources and minerals that provide economic benefits for the region and the community. The second objective is to increase the quality of forest management. Two strategic plantation commodities have their master plans, i.e., the Rubber Master Plan 2016 and the Coffee Master Plan 2017

Based on the Ministry of Agriculture's statistical data on plantations for the period of 2010-2014, a Location Quotient (LQ) analysis was carried out to determine commodity specialization in Jambi Province in relation to national production (Box 2-1 and Figure 2-8). The analysis showed that the leading commodities (LQ> 1) in the year 2014 were cinnamon, rubber, and areca nuts. Jambi is the highest producer of cinnamon in Indonesia, primarily, Kerinci District. Changes in the LQ value for cinnamon (Δ LQ) in the period from 2010 to 2014 also showed a positive value.

Viewed from the value of LQ in different quadrants, cinnamon is the only commodity in Quadrant I that is leading and fast-growing. In Quadrant II several commodities are not so significant in relation to the national production but show growth. Robusta coffee is the most The Location Quotient (LQ) is a simple agricultural economic model to explain the direction and growth of an economic sector, and determines the distribution of commodities or identifies regions based on their potential, in this case, the potential of primary commodities in the plantation sector.

The location quotient (LQ) = (production of certain plantation commodities in Jambi Province/ total production of Jambi's plantation sector)/(production of certain plantation commodities at the national level/total production of the national plantation sector)

The LQ value obtained will be either smaller, equal to, or greater than 1, or $1 \ge LQ > 0$. The magnitude of the LQ value indicates the degree of specialization or concentration of specific commodities in an area (province) relative to the reference area (national). This means that a higher LQ value refers to a greater degree of concentration in the region.

Box 2-1. Location Quotient (LQ) and its calculation

prominent commodity in this quadrant. Coffee itself is a commodity that is prioritized by Jambi Province, as indicated by the publication of the master plan for coffee commodities. Coffee production in Jambi Province is among the most wide-ranging because it includes the types of Robusta, Arabica, and Liberica. Some types of coffee have received geographical indication certification, which will provide added value for coffee farmers.


Figure 2-7. LQ value and its changes in Jambi Province in the period of 2010-2014

The commodities in Quadrant III such as areca nuts and rubber need special attention given their high production but negative growth, even though rubber has the most extensive plantation land in Jambi Province. The position of palm oil between quadrant III and quadrant IV indicates a quite high contribution to the national production, although, still below a value of 1. The growth of palm oil is negative, despite being higher than areca nuts and rubber. The Jambi Province Plantation Master Plan 2019 contains the rejuvenation of palm oil as one of the strategies to increase the productivity of existing plantations. Quadrant IV shows non-leading and low-growth commodities such as cloves and cocoa. Commodities in this quadrant are relatively underdeveloped as they have relatively small production and are on the decline.



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Fair and Sustainable Renewable Resources Management

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The multi-stakeholder contribution is important in the preparation of the master plan which can be accomplished through strengthening partnerships with community groups, the private sector, government, and non-governmental organizations. Multi-stakeholder engagement is key to boosting the community's economic condition, whilst, managing and restoring forest and land damage.

Chapter 3 Fair and Sustainable Renewable Resources Management

3.1 Opportunities and Challenges

1. Opportunities

1. Local government policy support and multi-stakeholder partnerships for sustainable development.

Jambi Provincial Government, through its Vision Jambi Tuntas 2021. has committed to improving the sustainable natural resource management in the province. Various parties also support this commitment, such as local governments, the private sector, and non-governmental organizations/NGOs. This commitment is demonstrated by local regulations that facilitate strategic economic community development. One of these regulations is Jambi Province Regional Regulation No. 10 of 2012 concerning the Provision of Incentives and Ease of Investment that supports the development of leading commodities in Jambi Province for community welfare. This regulation is based on the awareness of the importance of developing downstream industries for the leading commodities of Jambi Province. Some companies contributed to developing

the main commodities. For example, PT Kirana Megatara Ltd (PT Djambi Waras Ltd) established source development in each rubber depot to provide technical assistance and apply good agricultural practices so that the rubber quality and the prices for local farmers can increase. The collaborative stakeholders' initiative, i.e., communities, farmers' groups, NGOs, and companies, was evident in the development of social forestry sites in Jambi Province. The development partners' support provides good momentum



for the sustainable development of primary commodities in Jambi Province.

2. Leading plantation commodities as a strategic economic sector.

The economic growth in Jambi Province has increased significantly by 4.99% in 2018 compared to the previous year (4.64%), despite being slightly below the national growth rate of 5.17% in 2018. Plantation commodities in Jambi Province are one of the strategic economic sectors accounting for 17.2% of the total provincial GRDP or IDR 26.3 trillion. This economic potential also provides employment opportunities for 649.959 households. The Development of Plantations in Jambi Province 2019 document lists seven leading commodities: rubber, palm oil, coconut, coffee, cinnamon, areca nuts, and sugar cane. These are grown all over the cities and districts of Jambi Province. These commodities have their characteristics and advantages, offering the economic potential for the region.

Rubber is the commodity with the largest plantation area in Jambi Province, i.e., 1,330,546 hectares in 2018. Rubber production



continues to increase with an average productivity of 1.7% per year during the 2010-2016 period. Several companies, one of which is PT Jambi Waras, have implemented a system to increase their competitive power and price for farmers. This innovation has the potential to improve the profits and welfare of farmers. Besides rubber, there are also several crude coconut oil factories using copra as raw material (there are 4 large companies) that operate for export purposes. Coconut production in Jambi Province is the thirdlargest source of smallholder production in Jambi Province, amounting to 104,528 tons per year in 2017. The coconut production from Jambi meets domestic market demand (Jakarta, Lampung, Batam) and is also exported (Thailand).

The next leading commodity is coffee, considering that there are three types of coffee grown in Jambi Province, i.e., Robusta, Arabica, and Liberica. One variety of these coffee types originates from the peatland of West Taniung District, namely Liberika Tungkal Composite or Liberika Tungkal Jambi (Libtujam). This variety is resistant to coffee leaf rust and can be planted in the lowlands and on marginal land like peat. Robusta coffee is widely planted in Merangin and Arabica in Kerinci. Libtujam Tanjabbar and Kerinci Arabica coffee already have geographical indication certification, while Robusta Merangin coffee is still in the process of obtaining a geographical indication. Cinnamon also has a geographical indication. Some cinnamon plantations are cultivated together with coffee with an agroforestry system.

3. Strategic location for the marketing and distribution of commodities.

Jambi Province has a strategic location because its administrative area borders the sea. The districts of West Tanjung Jabung and East Tanjung Jabung are strategically located for developing marine products. Besides, bordering the sea allows for the development of distribution ports: as such. the different commodity potential of Jambi Province can benefit from the presence of import and export ports. At present, Jambi Province has ports at Talang Duku and Muara Sabak but their limited capacity and the long queues make these ports unable to fulfill distribution needs. The provincial government in collaboration with Pelindo II is currently building the Ujung Jabung Port in East Jabung District as a strategic region regulated through Jambi Provincial Regulation No. 10 of 2013 concerning Jambi Province Regional Spatial Plan. Although the port is still under construction, the location of Jambi Province is strategic for distribution due to its proximity to the Ports of Teluk Bayur in West Sumatra and Bagan Siapi-api in South Sumatra. Until now. exporters tend to distribute goods through these two ports.

2. Challenges

1. The unbalanced management of cultivation and protected areas

Jambi is one of the provinces on the island of Sumatra with diverse natural resources potential. Unfortunately, this potential is unsupported by balanced management between protected and cultivation areas. Massive land clearing makes Jambi one of the provinces with the highest deforestation rate in Indonesia. Deforestation commonly occurs due to the conversion of forests into rubber and oil palm plantations. In addition, illegal mining practices still frequently occur. These practices damage the environment and even result in fatalities because of the absence of certified safety procedures. Large-scale land clearing for plantations and agricultural and mining practices threatens the quality of the ecosystem.



2. Massive natural disasters (e.g., land and forest fires) due to human interventions

Fire is one of the disasters that need to be anticipated in Jambi Province. Besides socio-economic impacts, fires also have environmental effects on carbon stock. dynamics. vegetation greenhouse aas emissions, and land-use changes (Bond et al., 2005). The increased frequency of extreme weather increases the risk of forest fires in Jambi Province, which have occurred annually from the year 2013 to 2018. The most massive fires in Jambi Province happened in 2015 on an area of 19,528 ha. In addition, floods are also a threat to the community, and until April 2019. there were still floods in several locations. Flooding is a growing problem considering that many rice fields in Jambi Province had crop failure after being inundated by floods.

One of the causes of flooding is the pollution in the Batanghari River.

3. Overlapping licenses and land tenure conflicts

The natural disasters that occur in the province of Jambi are, in part, caused by the decline in environmental quality caused by the exploitation of natural resources and land-use changes. Land issues are quite complex due to massive land conversion. This is further exacerbated by overlapping licenses that cause land tenure conflicts. Communities already occupy most concession areas (approximately 70%) of industrial plantation forests or forests with concession rights. Also, there are still many production forest areas and areas with other uses that lack clear responsible authorities. Most of the abandoned production forest areas are unregulated and are overgrown with shrubs.

4. Land restoration of former mining sites is unsuccessful

The fall in coal prices has resulted in the abandonment of many mining sites by entrepreneurs. In addition, unlicensed gold mining (PETI) conducted by the community has left holes along the river and in other areas. Supervision and law enforcement are still minimal for both illegal mining and legal mining without post-mining reclamation processes. These conditions further aggravate the conditions of unmaintained or misallocated land.

5. The incompleteness of the plantations master plans, including the allocation of productive land for primary commodities.

The land-use plan has not sufficiently managed the allocation of productive land. Jambi has many main commodities, yet, the province has designed plantation master plans only for rubber and coffee. One of these is oil palm, whereas, this land-use expands massively in almost all regions. This expansion needs to be controlled to prevent damage and disturbance to protected land. Minimal land regulations resulted in conflicts in some regions such as coffee cultivation in a national park. Members of the community also use land in protected peat swamp forests. The lack of supervision and law enforcement leads to land tenure violations. In fact, most concession companies (oil palm, plantation forests) experienced land disputes and conflicts with the community.

Problems of mapping occur on agricultural land unequipped with agricultural land suitability maps. Rice cultivation is a sector that still needs to be encouraged, considering its productivity is still below the national average whereas the expansion needs





improvement and infrastructure development, especially irrigation. Through the affirmation of the Sustainable Food Crops Farmland (LP2B), the paddy rice cultivation area cannot be converted to other uses. Alternative rice cultivation, such as in swamps or peatland rarely happens, despite several attempts to implement it.

The system of commodities development along the value chain is not well-managed.

Land in Jambi Province is mainly developed for growing primary commodities that support economic growth, especially for the community. However, unfortunately, the implementation of commodity development systems such as productivity, diversification. and supply chains are still constrained in the field. The plantations, especially for rubber and oil palm, are aging and require revitalization and rejuvenation. The productivity of palm oil, which is managed mostly independently, is still low, making it difficult for companies to accept production from independent oil palm smallholders. Viewed from the human resources side, many farmers lack knowledge of quality and post-harvest handling.

Cinnamon cultivation is also still managed traditionally and has not gone through land cultivation intensification. Moreover, coffee commodities that have geographical indication certification do not take optimal advantage of this status. Moreover, only some parties benefit from this certification, which tends to cause ownership conflicts. Besides the production process, farmers also encounter problems in distributing their products. For example, only 16 out of around 40 rubber processing and marketing units (UPBB) are active. These units tend to be controlled by capital owners, which hinders rubber farmers. Currently, rubber production is only able to meet the demand of small and medium businesses (SMEs) in Java. However, farmer groups face business capital constraints such as for machinery and production costs in their efforts to develop an independent derivative business.

3.2 Green Growth Expected Outcomes

In early 2019, Jambi Province committed to an environmentally sustainable regional development during the preparation of the green growth master plan. The expected outcomes of green growth is designed in harmony with the province's six missions.

The economic condition of the people of Jambi is dependent upon the land based sector, e.g., plantation commodities, agriculture, and food crops where land suitability and climate conditions are two important aspects of achieving regional economic growth and community welfare. Refer to projected several regional economic indicators consisting of GRDP, income, and output, show a decline in the rate of economic growth in the forecasted period (2020-2045). The contribution of the land sector will stagnate due to the limitations of the carrying capacity. Therefore, green growth strategies are needed to achieve the development target in future sustainability.

To achieve the expected outcomes of green growth, strategies and plans need to be integrated with the provincial development plans and spatial plans, with the participation of all stakeholders in its process. The targets of green growth are aligned with Indonesia's national expected outcomes and adapted to the context of Jambi Province as follows:

- 1. Sustainable economic growth
- 2. Inclusive and equitable growth
- 3. Social, economic, and environmental resilience
- 4. Healthy and productive ecosystems that provide environmental services
- 5. Reduction of greenhouse gas emissions

3.3 Scope

The preparation of the green growth master plan focuses on forestry, plantations, and agriculture-based commodities. Other sectors, such as infrastructure, industry,



mining, and services, are included as supporting activities in achieving green growth. The multi-stakeholder contribution is essential in the preparation of the master plan, which can be accomplished through strengthening partnerships with community groups, the private sector, government, and non-governmental organizations. Multistakeholder inclusion is critical in stimulating the economic situation of society and at the same time, managing and restoring damage to forests and land. The analysis focused on landbased sectors, which entail the assessment of environmental and socio-economic aspects and land-use planning.



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The Landscape Approach in Planning Green Growth

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Ecologically, Jambi is home to various types of natural ecosystems, ranging from sub-mountainous ecosystems at Bukit Barisan to mangrove ecosystems at East Tanjung Jabung. Furthermore, Jambi's diversity of ecosystems stands out with the presence of peatland ecosystems that cover 14% of the total land area in Jambi and make up 4% of all peatland in Indonesia.

Chapter 4 The Landscape Approach in Planning Green Growth

4.1

Technical Framework and Planning Tools

The development of the green growth master plan is based on three principles namely inclusivity, integrative, and well-informed. The first principle, inclusivity, prioritizes the involvement of stakeholders from various backgrounds to share their aspirations and to discuss and come to an agreement on plans for the future. The expectation from the involvement of stakeholders is that it can collect views on land management and tenure to be planned more fairly and comprehensively. The second principle is integrative, namely the effort to prepare conservation plans and land-use plans on an ongoing basis to avoid separate approaches (silos). The integration of the green growth master plan with the spatial plans and the development plans is an integral part of the process to ensure the implementation of sustainable policies.



INCLUSIVE

Active involvement of the stakeholders in discussing their aspirations and negotiating a plan that will be mutually agreed upon. Strategies and interventions address community, knowledge, and local contexts

INTEGRATIVE

Integrated development, conservation, and spatial plans, policies and the processes to avoid silos



INFORMED

The projected social, economic and environmental impacts of green growth scenarios are accommodated using accurate and up-to-date data and information as a basis for trade- off analysis and selecting an appropriate scenario

Figure 4-1. The main principles of green growth plans

The third principle is to prioritize the use of valid data. The analysis that was used in the preparation of this document is based on data. information, and evidence-based modeling. Environmental and socio-economic impacts were analyzed ex-ante and modeled to form the basis of the plan that was negotiated with the stakeholders in Jambi Province. Secondary spatial and non-spatial data was used and categorized by theme, i.e., economic, environmental, and social. Policy documents were also assessed. The data for the land analysis comprised multiple timeframe landuse maps that describe Jambi's primary commodities, carbon stocks, biodiversity, rainfall, river discharge, soil types, fires, and GHG emissions

For an adequate analysis that forms the basis for developing a green growth scenario,

multidisciplinary analysis processes are needed. This process resulted in a wide range of comprehensive analyses for estimating the expected green growth conditions. The scenarios were used to develop various green growth strategies containing recommendations for dealing with land-use, socio-economic, and ecological problems.

Figure 4-2 below shows the planning framework for developing various green growth strategies that consider aspects of land-use allocation, various development practices/ programs, economic and financial policies, and the estimated impacts on various green growth indicators. These analysis models are interconnected to form an integrated system of analysis.



Figure 4-2. The analytical framework for planning green growth



4.2 Workflow

The planning process for green growth involves five main stages: (1) stakeholder engagement and partnership formation, (2) preparing business-as-usual (BAU) scenarios, (3) forming agreements on green growth objectives, (4) developing green growth scenarios and ex-ante analysis, and (5) preparing a roadmap for green growth. The process is based on three main principles: inclusivity, integrative, and well-informed. The technical analysis for managing data and carrying out development plan simulations uses LUMENS (Land-use Planning for Multiple Environmental Services), which can accommodate spatial analysis, ecological and economic modeling, and can run development scenario projections to obtain the ex-ante conditions.

The stages of stakeholder engagement and partnership formation ensured that this document contains the aspirations of all parties. This process is facilitated through brainstorming sessions, workshops, and focus group discussions (FGD). The process successfully built collaborations among local government agencies (OPD), the private sector represented by the management and company members of the Indonesian Forest Entrepreneurs Association (APHI), the Indonesian Oil Palm Association (GAPKI), the Rubber Association of Indonesia (GAPKINDO). and several non-government interest groups. Good relationships between stakeholders facilitated the collection of data and information and the formation of agreements.

The business-as-usual (BAU) scenario is developed to discover the current and projected conditions by considering the present circumstances as well as the government's development plans and planned activities by stakeholders in Jambi Province. This scenario is based on data and information on development from various documents and stakeholders. This stage also provided information on various multisectoral activities that make up the regional economy.

The process of agreement formation on green growth goals was intended to gain an understanding of the desired outcomes for the future. These participatory agreements were based on the regional development goals as determined in the Regional Short-Term Development Plan (RPJPD), Regional Spatial Plan (RTRW), and the Regional Medium-Term Development Plan (RPJMD) and based on the set of the opinion of the stakeholders. As a reference, this green growth plan is expected to offer new ideas from stakeholders that go beyond the formal procedural development planning process.

The development of the scenario for green growth follows the stages of identifying various strategic development problems, preparing the desired outcomes, land demand analysis, agreeing on targets for macro indicators of green growth, and developing strategies and intervention plans for green growth. This iterative process is also carried out for the ex-ante analysis to achieve the goal of green growth assessed from macro indicators of development.

The continuous revision of scenarios was carried out to find macro indicators that are in accordance with the agreed targets. The green growth strategy and interventions are spatially explicit and presented as maps. This allows for further analysis of locations, distribution, and other quantitative aspects of the strategy. The roadmap for green growth further translates the produced intervention plans. The preparation of the roadmap commenced by compiling various development activities that could be included in each intervention plan. Then, each activity was detailed with various information to simplify the mainstreaming process by stakeholders. The green growth roadmap also contains information related to the distribution of authority, identification of funding sources, the parties that implement activities, and the order of activities based on estimated time allocation/stages of the activities.



Figure 4-3. The workflow of the green growth plan preparation



Source: Jambi Province Regional Spatial Plan

Figure 4-4. The zones of Jambi Province

4.3. Development by Zoning Approach

An inclusive process with multi-stakeholder engagement was accomplished by compiling the aspirations of several government representatives from the districts of East Tanjung Jabung, Batanghari, Tebo, and Kerinci. They represent the East Zone as a distribution area, the Central Zone as a productive area, and the West Zone as a conservation area. The purpose of this process is to (1) present the concepts and framework for the preparation of the documents and a roadmap for green growth; (2) identify the linkages between the visions and missions of each area with provincial green growth, relevant programs, and activities, as well as actors, challenges and opportunities; (3) identify leading commodities, upstream to downstream value

chains, and intervention options; (4) identify regional context: diversity between districts, specificity, infrastructure, connectivity between regions, and connectivity with other areas. This process provided the data and information that is used in the preparation of the document that covers the needs of the entire Province of Jambi.

The three zones have different regional characteristics. The downstream zone consisting of the districts of West Tanjung Jabung, East Tanjung Jabung, Muaro Jambi, and Jambi City is directed as a center for the distribution of products to other regions, nationally and internationally. The distribution points are the Ports of Kuala Tungkal, Muara Sabak, and Ujung Jabung.

The central zone consists of the districts of Batanghari, Sarolangun, Tebo, and Bungo. The purpose of the land-use is to meet the needs



Figure 4-5. The process of building inclusiveness among stakeholders

of people who live in flat and hilly areas. The development directive for the central zone is for the use of natural resources, trade and services, and manufacturing industries.

The upstream zone, consisting of the districts of Merangin, Kerinci, and Sungai Penuh, is a mountainous area with a limited range of land-use. This zone is directed to facilitate the production flow from Bengkulu to Jambi Province and develop tourism by promoting ecotourism and the use of renewable energy.

Activities at the district level explore many of the regional development strategies. The introduction of the concept of green growth received positive responses from the stakeholders involved in the roadshow. In this meeting, several important inputs were obtained for the preparation of documents and roadmap. Several problems that were raised by stakeholders demonstrated their sensitivity to the unique conditions of their respective regions. Many of the discussed regional needs point to the need for development interventions aimed at improving the welfare of the community and environmental quality, especially from the sustainable development perspective.





Analysis and process of preparing the road map



Discussion and writing of draft documents

April 2019

Workshop on the preparation of a road map for green growth in Jambi Province



Jambi Province Green Economy Development Strategy Workshop

December 2018

Data collection process, interview, FGD with district/ city

November 2018

Workshop on setting targets for achieving green growth in Jambi Province







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The Green Growth Plan

The green growth strategy is a holistic, integrative, thematic, and spatially translated framework intended for optimal economic growth. Meanwhile, it prevents undesirable ecological degradation and the uncontrolled utilization of natural resources.

Chapter 5 The Green Growth Plan



The green growth strategy is a holistic, integrative, thematic, and spatially translated framework intended for optimal economic growth. Meanwhile, it prevents undesirable ecological degradation and the uncontrolled utilization of natural resources. The green growth strategy is based on the vision and mission of the Jambi Provincial Government: Orderly, Excellent, Pleasant, Fair, and Prosperous. This noble vision is further developed through an inclusive and integrative process and is supported by a valid databased technical analysis. Further, the vision was translated into strategies, interventions and green development activities suitable for the landscape and socio-economic conditions of Jambi Province. This chapter describes in detail the six points of Jambi Province's green growth strategy along with the desired outcomes of each strategy. The benefits and impacts of applying these strategies are outlined in various macro indicators generated through a series of technical analyses based on the latest research in the fields of biophysics, social studies, and economics. This chapter concludes with a detailed description of the interventions for each of Jambi Province's green growth strategies.

5.1 Strategies for Green Growth

The overall green growth strategy is outlined into three strategies that focus on the seven leading commodities of Jambi Province, i.e., rubber, palm oil, coffee, cinnamon, coconut, areca nut, and rice. Each strategy is then detailed into thematic interventions that are specific to the socio-economic context of Jambi Province. Each intervention is further broken down into a series of activities that cover the whole green growth implementation process. Jambi Province's three-point green growth strategy consists of:

1. Land-use, Land Restoration, and the Sustainable Increase in Land Productivity



1. | Land-use

The economic growth of Jambi Province is supported almost entirely by the land-based economic sector. Without proper planning, the tendency for uncontrolled land-use will have adverse environmental impacts in the future. Therefore, land-use planning which balances the demand for land and its availability, is one of the keys to achieve green growth in Jambi. The demand for cultivated land must be balanced with the need to protect the landscape's ecological function. Furthermore, land for cultivation must be allocated appropriately so that economic activities can provide optimal benefits. One way of achieving this is by developing renewable resources at locations that are biophysically and socio-economically suitable. The inappropriate allocation of land will lead to sub-optimal economic growth. For example, the production of agricultural commodities falls far below expectations Moreover, protected and conservation areas in Jambi Province need to be well-preserved.

In addition, degraded areas with protected functions need restoration. The overall landuse interventions required in Jambi Province to achieve green growth are outlined in strategy 1: sustainable land-use allocation to balance the demand and availability of land.

2. | Land restoration

Without a doubt, past developments in Jambi province have caused various forms of ecological degradation. Deforestation, forest fires, drying of peatlands, river pollution, and reduced biodiversity are forms of apparent ecological degradation in Jambi Province. These types of degradation, especially those occurring in protected areas, must be immediately restored through the proper landscape restoration. Restoration is a long process that seeks to restore landscape functions according to their original form and condition. The sixth item in the green growth strategy of Jambi Province is recovering the forest and land functions according to their allocated functions. The strategy is not limited to the restoration of ecological forests into natural forests, but it also includes livelihood revitalization. Restoration has the potential to improve land availability to meet various discrepancies in land needs. In addition, restoring functions will increase environmental Furthermore, comprehensive resilience restoration efforts will eventually prevent further degradation in the future.

3. | Increased productivity

For an area that relies on renewable natural resources, the productivity of land-based sectors such as agriculture, plantation, forestry, and fisheries are the main pillars of economic growth. Through the application of appropriate cultivation technology and techniques, the production per unit of land in Jambi Province can reach an optimal level. In turn, this means that growth does not necessarily translate into

land extensification or expanding the area for growing commodities. For regions that are developing but have limited resources, an increase in production per unit of land based on technology is appropriate compared to an increase in production triggered by market demand. Cultivation technology and techniques suitable to the local context will not only result in increased production but will also lead to learning and understanding and ultimately result in sustainability. However, increasing production is not the only way to guarantee high-value benefits for the landscape in Jambi Province. Commodity diversification is a crucial step in avoiding over-dependence on some commodities that currently have high economic value. Diversification will reduce the vulnerability of agricultural activities to market determinants such as price and investment.

Furthermore, increased production and commodity diversification will lead to sustainable improvements in the market chain and commodities value chain. A good market chain ensures equitable benefitsharing between farmers, intermediaries, and the industry. Whereas, the right value chain will lead to an increase in the added value of commodities through the supply of highquality raw materials consistent with market demand. Improved market and value chains will eventually deliver multiplier effects to the overall economy of Jambi Province.

2. Human Resources and Institutional Capacity through Increasing Access to Livelihood Capitals and Environmental Services



Community involvement in development activities is an absolute prerequisite for achieving sustainable and equitable economic growth. To participate effectively in development efforts, communities need adequate access to five forms of livelihood capitals, i.e., natural capital, social capital, financial capital, physical capital, and human resources capital. The region's livelihood resilience depends entirely on the expertise of the local government in ensuring the accessibility and continuity of these five livelihood capitals. Loss of or reduced access to one livelihood capital will not only reduce the community's opportunity to participate in development but could result in development inequalities that cause various social problems. The second item for the green growth strategies in Jambi Province outlines the required forms of intervention by the province to ensure current and future access to the five livelihood capitals.

The mechanisms of incentives, disincentives, and innovative funding for environmental services are very effective for achieving green growth. These mechanisms ensure the continuity of financial and non-financial investments for lowering greenhouse gas emissions, increasing resilience, maintaining environmental quality. and providina environmental services. Law 23/2009 already stipulated these mechanisms, but until now. its implementation is limited to the local scale or pilot projects. Likewise, global incentive programs for the reduction of GHG emissions (REDD+), to date, have not been implemented. This strategy is innovative for Jambi Province since incentive mechanisms and funding for environmental services at the provincial level for integrative green growth interventions are not yet widely practiced.

3. Connectivity and Sustainable Value Chains



Besides emphasizing sustainability, green growth also stresses equity. Everyone should get the benefits of sustainable development. Regional connectivity is one of the keys to guarantee interlinkages, which eventually ensures the distribution of development benefits. The flow of goods and services in an area requires robust connectivity so that the added value of products can be enjoyed optimally without the excessive burden from high transport costs. In addition to intra-region linkages, Jambi Province's linkages with other areas outside of the province (i.e., regional, national, and global) are an essential concern in efforts to achieve green growth. Linkages with outside regions will offer opportunities for value-adding through active trade activities. In addition to connectivity, it is crucial to develop economies of scale via the development of downstream industries. Through the development of economies of scale, higher added value can be generated by processing raw materials and ingredients into products with high economic value. With the availability of leading commodities in the province of Jambi, such as rubber, coffee, cinnamon, and palm oil, the development of economies of scale should already be an important part of the provincial green growth strategy.

Strategy	Desired Outcomes
1. Land-use, Land Restoration, and the Sustainable Increase in Land Productivity	 A balance between production and protection functions Equity in land tenure between communities, the government, and companies Reduced conflict and overlapping licenses Adequate and equitable land-use control Determination of priority areas for restoration of degraded functions Development of the right commodities by considering biophysical, and socio- economic suitability Optimal productivity of various leading commodities in Jambi Province that drive the regional economy
2. Human Resources and Institutional Capacity through Improving Access to Livelihood Capitals and Utilization of Environmental Services	 Increased human resources capacity in Jambi, which is based on improving community access to livelihood capitals The formation of various community and farmers institutions that are dynamic in managing sustainable natural resources Partnerships and collaboration in collectively managing and funding conservation functions Governance and policies that support the schemes of compensation/reward for environmental services between regions (KIJL) and payment for ecosystem services (PJL) based on efficient and equitable performance. Fair licenses and markets for ecosystem services to ensure a sustainable supply.
3. Fair connectivity and value chains	 Availability of supporting facilities and infrastructure that can facilitate economic activities and distribute goods/services (economic outlets) Ease of distribution of products through the provision of connecting roads enabling the reduction of transportation costs Connectivity between activity centers through improving the quality of roads and bridges A variety of supply chains and market chains with a balanced division of roles from the farmer to the user inside and outside of the region Various downstream industries based on leading commodities that can encourage the development of activities in the upstream sector and absorption of members of the community in the job market

Table 5-1. Desired outcomes of the green growth strategies



The green growth plan for Jambi Province includes an impact analysis of sixteen important macro indicators of development. The impact projection provides information on the increase in the performance of various indicators in the green growth scenario, as shown in Table 5-1.

Figure 5-1 shows the estimated effectiveness of the green growth scenario for Jambi Province in reducing GHG emissions from land-based activities until 2045. By the year 2045, the green growth scenario is projected to reduce emissions by 19.8% compared to BAU.

One of the crucial indicators that stakeholders agreed upon in the planning process is GRDP (Gross Regional Domestic Product). GRDP figures show regional economic performance as a driver of development. Based on the analysis, the green growth scenario is projected to increase the GRDP of Jambi Province.

The projected emission intensity illustrating the relationship between economic and environmental aspects (GHG emissions)





displays the significant impact of the green growth scenario. Figure 5-3 shows that the green growth scenario will reduce the overall intensity of emissions.

All estimates for the green growth performance are presented in Table 5-2. Explanations regarding each definition and the scope of the indicators are presented in the appendix.



→ GGP2: (+) Improving Productivity, Diversification, Value Chain, Connectivity → GGP3: (+) Value Chain, Economic of Scale, and Industrialization

Figure 5-2. Comparison of projections for the Gross Regional Domestic Product (GRDP) in the business-as-usual (BAU) and green growth (GGP) scenarios



---- Business As Usual (BAU)

---- GGP1: Land Allocation (only)

→ GGP2: (+) Improving Productivity, Diversification, Value Chain, Connectivity → GGP3: (+) Value Chain, Economic of Scale, and Industrialization

Figure 5-3. Comparison of projections of emission intensity in the business-as-usual (BAU) scenario and the green growth (GGP) scenario

	2045	0.86	5,226,837	5,320,111	4,282,904	3,016,514	51.2%	9.77%	1.77	88.69%	262.75	30.83	10.23	36.69%	31.30	64.60	29.87
	2042	0.88	2,447,470 57	21,288,635 2	27,714,756 23	14,799,360 29	51.4%	9.70%	16.1	88.93%	260.7	30.48	10.33	36.67%	32.00	64.41	29.96
	2039	16.0	19,594,421 55	17,432,162 2	17,602,215 22	70,900,337 28	51.3%	9.61%	2.19	89.19%	258.1	48.75	10.44	36.65%	32.78	64.18	29.99
	2036	0.95	104,104 51	13,832,017	17,628,069 21	57,204,392 27	51.4%	9.51%	2.58	89.48%	255.72	42.08	10.56	36.63%	34.13	63.93	29.93
h Plan	2033	1.00	11,420,131 46	0,489,470	91,053,648 20	35,650,818 25	52.8%	9.46%	3.08	89.80%	252.3	37.30	10.69	36.60%	35.40	63.66	29.95
n Growt	2030	1.06	14,776,146 4	7,565,951	9,922,882	8,833,535 2:	55.9%	9.39%	4.28	90.16%	248.43	32.51	10.84	36.57%	37.89	63.37	30.30
Gree	2027	1.17	327,442,230 38	5,174,354	147,602,143 16	181,334,133 20	60.4%	9.34%	6.46	90.55%	242.99	40.33	11.01	36.52%	42.78	63.08	30.97
	2024	1.35	69,434,651	3,351,706	24,497,300	53,026,989	67.4%	9.38%	9.85	90.94%	234.87	34.78	11.23	36.47%	51.87	62.75	32.26
	2021	1.77	14,896,402 2	2,121,527	02,388,471 1	26,036,971 1	78.1%	9.65%	19.09	91.32%	223.97	29.57	11.52	36.41%	77.78	62.21	39.24
	2018	4.39	191,098,712 2	1,462,389	78,706,403 1	96,853,734 1	96.8%	10.58%	57.72	91.31%	209.16	40.48	11.99	36.38%	175.38	59.87	66.69
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Table 5-2. Macro-economic growth indicators of Jambi Province along with a comparison of the ex-ante impacts of BAU and GGP

5.3 Green Growth Interventions

These green development interventions are detailed and tangible efforts for each formulated strategy. The interventions are described based on desired outcomes, indicators to measure interventions' outcomes, and their enabling policies.

1. Interventions Strategy 1: Landuse, Land Restoration, and the Sustainable Increase in Land Productivity

The interventions in strategy 1 relate to (1) improving land-use concerning responsible authority, demand, and availability of land, and existing land-use; (2) restoring degraded lands by planting commodities with economic value, and (3) a variety of efforts to increase the productivity of land management (Table 5-3).

Intervention Desired outco		Suggested Indicators			Enabling Policy			
1.1. Allocation and land-use in line	Integration between demand and the	1.	The institutional operationalization of the one	•	Law no. 26/2007 concerning Spatial Planning			
and availability of land by considering protected areas	land by allocating commodity development	2.	Operationalization of land- use procedures based on a one map-one data policy	•	Law no. 32/2009 concerning Environmental Protection and Management (PPLH)			
through the application of a one	application of a one map policy	3.	The total human resources for the one map policy	•	Government Regulation no. 16/2004 concerning Land-			
map policy		4.	The frequency of information dissemination to community groups	•	use Management Presidential Decree No. 9/2016 concerning			
		5.	The number of physical borders in the field		Acceleration of the One Map Policy (Scale 1:50,000)			
		6.	The number of violations of land permits that were identified and handled	•	Presidential Decision No. 20/2018 concerning the Authority to Access			
		7.	. The extent of protected forest		Geospatial Data and Information through the National Geospatial			
		8.	8. The extent of deforested and degraded land		Information Network for the Acceleration of the One Map Policy			
				•	Ministry of Economic Affairs Regulation No. 2/2019 concerning Synchronization of Thematic Geospatial Information in the framework of the One Map Policy			

Table 5-3. Details of interventions, desired outcomes, indicators and enabling policies in Strategy 1

Intervention	Desired outcomes	Su	ggested Indicators	En	abling Policy	
1.2. Allocation and mapping of access to forest	Equitable economic growth at the landscape level	1.	Total Community Forests, Peoples Plantations, and Village Forests	•	Ministry of Environment and Forestry Regulation No. 83/2016 concerning Social	
area for community livelihoods with priority for pockets of poverty	through the allocation of NTFP expansion in poor village locations	2.	Frequency of multi- stakeholder meetings and dialogues related to social forestry		Forestry Ministry of Environment and Forestry Regulation No. 27/2018 concerning	
		3.	Number of partnerships established between companies and the community		Guidelines on Borrow-to- Use Forest Area Permits	
		4.	Community income from NTFPs and ecotourism sources			
1.3. Allocation of access - tenure	Achieving the ideals of Agrarian	1.	The income of people in poor villages	•	Ministry of Environment and Forestry Regulation	
of land from the release of forest areas for livelihoods	Reform related to livelihoods and land tenure in poor and marginal villages	Reform related to livelihoods and land tenure in poor and	2.	The total area of Agrarian Reform Land Objects (TORA) land release		No. 5/2018 concerning Procedures for Releasing Forest Areas and Changing
in poor villages (Agrarian Reform)		3.	 Number of certificates of ownership issued through the TORA program Number of TORA areas used for productive activities 	•	Forest Area Boundaries for Agrarian Reform Land Objects	
		4.			Government Regulation No. 6/2007 concerning Forest Administration and Compilation of Forest Management Plans, and Forest Utilization	
				•	Government Regulation No. 104/2015 concerning Procedures for Changing Forest Use and Functions	
				•	Ministry of Environment and Forestry Regulation No. 12/2015 concerning the Development of Industrial Plantation Forests	
					The decision of the Minister of Environment and Forestry No. 180/2017 concerning Indicative Maps of Forest Area Allocation for the Provision of Land Resources for Agrarian Reform Objects (TORA)	

Intervention	Desired outcomes	Su	ggested Indicators	Enabling Policy
1.4. Allocation and restoration prioritization of degraded landscapes	Restoration and reuse of idle and degraded lands through community land management efforts	 1. 2. 3. 4. 5. 6. 	Maps of degraded land locations (mines, peat, ex- fire, etc.) The extent of degraded and idle land Availability of native or near- native seedlings according to standards Number of seedlings planted Amount of ex-mining land reclaimed Number of illegal mining and excavation cases	 Regulation of the Minister of Energy and Mineral Resources No. 26/2018 concerning the Implementation of Good Mining Rules and Supervision of Mineral and Coal Mining Government Regulation No. 76/2008 concerning Forest Rehabilitation and Reclamation Jambi Province Regional Regulation No. 11/2013 concerning Reclamation and Post-Mining in Jambi Province
1.5. Revitalization and optimization of agricultural and plantation land	Increased productivity of leading agricultural and plantation commodities through land revitalization	 1. 2. 3. 	The extent of land determined as Sustainable Food Crops Farmland is in accordance with the projected population growth and land availability The number of conflicts related to agricultural/ plantation land expansion The extent of plantation area for seven leading plantation commodities	 Law no. 41 of 2009 concerning Protection of Sustainable Food Crops Farmland Presidential Instruction No. 8/2018 concerning Moratorium and Evaluation of Licensing for Oil Palm Plantations and Increasing Productivity of Oil Palm Plantations Jambi Province Regional Regulation No. 5/2012 concerning Food Security
1.6. Restoration of peat ecosystems	Natural peat ecosystems are preserved and managed in accordance with their allocated functions (cultivation, production of forest commodities,) through natural/ planting techniques and infrastructure.	 1. 2. 3. 4. 5. 	The extent of Forest and Land Rehabilitation (RHL) area Number of villages or community groups that received training Availability of land, facilities, and infrastructure for restoration RTT or RPP realization documents The extent of restored land	 Government Regulation No. 57/2016 concerning the Conservation and Management of Peat Ecosystems Regulation of the Minister of Agriculture No. 33/2006 concerning Plantation Revitalization Presidential Instruction No. 8/2015 concerning Moratorium of New License Issuance and Improvement of Primary Natural Forest and Peat Land Governance

Intervention	Desired outcomes	Sı	iggested Indicators	En	abling Policy			
1.7. Integrated forest and land fire	Low risk and frequency of forest	Low risk and frequency of forest		Low risk and 1. Amount of c frequency of forest assistance		Amount of community assistance	•	Regional Regulation No. 2/2016 concerning
management	fires in mineral and peatlands	2.	Availability of facilities and infrastructure for handling forest and land fires		Handling Forest and Land Fire Governor Regulation No.			
		З.	The amount of forest and land fire patrol personnel		31/2016 concerning the Forestry and Land Fire			
		4.	Map of distribution of fire- prone areas		lechnical Guidelines			
		5.	Map of hotspot distribution					
		6.	Number of forest and land fire cases handled					
1.8. Mapping and handling of conflict	Land disputes are resolved effectively	1.	Number of conflict-prone areas (community - state,	•	Law no. 39 of 2014 concerning Plantations			
areas	for a conducive social order	co co ide	community - companies, community – private sector) identified	•	Regulation of the Minister of Environment and Forestry No. 12/2015 concerning the			
		2.	Number of conflicts between communities and		Development of Industrial Plantation Forests			
			companies		Regulation of the Minister of			
			3.	Number of conflict resolution teams		Agrarian Affairs and Spatial Planning No. 11 of 2016		
		4.	Number of mediated conflicts		concerning Settlement of Land Disputes			
		5.	Number of memoranda of agreement on conflict resolution	conflict · Govern No. 37/ Position	Governor Regulation No. 37/2016 concerning Position, Organizational			
	6	6.	Number of reports and follow-up plans for conflict resolution		Functions and Work Procedures of the Forestry Agency			

Intervention	Desired outcomes	Su	ggested Indicators	En	abling Policy	
1.9. Rice field cultivation (irrigated, non-irrigated, and swamp/peat) by maximizing the use of low-emission seedlings and labeled organic	Low-emissions and integrated rice field cultivation (irrigated, non- irrigated, and peat/ swamp) is a common and sustainable	1. 2.	The extent of low-emissions rice fields (irrigated, non- irrigated, swamp/peat) Greenhouse gas emissions from rice fields (irrigated, non-irrigated, and peat swamps)	•	Law no. 41/2009 concerning Protection of Sustainable Food Crops Farmland Regional Regulation No. 5/2012 concerning Food Security	
fertilizers	practice for farmers	3.	Number of information dissemination activities for farmer groups regarding the use of low-emissions seedlings and labeled organic fertilizer			
		4.	The amount of funding for subsidies for low-emissions rice seedling (irrigated, non- irrigated, and peat swamps)			
		5.	The amount of organic fertilizer used in low- emission rice practices			
		6.	The amount of organic rice production			
		7.	The period of immersion of irrigated rice fields			
		8.	Farmer Exchange Rate			
		9.	The amount of water used for rice cultivation			
		10.	Number of farmers (irrigation, non-irrigation, swamp/ peat) applying low- emission rice cultivation			
1.10. Application of	Sustainable and	1.	Coconut production	•	Regulation of the Minister	
Practices (GAP),	cultivation with	2. 3.	Coconut productivity The extent of coconut		concerning Plantation	
of farming and	commodities, and		plantation rejuvenation		Regulation of the Minister	
post-harvest technology, and the development of the smallholder coconut	harvest and post- harvest technology to produce commodities with	4.	The extent of the intercropping area of coconut with areca nut, coffee, and cocoa		of Agriculture No. 93/2013 concerning Operational Standards for Procedures for Seed Certification and	
industry	high productivity	5.	Value of by-products of coconut intercropping		Quality Control of Coconut Seedlings	
	6	6.	Number of coconut processing activities by the community	•	Regulation of the Minister of Agriculture No. 67/2016 concerning Empowerment	
		7.	Household income of		of Farmers' Organizations	
			COCONULIARMERS	•	Governor Regulation No. 30/2013 concerning the Establishment of Integrated Food Villages	

Intervention	Desired outcomes	Suggested Indicators	Enabling Policy
1.11. Revitalization, rejuvenation, and management of rubber plantations using GAP	Sustainable rubber cultivation integrated with commodity diversification to produce rubber with high productivity	 The agroforestry rubber model Number of farmers skilled in sustainable rubber management Number of superior rubber seeds and intercrops distributed The extent of certified smallholder rubber nursery area The amount of fertilizer distributed for rubber management The extent of rejuvenated rubber plantation area 	 Regulation of the Minister of Agriculture No. 132/2013 concerning Guidelines for Good Rubber Cultivation Regulation of the Minister of Trade No.54 / 2016 concerning Quality Control of Rubber Processing Materials Jambi Province Regional Regulation Draft on Commodity Trading
1.12. Intensification of high-quality oil palm cultivation	Sustainable oil palm cultivation; with national and global certification standards; integrated with a diversity of commodities and livestock; that applies harvest and post-harvest technology and produces palm oil with yields that meet the palm oil factory standards	 The number of oil palm farmer groups Palm oil productivity The number of palm oil community business units The number of certified seedlings The extent of oil palm replanting area The extent of oil palm agroforestry plantations The number of core and plasma partnerships The number of farmers receiving People's Business Loans (KUR) 	 Regulation of the Minister of Agriculture No. 131/2013 concerning Guidelines for Good Palm Oil Cultivation Regulation of the Minister of Agriculture No. 11/2015 concerning the Indonesian Sustainable Palm Oil Certification System (ISPO) Regulation of the Minister of Agriculture No. 18/2016 concerning Guidelines for the Rejuvenation of Oil Palm Plantations Presidential Instruction No. 8/2018 concerning Moratorium and Evaluation of Licensing for Oil Palm Plantations and Increasing Productivity of Oil Palm Plantations
1.13. Development of alternative commodities such as sugar palm, sugar cane, bamboo, patchouli, and jelutong	Production of alternative commodities such as sugar palm, sugar cane, bamboo, patchouli and jelutong which have added value	 Total production from alternative commodities The number of farmers who can apply post-harvest technologies The number of variations of derivative products from alternative commodities 	 Regulation of the Minister of Agriculture No. 12/2018 concerning Production, Certification, and Distribution of Plant Seeds Regulation of the Minister of Agriculture No. 54/2012 concerning Guidelines for Postharvest Handling of Patchouli

Intervention	Desired outcomes	Sug	ggested Indicators	En	abling Policy
1.14. Life-support trees program covering 20% of the industrial plantation area	The welfare of the community in/ around the forest area increases and fires are prevented by developing agroforestry in accordance with local wisdom	1. 2. 3. 4.	The number of farmer households participating in the life-support trees program The extent of farmers' land in the life-support trees zone per industrial plantation company Number of partnership agreements The volume of funding for the life-support trees program The farming business gross value added for program participants	•	Regulation of the Minister of Environment and Forestry No. 12/2015 on the Development of Industrial Plantation Forests Circular Letter of the Minister of Environment and Forestry No. 13/2016 concerning Planting Life-Support Trees and Empowering Local Communities through Forestry Partnerships in IUPHHK-HTI Work Areas
1.15. Optimization of Geographical Indications and development of downstream industries for coffee products	Community- based coffee agroindustry that focuses on coffee with geographical indications with added value and strong competitiveness	 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 	The extent of coffee plantations The number of coffee plantations Coffee plantation area The number of agroforestry demonstration plots with coffee and other commodities The number of farmers practicing good harvesting and marketing techniques The number of transactions through production infrastructure cooperatives The number of production centers The number of production promotion centers The number of business operators participating in events The number of trained baristas The production value of geographically indicated coffee Gross value added of downstream small-scale business industry	•	Regulation of the Minister of Agriculture No. 49/2014 concerning Guidelines for Good Agricultural Practices on Coffee

Intervention	Desired outcomes	Su	ggested Indicators	En	abling Policy
1.16. Development and processing of	Increasing products and production of	1.	The extent of capture fisheries and aquaculture	•	Law no. 31/2004 concerning Fisheries
Stock Investment Driven (SAD) fisheries and inland and marine fishery	processed fishery products in a sustainable manner	2.	production The number of fishing households	•	Law no. 16/2006 concerning Agricultural, Fisheries and Forestry Extension Systems
products		3.	I he number of fish processing units	•	Government Regulation
		4.	The amount of processed fresh fish production		No. 54/2002 concerning Fisheries Enterprises
		5.	Fish consumption figures	•	Regulation of the Minister of Health No. 20/2014 concerning Guidelines for the Implementation of the National Empowerment Program for Independent Marine and Fisheries Communities
1.17. Development	Increased	1.	Horticultural production	•	Law no. 26/2007
of urban farming	agricultural production and diversification by utilizing the land around community settlements	2.	The number of people implementing urban farming	•	concerning Spatial Planning The decision of the Minister of Agriculture No. 62/2017 concerning Technical Guidelines for Optimizing the Utilization of Yard Land through Sustainable Food Houses Region (KRPL)

Intervention 1.1 Allocation and land-use in line with the demand and availability of land by considering protected areas and land suitability via the application of a one map policy

The issue of land availability and demand for land is a common challenge in sustainable land management. Land functions can change and increase because of economic pressures and population growth. To project future land conditions, simulations were carried out based on a 'business-as-usual' scenario which refers to the Provincial Spatial Plan (RTRWP), the Medium-Term and Long-Term Regional Development Plans (RPJMD/ RPJPD), the Strategic Plan (Renstra) and the Regional Work Plans (RKPD) of land-based sectors in Jambi Province. Simulations show extensive use of land from 2019 to 2045. The planned development will reduce forest cover by around 160,000 hectares and reduce tree cover by 3.28%. Besides, land conversions without due consideration of protected areas and land suitability can increase vulnerability to land fires up to 37.24% in 2045. Therefore, an alternative strategy must be prepared to avoid the negative environmental impacts in the future while still improving the welfare of the community. The proposed strategy allocates commodities based on land suitability to reduce forest land conversion and avoid the overlapping allocation of land-use plans for various activities. Interventions are designed based on the conditions of each region (upstream, midstream, and downstream) through the implementation of an integrated and harmonious one map policy.

Intervention 1.2 Allocation and mapping of access to forest area for community livelihoods with priority for pockets of poverty

Jambi Province targets a poverty reduction of 7.40% in its Regional Medium-Term Development Plan (RPJMD) 2016-2021. In the year 2018, poverty was still at 7.92%. To improve the standard of living of the poor, access to strategic natural resources needs to be allocated to pockets of poverty. Equitable economic is targeted at the site level through the expansion of non-timber forest products (NTFPs) that are typical of Jambi such as *kepayang* oil, essential oil, forest honey, coffee, cinnamon, and aloeswood. This intervention stresses the optimization of the Social Forestry area in disadvantaged rural areas.

Intervention 1.3 Allocation of access - tenure of land from the release of forest areas for livelihoods in poor villages (Agrarian Reform)

The Agrarian Reform Land Object Program (TORA) is a national strategic program that needs to be optimized to increase access to land tenure for the poor from the release of forest areas. The potential extent of TORA land in Jambi Province is 12,361 ha. Jambi Province must strategically map the release of forest areas and identify land suitability based on pre-determined criteria. Poor farmers in the TORA areas need to be assisted intensively so that the TORA area can be utilized for productive activities and increase community income. The current condition of the land cover of TORA land objects must be considered and farmers should be provided with directions for land-use which will not reduce the quality of the land cover

Intervention 1.4 Allocation and restoration prioritization of degraded landscapes

Jambi Province's natural resource-based economic activities have had an impact on the landscape and have caused land degradation. A portion of the degraded land has turned into unproductive idle land after being planted; it was used for mining or fires burned it. Joint efforts from stakeholders are needed to restore and reuse idle and degraded land to restore land conditions and preserve the environment. This restoration needs to be carried out with commodities that have economic value to benefit the community.

Intervention 1.5 Revitalization and optimization of agricultural and plantation land

Most of the plantations for leading commodities in the province of Jambi are aging and require revitalization and rejuvenation rather than land expansion. The proposed seven leading main commodities need to be mapped to prioritize revitalization actions. These potential cultivation areas can then become commodity centers that drive the economy of the surrounding community. This revitalization is done through various aid and assistance activities by providing the community input on revitalization and plantation management.

Intervention 1.6 Restoration of peat ecosystems

During the last five years, land and forest fires in Jambi Province have occurred mostly in peatlands, especially in the districts of Muaro Jambi, West Tanjung Jabung, and East Tanjung Jabung. Peatland has the specific characteristic that it stores massive carbon reserves. The prevention of forest and land fires must start with the restoration of peatland to prevent this annual disaster. The allocation of cultivation land, production of forest commodities, and protection functions must be balanced with natural planting techniques suitable for peat, such as paludiculture and the development of infrastructure that supports peat restoration. Peat restoration is also carried out by involving the community
in restoration activities, so the people have a sense of ownership and responsibility for the success of the restoration efforts.

Intervention 1.7 Integrated forest and land fire management

As explained in the previous intervention, forest and land fires are disasters that must be anticipated in Jambi Province. The risk of forest fires continues to increase each year, so mitigation efforts are needed through mapping, assistance, patrolling, and handling cases of forest and land fires. The case handling of land and forest fire includes post-fire handling and enforcement of the applicable laws. Those responsible for the land and forest fires must be dealt under the applicable laws.

Intervention 1.8 Mapping and handling of conflict areas

Land-related issues are conflict-prone due to the conflicting interests between communities and the state, communities, and companies, or communities and the private sector. Although problems can be identified, the borders and areas prone to conflicts are still unclear and thus need to be mapped and studied. Moreover, action plans need to be drawn up for handling conflict-prone areas. The government must position itself as a mediator and facilitator in such conflicts. Community engagement and balanced communication are key to fair conflict resolutions. In handling problems, the government is also expected to form a multi-stakeholder team that can represent all interests fairly.

Intervention 1.9 Ricefield cultivation (irrigated, non-irrigated, and swamp/peat) by maximizing the use of low-emission seedlings and labeled organic fertilizers

Greenhouse gas emissions from the agricultural sector consist largely of methane gas (CH_4) originating from irrigated rice cultivation. Inundating the land and using

chemical fertilizers has a higher risk of releasing methane gas. The activities need to focus on implementing low-emission rice cultivation, whether it is irrigated, non-irrigated, or swamp/peat, starting from farmer groups. Low- emissions seedlings and organic-labeled fertilizers need to be subsidized and distributed to the low- emission rice demonstration plots.

Intervention 1.10 Application of Good Agricultural Practices (GAP), diversification of farming and post-harvest technology, and the development of the smallholder coconut industry

Coconut is one of the leading commodities of Jambi Province, occupying an area of 118,540 ha spread over the districts of West Tanjung Jabung and East Tanjung Jabung. Aside from aging, these coconut plantations are still managed traditionally. As such, additional efforts are needed to increase land productivity. Coconut farming is very vulnerable to low prices and market downturns, so downstream and diversification are needed to increase prices and ensure the absorption of coconut commodities. Most coconut farmers are smallholders. As such the development of the smallholder coconut industry is expected to improve the welfare of poor communities. Some efforts that can be taken are the formation of institutional farmer groups, the improvement of supporting infrastructure, and the improvement of postharvest technological capabilities for various derivatives of coconut products.

Intervention 1.11 Revitalization, rejuvenation, and management of rubber plantations using GAP

Most rubber plantations in Jambi Province are aging, whereas, the extent of land for rubber commodities is the second highest. To optimize the land of the rubber plantations, revitalization and rejuvenation are needed. In addition, there are still many uncertified nurseries. Thus, to ensure the distribution of high-quality and guaranteed seedlings, certification of smallholder rubber nurseries is required. The implementation of good management of rubber plantations can include the distribution of affordable fertilizers and guidance on balanced fertilization.

Intervention 1.12 Intensification of highquality oil palm cultivation

Oil palm plantations are a great source of land expansion in Jambi Province. To manage land more sustainably, the intensification of oil palm cultivation must be emphasized. One way is through the replanting of aging oil palm plantations. Sustainable palm oil cultivation meets national and global certification standards such as RSPO and ISPO and applies environmentally friendly management. The development of oil palm plantations can improve the welfare of small farmers through core plasma partnerships and through independent oil palm management that meets management standards.

Intervention 1.13 Development of alternative commodities such as sugar palm, sugar cane, bamboo, patchouli, and jelutong

The development of alternative commodities is important in reducing the dependence of land exploitation for specific commodities. Sugar palm, sugar cane, patchouli, and jelutong are already produced in several areas of Jambi Province, although, the cultivation of these commodities needs to be supported through the provision of quality seeds, the use of technology, and competitive product derivatives development. Jambi Province must continue with these efforts.

Intervention 1.14 Life-support trees program covering 20% of the industrial plantation area

Based on Regulation of the Minister of Environment and Forestry No. 12/2015, industrial plantation forests in Indonesia must provide at least 20% of their area for lifesupport trees. Allocating space for life-support trees is one way of empowering people in and around the forest, while land management is done through partnerships. This ministerial regulation has also arranged the agroforestry system implementation as an effort of sustainable management. To realize this, standard operational procedures are needed and the establishment of institutions that can ensure that the program is implemented in each concession to improve the lives of the community.

Intervention 1.15 Optimization of geographical indications and development of downstream industries for coffee products

The development of coffee as a strategic commodity typical of Jambi is a major government target. Therefore. further extensions and assistance are required to improve land management and increase the production of coffee plantations. Some of the activities that are encouraged include the creation of agroforestry coffee demonstration plots, improving production facilities, and optimizing geographic indications. The downstreaming of coffee commodities has great potential, especially in increasing prices and exports. Furthermore, the development of geographical indications is significant for obtaining recognition of the local species so that its production and sale value can increase the welfare of the community.

Intervention 1.16 Development and processing of Stock Investment Driven (SAD) fisheries and inland and marine fishery products

The approach of Stock Investment Driven (SAD) production or the estimation of fish stocks is based on the supply of fishery products. Stock Investment Driven fisheries development is expected to provide higher profits for fishermen in both aquaculture and capture fisheries. Fishermen in Jambi Province still need support in the form of adequate infrastructure and extension on processing standards.

Intervention 1.17 Development of urban farming

Urban agriculture is the effort of managing small plots of land in urban areas to meet the city's demand for food. This concept is quite popular for supporting food security, especially of households and cities that have limited land. The agricultural sector can be diversified by using the land around community settlements or yards. The general public - not only farmers - is encouraged to develop horticulture and manage their land intensively. To support this intervention, information dissemination, extension, and supporting infrastructure are directed to communities who are interested in developing their demonstration plots.

2. Interventions in Strategy 2: Human Resources and Institutional Capacity through Improving Access to Livelihood Capitals and the Utilization of Environmental Services

The interventions in strategy 2 seek to increase the capacity of community resources by improving accessibility to various livelihood capitals and utilizing existing environmental services. Table 5-4 below provides a detailed description of these interventions.

Intervention	Desired Outcomes	Suggested Indicators	Enabling policy
2.1. Strong Agriculture and Forestry Institutions	High individual and group community capacity including marginal groups, youth, and women in managing land and forest based on local wisdom	 The number of legalized agricultural and forestry institutions The number of partnerships, capital support, and training The number of farmers' group associations (Gapoktan) that can manage land and forest Total female and youth representation in farmer groups 	 Law no. 16/2006 concerning Agricultural, Fisheries and Forestry Extension Systems Presidential Decree No. 154/2014 concerning Institutional Extension of Agriculture, Fisheries, and Forestry Regulation of the Minister of Agriculture No. 67/2016 concerning Empowerment of Farmers' Organizations Regulation of the Minister of Agriculture No. 18/2018 concerning Farmer-based Agriculture Development Farmers Governor Regulation of Jambi Province No. 21/2011 concerning Extension of Forestry, Agriculture, and Plantation

Table 5-4. Details of interventions, desired outcomes, indicators and enabling policies in Strategy 2

Intervention	Desired Outcomes	Su	ggested Indicators	En	abling policy
2.2. Improving community access to capital	Easy access for the community to sources of capital, production facilities, and infrastructure	 1. 2. 3. 4. 5. 6. 7. 	The number of microfinance institutions in villages The number of farmers receiving credit The number of farmer groups receiving credit The production infrastructure received at the village level Credit repayment rate The number of healthy cooperatives The number of insurance participants in agriculture, plantation, and fishery activities	•	Regulation of the Ministry of Villages, Disadvantaged Regions and Transmigration No. 4 of 2015 concerning Village-Owned Enterprises Regional Regulation of Jambi Province No. 4/2016 concerning Empowerment and Development of Cooperatives, and Micro, Small and Medium Enterprises
2.3. Extensions that are well-targeted, appropriate, and timely	Extension activities are implemented in well-targeted, appropriate and timely manner (one instructor one village)	 1. 2. 3. 4. 5. 6. 7. 	The availability of facilities and infrastructure to support extension Number of extension certifications issued The number of extension workers in each sector of the land economy Number of extension workers in each village Amount of budget available for extension workers and extension activities Total technical assistance to the community by companies The number of demonstration plots	•	Law No. 16/2006 concerning Agricultural, Fisheries and Forestry Extension Systems Presidential Decree No. 154 of 2014 concerning Institutional Extension of Agriculture, Fisheries and Forestry Governor Decree of Jambi Province No. 10/2018 concerning the Formation, Organizational Structure, Duties and Functions and Work Procedures of the Technical Implementation Unit of the Agricultural Training and Extension Area at the Office of Food Crops, Horticulture, and Animal Husbandry in Jambi Province

Intervention	Desired Outcomes	Suggested Indicators	Enabling policy
2.4. Funding, policies, and partnerships that support land restoration programs	Restoration efforts are realized through public funding, private sector support, and international partner	 The involvement of community institutions in the restoration program Amount of funds allocated for restoration activities The existence of restoration working groups The number of assisted villages The extent of critical land to be restored Activity and financial reports Amount of funding from partners 	 Presidential Decree No. 1/2016 concerning the Peat Restoration Agency Presidential Instruction No. 8/2018 concerning Moratorium and Evaluation of Licensing for Oil Palm Plantations and Increasing Productivity of Oil Palm Plantations Regulation of the Ministry of Environment and Forestry No. 16/2017 concerning Technical Guidelines for Restoring Peat Ecosystem Functions
2.5. Building awareness, increasing promotion, multi- stakeholder institutions formation, and the strengthening of regulations for the provision of environmental services and welfare improvements for the private sector and local communities	Public awareness of the concept of environmental services, multi- stakeholder institutions that are capable of collecting, fertilizing, channeling, and monitoring the outcomes of the use of funds fairly and efficiently, and supported by regulations and effective policies in producing environmental services	 The material that is published on the concepts of environmental services and innovative funding The number of training sessions on the concepts of environmental services and innovative funding for various parties Multi-stakeholder institutions with a positive funding balance The operational system of incentives and disincentives that are regularly monitored based on performance 	 Regulation of the Directorate General No. 12 of 2014 concerning Procedures for Organizing Promotions for Utilization of Environmental Services in Conservation Areas and Protected Forests Regional Regulation of Jambi Province No. 6/2013 concerning Corporate Social Responsibility Regional Regulation of Jambi Province No. 14/2013 concerning Third-Party Donations to Regions

Intervention	Desired Outcomes	Su	ggested Indicators	En	abling policy
2.6. Increasing economies of scale through the provision of farm business loans through existing microfinance institutions	Increased financial capacity of farmers supported by the provision of capital, the ability of financial management, and support from village financial institutions (BUMDes)	1. 2. 3. 4.	Amount of funds/ assets owned by community cooperatives/ BUMDES/ microfinance institutions The amount of credit extended The number of farmers who get loans The number of village funds used for productive activities	•	Government Regulation No. 60/2014 concerning Village Funds Regulation of the Ministry of Villages, Disadvantaged Regions and Transmigration No. 4/2015 concerning Village-Owned Enterprises Regional Regulation of Jambi Province No. 4/2016 concerning Empowerment and Development of Cooperatives, Micro, Small and Medium Enterprises
2.7. Compensation/ payment for environmental services between regions and payment for environmental services (KIPJL) for watershed management	Integrated and measurable watershed management through the implementation of KIPJL, which is operational and has a positive impact on the community.	 1. 2. 3. 4. 5. 6. 7. 	Watershed environmental service quality and flow (erosion rate, surface runoff, water quality, etc.) The extent of land cover with soil and water conservation practices The number of farmers participating in the environmental services compensations (IJL) scheme The number of IJL scheme partner companies The amount of funding for an operational and sustainable KIPJL scheme The amount of government funding to support KIPJL The incentive and disincentive system for unlicensed gold mining cases is active and monitored regularly	•	Government Regulation No. 37/2012 concerning Watershed Management Regional Regulation of Jambi Province No. 1/2013 concerning Watershed Management in Jambi Province Regional Regulation of Jambi Province No. 1/2014 concerning Environmental Services

Intervention	Desired Outcomes	Suggested Indicators	Enabling policy
2.8. Compensation/ payment for environmental services between regions and payment for environmental services (KIPJL) for biodiversity	The biodiversity outside conservation areas supports conservation goals and benefits local communities	 The quality and quantity of biodiversity The extent of land cover as corridor, buffer area with high conservation value (HCV) The number of farmers participating in the environmental services compensations (IJL) scheme The number of IJL scheme partner companies The amount of funding for an operational and sustainable KIPJL scheme The amount of government funding to support KIPJL 	 Regulation of the Ministry of Environment and Forestry No. 29 of 2009 concerning Guidelines for Conservation of Biodiversity at Local Governments Regional Regulation of Jambi Province No. 1/2014 concerning Environmental Services
2.9. Voluntary carbon markets and initiatives	Voluntary carbon markets and initiatives that are operational, sustainable and have a positive impact on the community and the environment, and support the achievement of regional targets in reducing GHG emissions	 Stock and rate of carbon increase The extent of land cover with market schemes and voluntary carbon initiatives The number of market schemes/ carbon initiative partner companies The number of market scheme/ carbon initiative NGO partners The number of market schemes/ carbon initiatives that are operational and sustainable The amount of government funding to support carbon markets/initiatives 	 Government Regulation No. 46/2017 concerning Environmental Economic Instruments Regulation of the Ministry of Environment and Forestry No. 50/2014 concerning Trade-in Certificates for Reducing Indonesian Forest Carbon Emissions
2.10. Water commodity markets for a sustainable water supply	The water commodity market has a positive impact on the community through the equitable water supply	 The percentage of benefits based on performance The efficiency of the local water utility (PDAM) performance The volume of water commodities utilized 	 Government Regulation No. 42 of 2008 concerning Management of Water Resources Government Regulation No. 121 of 2015 concerning Water Resources Exploitation Government Regulation No. 122 of 2015 concerning Drinking Water Supply Systems

Intervention	Desired Outcomes	Su	ggested Indicators	En	abling policy
2.11. Ecotourism markets with a variety of alternative tourist destinations: general landscape tourism and specific tourism	The ecotourism industry offers positive benefits for local communities and environmental management	 1. 2. 3. 4. 5. 	The number of ecotourism areas The number of visitors to the region each year Number of business investment portfolios on community-based ecotourism Gross value added of community ecotourism business investment Quality and flow of environmental services according to context (link with the intervention of Payment for Environmental Services)	· ·	Regulation of the Ministry of Environment and Forestry No. 31 of 2016 concerning Guidelines for Business Activities Utilizing Natural Tourism Environmental Services in Production Forests Regulation of the Directorate General No. 12 of 2014 concerning Procedures for Promoting the Utilization of Environmental Services in Conservation Areas and Protected Forests Regional Regulation of Jambi Province No. 7/2018 concerning Tourism Development Master Plan
2.12. Landscape certification and environmental services in the agriculture, plantation, and forestry sectors	Ecologically and economically positive impacts on farmers and surrounding communities, entrepreneurs, and consumers on a wider scale	1. 2. 3.	Quality and flow of environmental services The number of trackers for agricultural, plantation and forestry product certification The number of small farmers with access to markets for agricultural, plantation and forestry commodities with geographical indication The production value agricultural, plantation and forestry commodities with geographical indications in one landscape	•	Regulation of the Director-General of Forestry Business Development No P.5/ VI-BPPHH/2014 July 14, 2014 Appendix 1.2 Standard Performance Assessment of Sustainable Production Forest Management (PHPL) and Timber Legality Verification (VLK) for IUPHHK-HTI Region Regulation Batanghari District No. 14/2001 IPHH Regional Regulation Muaro Jambi District No. 20/2002 IPHHKLH

Intervention 2.1 Strong agricultural and forestry institutions

The development of agriculture and forestry businesses must be in line with the programs of the relevant institutions. Recent condition shows that the structure and management of traditional institutions has been inefficient and failed to provide farmers with optimum benefits. The capacity of farmer groups and their members, including women and farmer apprentices, need to be developed with a spirit of empowerment and increased participation. Strengthening village institutions and non-governmental organizations that have a portfolio in agricultural and forestry development is also important in empowering farmers' institutions.

Intervention 2.2 Improving community access to capital

The problem most often experienced in agricultural and forestry community businesses is the difficulty in accessing capital. Yet without adequate capital, production and marketing activities can be hampered. The development of microfinance villages institutions such as Farmers Economic Groups (KEP), Farmer Cooperatives, and Village-Owned Enterprises must be promoted and their role in supporting the economic activities of farmers must be strengthened. These microfinance institutions. can partner up with other financial institutions and businesses in offering banking services at the village level. The government can facilitate awareness and extensions of the role of financial institutions in supporting village-level agricultural activities.

Intervention 2.3 Extensions that are well-targeted, appropriate, and timely

Access to extension is an important aspect of supporting agricultural activities. The lack of field counselors in quantity as well as quality is a common problem. Field counselors should specialize in certain commodities to offer more targeted guidance. Strong and adequate extension workers are the foundation for increasing the human resources capacity of independent and leading farmers. By following the directives of Law No. 16 of 2006 concerning Agricultural, Fisheries, and Forestry Extension Systems, extensions must meet three aspects, i.e., well-targeted, appropriate, and timely.

Intervention 2.4 Funding, policies, and partnerships that support land restoration programs

The land restoration program has prerequisites relating to the availability of funding, policy readiness, and solid partnerships. Funding for the restoration of degraded land functions from various sources needs to be mapped to facilitate the implementation of restoration activities. Prior activities on degraded land, such as forest fires and the exploitation of mineral resources, can be identified in mapping financing responsibilities. National and local-level policies must be prepared as an umbrella before site-level restoration activities are carried out. Lastly, strategic partnerships in the stages of planning and implementation can ensure the involvement of many parties to guarantee the success of the restoration program.

Intervention 2.5 Building awareness, increasing promotion, multi-stakeholder institution formation, and the strengthening of regulations for the provision of environmental services and welfare improvements for the private sector and local communities.

Ecosystem conservation in line with the provision of environmental services provides substantial benefits for the community and the private sector. The preparation of institutional aspects and human resources ensures the availability of environmental services and fair and equitable management. The government can build awareness, promote, and facilitate the formation of multi-stakeholder institutions to provide environmental services. Jambi Province already enacted its Regional Regulation No. 1/2014 on Environmental Services, although, its implementation needs to be strengthened.

Intervention 2.6 Increasing economies of scale through the provision of farm business loans through existing microfinance institutions

Farmer business loans, or now referred to as people's business loans, are one of the government's efforts to improve the access of smallbusinesses to sources of financing. Credit can be given to cooperatives and MSMEs that have a feasible development prospect that is not yet bankable. To obtain credit, farmers can join cooperatives/village-owned enterprises and follow several procedures and training in financial management and entrepreneurship.

Intervention 2.7 Compensation/payment for environmental services between regions and payment for environmental services (KIPJL) for watershed management

The incentive and funding schemes in landscape governance are an inseparable part of the interregional compensation/ payment plan for environmental services (KIPJL). Specifically related to watershed management, the KIPJL scheme connects various stakeholders at the provincial level. So far, watershed management has been constrained by authority issues (the environmental sector, public works, forestry, and spatial planning) and a silo approach. The KIPJL scheme is expected to be a medium for synergistic multi-stakeholder dialogue and integration. Increasing the capacity and awareness of relevant parties is an important step to support the implementation of sustainable incentives and funding schemes.

Intervention 2.8 Compensation/payment for environmental services between regions and payment for environmental services (KIPJL) for biodiversity

The KIPJL for biodiversity aims to guarantee and preserve biodiversity services, including the utilization of primary commodities, genetic resources, intellectual property, germplasm utilization services, and microbes as raw material. Product certification, such as for agricultural products that support biodiversity conservation efforts, can be developed to internalize the conservation value in commodity development.

Intervention 2.9 Voluntary carbon markets and initiatives

The market for voluntary carbon mechanisms (VCM) needs to be encouraged by applying it through targeted planning processes. Potential locations for VCM are identified upfront through participatory multi-stakeholder mapping and discussions. Policies that cover the procedures for the implementation of VCM are needed. VCM is carried out in conjunction with strengthening the capacity of the apparatus to measure carbon at the site level.

Intervention 2.10 Water commodity markets for sustainable water supply

There are still many areas in Jambi Province that experience clean water crises during the dry season, including West Tanjung Jabung District, East Tanjung Jabung District, and Jambi City. An analysis of water resources management is carried out at the outset to identify the potential and threats to the availability of environmental water services in regions vulnerable to water crises. Based on the results of this analysis, a monitoring system for water resources is designed and compensation is given to those involved in the conservation of water resources. Water supply must not be separated from the performance of the local water utilities (PDAM). Notably, the performance of PDAM must be assessed for system improvements in the future.

Intervention 2.11 Ecotourism markets with a variety of alternative tourist destinations: general landscape tourism and specific tourism

The Jambi Province Regional Medium-Term Development Plan already includes an ecotourism approach for developing tourism areas that are not only profit-oriented but also boost community welfare and environmental sustainability. Furthermore, a development plan for ecotourism areas is needed that includes marketing, conservation, and community empowerment strategies. These areas must be developed in a participatory way and apply the concept of the circular economy by using tourism revenue for funding the conservation of the area. As such, the natural environment remains intact.

Intervention 2.12 Landscape certification and environmental services in the agriculture, plantation, and forestry sectors

The certification system is a more sustainable way of managing and controlling the landscape. In the agriculture sector, landscape certification can encourage the implementation of good agricultural practices for providing environmental services and ensuring land productivity. Plantation commodity certification refers to the existing certification systems, such as geographical indications certification for coffee or ISPO and RSPO for palm oil. By optimizing this certification, the plantation system can be integrated into a sustainable way from planting, management up to marketing. The forestry sector needs to be encouraged to adopt sustainable timber certification such as the Timber Legality Verification System (SVLK), Forest Steward Council (FSC), and Forest Law Enforcement Government and Trade (FLEGT).

3. Interventions in Strategy 3: Connectivity and Sustainable Value Chains

The interventions in strategy 3 relate to efforts of improving regional connectivity between production sources with distribution and markets and improving upstream-downstream linkages through systems improvements. Interventions in this strategy are also intended to achieve production value chains and market chains that are balanced, fair, and profitable for all parties in the production process up to the marketing of the product. The detailed description of the interventions can be found in Table 5-5.

Interventions	Desired Outcomes	Suggested Indicators	Enabling Policies
3.1. Development of international- standard export port facilities and economic zoning for	Port and supporting facilities that can facilitate economic activities and distribute	 The rate of progress of port development Road length to the harbor The freight flow that is channeled through the port The number of warehouses 	 Regional Regulation of Jambi Province No. 3/2009 concerning Management of Regional Government Property Regional Regulation of Jambi Province No. 10/2013 concerning Jambi Province Spatial Plan
industrial zones	goods from Jambi Province (economic outlet)	built 5. Export value	 Regional Regulation of Jambi Province No. 1/2015 concerning the Implementation of Special Roads
3.2. Increased modes of transportation from production centers to processing facilities or	Ease of distribution of products through the provision of connecting roads that can reduce transportation	 Development of river transportation modes Railway network construction Construction of type-C terminals (village and city transportation) 	 Governor Regulation No. 20/2017 jo Governor Regulation No. 53/2013 concerning Procedures for Granting and Utilizing Tax Collection Incentives Regional Regulation of Jambi Province No. 1/2013 concerning Watershed Management
markets	costs	 Provision of commodity transport equipment 	Governor Regulation No. 64/2018 concerning the General Investment Plan

Table 5-5. Details of interventions, desired outcomes, indicators and enabling policies in Strategy 3

Interventions	Desired Outcomes	Suggested Indicators	Enabling Policies
3.3. Increasing the capacity of roads and bridges that connect activity centers	The connectivity between activity centers is ensured through improving the quality of roads and bridges	 The number of supporting planning documents Road transport capacity The number of changes in road status to national/ provincial roads 	 Regulation of the Ministry of Public Works and Public Housing No. 4/2012 concerning Procedures for Road Supervision Regulation of the Ministry of Public Works and Public Housing No. 7/2019 concerning Standards and Guidelines for the Procurement of Construction Services through Providers Regional Regulation of Jambi Province No. 10/2013 concerning Jambi Province Spatial Plan Regional Regulation No. 10/2013 concerning Jambi Province Spatial Plan
3.4. Easy access to market information that benefits farmers	Improvement of farmers' profits supported by adequate market information	 Intensity (amount of information per month) of information on prices received by farmers Percentage of increase in farmer profits 	 Regional Regulation of Jambi Province No. 1/2015 concerning the Implementation of Special Roads Draft Regional Regulation of Jambi Province concerning Commerce of Plantation Commodities
3.5 The formation of an integrated coconut derivative industry to increase added value for farmers	An integrated coconut industry that can increase added value for farmers	 The number of integrated coconut small and medium-sized industries (SMIs) The number of integrated coconut industry workers The investment value of coconut processing Distribution of incentives for the coconut industry 	Regulation of the Minister of Agriculture No. 93/2013 concerning Operational Standards for Coconut Certification Procedures
3.6. Rubber- derived product businesses involving rubber farmers as investors	The increased added value of rubber-derived products	 Gross value added of rubber derivative products The number of companies that have partnerships with business actors The number of rubber processing plants The volume of financing for people's business capital The investment value of processing rubber derivatives Gross value added of the small-scale rubber downstream industry business 	 Regulation of the Minister of Agriculture No. 132/2013 concerning Guidelines for Good Rubber Cultivation Regulation of the Minister of Agriculture No. 38/2008 concerning Guidelines for Processing and Marketing of Processed Rubber Materials (BOKAR)

Interventions	Desired Outcomes	Su	ggested Indicators	En	abling Policies		
3.7. Optimizing the rubber auction market	A raw rubber marketing chain with a strong	1.	The number of Rubber Processing and Marketing Units (UPBB)	•	Regulation of the Minister of Agriculture No. 38/2008 concerning Guidelines for Processing and		
(Processed Rubber Materials	bargaining position for farmers for a fair	bargaining position for farmers for a fair	bargaining position for farmers for a fair	2.	The number of farmers and traders actively involved in UPBB activities		Marketing of Processed Rubber Materials (BOKAR) Regulation of the Minister of Trade
Management and Marketing Unit - UPPB) as	trade and village economic system at the level of the	3.	The number of UPPBs with good management standards	No.54 / 2016 concerning Control of Processed Rub Materials	No.54 / 2016 concerning Quality Control of Processed Rubber Materials		
a clean rubber supply node	farmer	4.	The frequency of UPPB supervision				
		5.	The frequency of UPPB law enforcement				
		6.	The value of transactions that occur at UPBBs				
3.8. Diversification	High-quality and diversified cinnamon production with added value that benefits farmers	1.	The amount of cinnamon production	•	Regulation of the Minister of Agriculture No. 12/2018 concerning		
of farming businesses with agroforestry		2.	The number of cinnamon seedlings distributed to farmers	non Dis to Be	the Production, Certification, and Distribution of Plant Seeds		
for high- economic value commodities, and		3.	The number of independent village nurseries and parent nurseries at the district level		Province No. 4/2016 concerning Empowerment and Development of Cooperatives, and Micro, Small and		
improvement of post-harvest technology and marketing of		4.	The number of agroforestry demonstration plots of cinnamon with other commodities		Medium Enterprises		
cinnamon		5.	The number of SMIs for cinnamon derivative products formed				
		6.	The trade value of cinnamon derivative products				
		7.	Certification of leading product				
		8.	The number of activities that utilize appropriate technology				
		9.	The number of marketed products both domestically and for export				

Intervention 3.1 Development of international-standard export port facilities and economic zoning for industrial zones

Jambi Provincial Government has planned the construction of the Ujung Jabung Port since before 2018. Unfortunately, in 2018, the disbursement of funds was hampered. With the issuance of the Decree of the Minister of Transportation No. 43 of 2019 concerning the Jambi Province Ujung Jabung Port Master Plan, work on this plan has begun again. The Ujung Jabung Port is expected to become a distribution center for trading commodities of Jambi Province considering that, so far, products are brought to West Sumatra or Lampung to be distributed to the outer islands. Ujung Jabung Port is planned to have an industrial economic zone so it can become an economic center that can attract investors

Intervention 3.2 Increased modes of transportation from production centers to processing facilities or markets

The distribution of harvested commodities from production centers to processing facilities and markets is still constrained. One cause is the limited availability of adequate modes of transportation. For this reason, the provision of transportation modes is important in improving the distribution process. Jambi Province has river potential that can be utilized more intensively in distributing goods from upstream to downstream. The development of modes of river transportation can be an appropriate solution, especially in reducing the burden on main roads. In addition, railway line construction must also be continued. Strategic locations should be identified for building terminals for village and city transportation to provide access from production centers to the markets in the city.

Intervention 3.3 Increasing the capacity of roads and bridges that connect activity centers

So far, the development of roads and bridges has not been based on an in-depth study of the pull and push factors of strategic economic sectors' transportation needs. Studies identifying road and bridge conditions are needed to assess main commodities distribution channels that must be prioritized. The capacity of some of these channels must be increased to facilitate the flow of goods and services.

Intervention 3.4 Easy access to market information that benefits farmers

Limited information is a problem for farmers. Especially with the increasingly advanced innovations in the digital era, farmers who lack adequate access and capabilities will be left behind. To increase prices for farmers, access to market information must be transparent. The access to information offers opportunities for farmers to have a good bargaining position.

Intervention 3.5 The formation of an integrated coconut derivative industry to increase added value for farmers

Most coconuts are still sold per item after being picked. This practice leads to low volatile prices for coconut farmers. Thus, downstreaming is needed in the form of an integrated coconut derivative industry to increase the added value for farmers.

Intervention 3.6 Rubber-derived product businesses involving rubber farmers as investors

The development of rubber-derived products can increase the gross value added of the rubber production. Rubber farmers must be involved as investors so that business development can improve their welfare. The design of pilot projects requires feasibility studies and a fitting rubber processing technology. Industries that are developed can be in the form of latex-based industries, mini rubber crumbs, mini rubber scraper, and thick rubber processing.

Intervention 3.7 Optimizing the rubber auction market (Rubber Processing and Marketing Units - UPPB) as a clean rubber supply node

Rubber Processing and Marketing Units (UPBBs) need to be optimized to serve as clean rubber distribution nodes. This raw rubber marketing chain can improve the bargaining position of farmers so that the trading system can provide them with a fair price. The government should ensure that the quality and quantity of UPBBs increase to suit the needs of the region. The establishment of UPBBs should be followed by increasing and strengthening the role of farmers through an integrated processing system.

Intervention 3.8 Diversification of farming businesses with agroforestry for higheconomic value commodities. and improvement of post-harvest technology and marketing of cinnamon

Cinnamon from Jambi has a leading position compared to other cinnamon producers in Indonesia To optimize cinnamon diversification of production. farming businesses is needed. As such, promoting the practices of agroforestry systems will increase diversification and sustainable land management. The application of post-harvest technology and marketing must be improved to optimize existing production.



5.4 Intervention Map

Each district and city in Jambi Province have different interventions based on its conditions. and characteristics. The intervention map is based on the 17 interventions for Strategy 1, i.e., Land-use, Restoration, and the Sustainable Increase in Land Productivity (Figure 5-4). The intervention map is compiled using various spatial data and statistics based on proposed interventions. These include land cover maps for the period 2015-2018, administrative borders, the Jambi Province Spatial Plan, ecoregions, peat, industrial plantations, forest concessions, plantations, area functions, fire estimates, burn scar, land suitability, Indicative Map for Social Forestry Land (PPIAPS), poor villages, and TORA.



Figure 5-4. Map of interventions - based on renewable natural resources

Intervention Map Renewable Natural Resources Based

Land-use plan and improving sustainable productivity

	Intervention 1	land allocation base on suitability and land demand land alloction and acces to forest	Intervention 10	GAP application, product diversification, technology, coconut based processing
	Intervention 2	area mapping	Intervention 11	revitalization and implementation of GAP for rubber
	Intervention 3	releasing	Intervention 12	intensify qualified oil palm plantation
	Intervention 4	landscape restoration	Intervention 13	improving alternative commodity
	Intervention 5	allocation for revitalization and optimizing of agriculture land and		Dyera sp.)
	Intervention 6	restoring of peat ecosystem	Intervention 14	program inside HTI
Õ	Intervention 7	Integrated managemen of land and forest fire	Intervention 15	optimize GI and developing downstream industry of coffee
	Intervention 8	mapping and land conflict reconciliation	Intervention 16	improving and management of inland fisheries and product of land and marine fisheries
	Intervention 9	lowering CO ₂ emission of rice cultivation	Intervention 17	development of urban farming

Interv	rentio	n Ar	ea														
Summary	of estime	ated int	erventio	n area fo	r land us	e plan	and impl	roving su	ustainab	ile produ	ictivity b	ase on ad	ministra	ative			
District Inte	ervention 1 Inter	rvention 2 Inte	ervention 3 Inte	ervention 4 Inte	rvention 5 Inter	rvention 6 In	tervention 7 In	ntervention 8 In	ntervention 9	ntervention 10	Intervention 11	ntervention 12 Int	tervention 13	ntervention 14 li	itervention 15 Int	ervention 16 In	tervention 17
Batanghari	66061	_	14342		29451	_	3313				116813		2254				
Bungo	103861	10673					827	3092	6113			122706				4047	
Kerinci	190258	13676			21970				21224				151		731	5819	
Merangin	325605	21433			43321		559		6184	_	132632	_	4211		2910	2277	
Muaro jam	96501			654	_	13870	17502	2414			_	231450		183			
Sarolangun	139501	14197	16472		37297	605	11425		2158		158615						
Tanjung Jak	53967		_	16145	60989	4147	2083	233		31058			937	4381		5277	
Tanjung Jat	103890			9112	25004	10568	24740	2386		81403		93360		1138			
Tebo	77509		29426				11539	58	3852								
Jambi	9															1294	
Sungai Pen	23344																2674
Total (ha) 1	180503	59979	60240	25911	218032	29190	71988	8183	39531	112461	408060	447516	7553	5702	3641	18714	2674
Summary	Jenuo of estim	JII AI ated int	ed erventio	n area fo	r land us	e plan	and imp	roving su	ustainab	ole produ	ictivity b	ase on sp	atial pla	Ē			
District	Intervention 1	Intervention 2	Intervention 3	Intervention 4	Intervention 5	Intervention In	Itervention 7	ntervention 8	Intervention 9	Intervention 10	Intervention 11	Intervention 12 In	tervention 13	ntervention 14	ntervention 15 In	tervention 16 In	ntervention 17
Natural Conservation					164						17						
Hortsuiture	31375			936	43832	800	6394	9	39531		29692	62214		43		11475	2674
Protected Forest	93045	1245	3962		382		272	2096			1237	373			228	10	
Protected Reat Forest	46782				422	2188	629	4826				787				16	
Preduction Forest	223958	52082	41872	7362	18145	3564	21179	157			32072	42593		5578	915	509	
Limited Production Forest	140064	4936	12085	7197	4387	10366	7897				10951	4169		00	229	18	
Plantation	52478			903	128416	2957	23449	62		112461	281456	278715	7553	23		2656	
Settlemant	910			81	7918		53				9132	15807			728	651	
Junity	14590			295	4794		413				24045	13996		10	69	152	
Oil and Gas Mining	3100			109	6082	367	1464				15236	27102		40	26	1771	
Forest Park Besanical Garden	10344			70	183	1495	3118				3451	442					
Tourism Park	562972	1716	2271	8956	3092	7453	7090	886			730	1318			1426	1456	
Nutsual Tourism Park	189		50		1						41						

Master plan and roadmap for regional development 2019-2045 Toward Green Growth in *Bumi Sepucuk Jambi Sembilan Lurah*

	Sungai Penuh City		reparation and ata collection ased on planning ocuments' equirements					
	Jambi City		Preparation F and data col- dection based documents' requirements					
	Bungo		Preparation based on forest data and infor- mation	Assess- ment of forest typology and local community activities				
	Tebo		Prepara- tion based on forest data and informa- tion		The as- sessment of the definition and criteria of poor villages is prioritized			
	West Tanjab		Preparation based on for- est data and information		Identifying suitable land to be released	Determining rehabilitation priorities for degraded land	Mapping the distribution of old coconut plantations and revitalization priorities	Monitoring and evaluation of restoration activities
District/City	East Tanjab		Preparation based on for- est data and information		Identifying suitable land to be released	Determining rehabilitation priorities for degraded land	Mapping the distribution of old coconut plantations and revitaliza- tion priorities	Monitoring and restoration activities
	Muaro Jambi		Preparation based on for- est data and information		Revision of Regency Spatial Plan for other uses areal after changes in forest allocation	Rehabilitation of former illegal oil mining sites		•Monitor- ing and evaluation of restoration activities •Rehabilta- tion of for- mer mining sites
	Batang Hari		Preparation based on commodities data and information		Faciliating poor farmers to access land tenure		Determining priorities for old rubber plantation revitalization	
	Sarolangun		Preparation based on commodities data and information	 Increasing extent of so- cial forestry area Updating so- cial forestry areal Moratorium sawit 	The assess- ment of the definition and criteria of poor villages is prioritized		Determining priorities for old rubber plantation revitalization	Rehabilitation of former mining sites
	Merangin	Productivity	Preparation based on commodi- ties data and information	 Increasing extent of social forestry areal Oil Palm moratorium 			 Determining priorities for old rubber plantation revitaliza- tion Oil palm moratorium 	
	Kerinci	ncrease in Land	Preparation based on commodities data and information	Assessment of forest typology and local commu- nity activities			Determining potential cultivation areas	
one	Downs.	stainable I						
vention Zo	Mids.	ind the Su						
Inter	Upstream	estoration, a						
Intervention for	Jambi	gy 1: Land Use, Land R	Allocation and land-use in line with the demand and availability of land by considering protected areas and land suitability via the application of a one map policy	Allocation and mapping of access for community livelihoods with priority for pockets of poverty	Allocation of access-tenure of land from the release of forest areas for livelihoods in poor villages (Agrarian Reform)	Allocation and restoration prioritization of degraded landscapes	Revitalization and optimization of agricultural and plantation land	Restoration of peat ecosystems
:	No.	Strate	1	1.2	1.3	1.4	1.5	1.6

Table 5-6. Interventions in the District/City Level of Jambi Province

	sungai Penuh City			lonitoring water uality				
	Jambi City S			Forming M low-emission q rice farming groups		Rejuvenation of rubber plantations		
	Bungo	•Dissemi- nation and installing prohibition signs •Forest and land fire patrols	Study of socio-eco- nomic aspects, tenure and community access to land	Participato- ry planning with farmers		Distributing superior rubber seedlings	Developing oil palm agroforestry	
	Tebo	Mapping areas prone to forest and land fires	Synchroni- zation of borders of con- filict-prone areas	Participa- tory plan- ning with farmers		Distribut- ing supe- rior rubber seedlings	Developing oil palm agrofor- estry	
	West Tanjab	Mapping areas prone to forest and land fires	Identifying typologies and conflict resolution plans	Forming low-emission rice farming groups	Management of coconut nurseries at the regency level	Guaranteed supply of affordable fertilizer	Replanting program to achieve ISPO/ RSPO	Developing bamboo as an alternative commodity
District/City	East Tanjab	Mapping areas prone to forest and land fires	Identifying typologies and conflict resolution plans	Monitoring water quality	Training and extension of coconut farm- er groups	Distributing superior rubber seedlings	Replanting program to achieve ISPO/ RSPO	
	Muaro Jambi	 Post-fire handling Forest and land fire law enforcement 	Forming conflict resolution teams	Processing and utilization of organic fertilizer		Asessing the management of rubber agroforestry	Forming and strenghtening oil palm farmerinstitu- tions	
	Batang Hari	Mapping areas prone to forest and land fires	Synchroni- zation of borders of conflict-prone areas	Processing and utilization of organic fertilizer		Guaranteed supply of affordable fertilizer		Developing sugar palm as an alternative commodity
	Sarolangun	 Dissemi- nation and installing prohibition signs Patrols to prevent forest and land fires 		Forming low-emission rice farming groups		Facilitat- ing the certification process for smallholder rubber seed gardens		
	Merangin	Forest and land fires prevention patrols				Asessing the manage- ment of rubber agro- forestry		Developing patchouli and jelutong as alternative commod- ities
	Kerinci							Developing sugar cane as an alternative commodity
one	Downs.							
vention Zo	Mids.							
Intel	Upstream							
Intervention for	Jambi	Integrated forest and land fire management	Mapping and handling of conflict areas	Riceffeld cultivation (irrigated, non- irrigated, and swamp(pest) by maximizing the use of low-emission seedlings and fertilizers	Application of Good Agricultural Tractices (GAP), diversification of farming and post-harvest technology and the development of	Revitalization, rejuvenation, and management of rubber plantations using GAP	Intensification of high-quality oil palm cultivation	Development of alternative commodities such as sugar palm, sugar cane, bamboo, patchouli and jelutong
:	o Z	2.1	1.8	9: L	1.10	E	1.12	1.13

Intervention	Jambi	Life-support program cov 20% of the i plantation a	Optimizatio Geographic Indications developmen of downstre industries fo	Developmer processing - Investment (SAD) fisher inland and n fishery prod	Developmer urban farmii	tegy 2: Human	Strong Agric and Forestr Institutions	Improving community to capital	Extension the is well-targe appropriate, timely	Funding, po and partner: that support restoration programs
for	-	trees /ering ndustrial rea	n of al and am r coffee	nt and of Stock Driven ies and narine ucts	it of ng	Resources	ulture 4	access	nat ted, and	licies ships t
Interv	Upstream					and Institut				
ention Zor	Mids.					ional Capé				
e	Downs.					acity throu				
	Kerinci		Developing a coffee stor- age center	Dissemi- nation of processing standards		gh Improving A	Capacity building of farmers' group associations (Gapoktan)	Develop- ment of Village-owned enterprises	Standard- ization of extension efforts	
	Merangin		Improved harvesting techniques	Diversifi- cation of processed products		ccess to Livelihe	Determi- nation of institutional and group assistance	Disseminat- ing about access to captial	Standard- ization of extension efforts	Restoration budgeting initiatives from non-govern- ment funds
	Sarolangun					ood Capitals and	Institutional sychroniza- tion	Disseminat- ing about access to captial	Strengthening of agricultural extension centers	
	Batang Hari			Technical guidance training for processing fisheries products		the Utilization o	Increasing the participa- tion of farmer groups specif- ically women and farmer apprentices	Learning successful practices from other places	Standard- ization of extension efforts	Planning extension on restoration for commu- nities around paraland and National Parks
	Muaro Jambi	Drafting binding partnership agreements withindustrial plantations		Providing infrastructure and facilities for fish production		of Environmental	FMU management planning	Disseminat- ing about access to captial	Strengthening of agricultural extension centers	Develop- ment of multi-stake- holders partnerships
District/City	East Tanjab	Drafting binding partnership agreements with industrial plantations		Dissemi- nation of processing standards		Services	FMU management planning	Partnerships with financial institutions	Empow- erment of independent extension workers	
	West Tanjab	Mapping the extent of land in life-support trees zones	Processing of harvest	Dissemi- nation of processing standards			Determi- nation of institutional and group assistance	Partnerships with financial institutions	Empow- erment of independent extension workers	
	Tebo	Awareness and exten- sion of the concept of life-sup- port trees					Institution- al sychro- nization	Partner- ships with financial institu- tions	Empower- ment of in- dependent extension workers	Resto- ration budgeting initiatives from non-gov- ernment funds
	Bungo			Diversifi- cation of processed products			Determi- nation of institutional and group assistance	Strength- ening the capacity of business actors	Empower- ment of in- dependent extension workers	
	Jambi City			Promot- ing fish consumption (GEMARI- KAN)	Providing infrastructure and facilities to support urban farming		Institutional sychroniza- tion	Growth and development of Farmers Economic Groups (KEP)	Increased use of ICT for extension efforts	
	Sungai Penuh City				Providing infrastructure and facilities to support urban farming		Increasing the par- ticipation of farmer groups specifically women and farmer apprentices	Strengthening the capacity of business actors	Increased use of ICT for extension efforts	

	Donuh Citu		strengthening ooperation with ocal banks		
	Inmbi City	footname	Strengthening s cooperation with local banks	Training and increasing knowledge about con- servation and environmen- tal services for watershed management	
	Dingo		Buidling institutional capac- ity and expertise of community coopera- tives/ vii- lage- vii- lage- vii- lage- vii- lage- vii- lage- vii- lage- vii- institutions institutions	Strengthen- ing the role vate sector and other stakehold- in KIPJL in KIPJL	
	Toho	Facilitation and estab- lishment of multi-party institutions for the ferilita- tion, distri- tion, distri- monitoring of the use of funds	Financial manage ment and neutrepre- neurship training	Strength- ening the role of the private sector and other and other stakehold- ers (NGOS) in KIPJL	Facilitating negoti- ations boteween potential environ- mental service providers and benefi- ciaries
	Moot Taniah		Strengthening cooperation with local banks	Strengthening the role of the private sector and other stakeholders KIPJL KIPJL	
	UISUICT/UITY		Strengthening cooperation with local banks	Training and increasing knowledge about con- servation and environmen- tal services for watershed management	Facilitating negotiations between potential environmen- tal service providers and beneficiaries
	Muse lembi		Financial management and entre- preneurship training	Training and increasing knowledge about con- servation and environmen- tal services for watershed management	Training and increasing community knowledge about conser- vation and en- vironmental services for biodiversity
	Dotona Llori		Buidling institutional capacity and expertise of community cooperatives/ village-owned entepreses/ microfinance institutions		
	Corolonoun	Information	Financial management and entre- preneurship training	Strengthening the role of the private sector and other stakeholders KIPJL KIPJL	
	Moronoin	Training on training on environmen- tal services, payment and co-invest. tal services payment and ment. tal services ing tac- ing tac- sector not co- invest. tal services fing tac- tal services fing tac- tal services fing tac- sector NGOs and NGOS and NGOS and NGOS and NGOS and Sector Sec	Financial manage- ment and entrepre- neurship training	Capacity building, complete- ness of eteo- uments and establishing a legal a legal fan farmer Farmer Group' Group'	Strength- ening the role of the private sec- tor and other stakeholders (NGOs) in KIPJL
	Varinci	variant Training on environmen- tal services tal services payment and ment, ment, ment, environment environments, ment, environments, ment, environments, ment, environments, ment, environments, ment, environments, ment, environments, ment, environments, ment, environments, ment, environments, ment, environment, environment, ment, environment	Buiding institutional capacity and expertise of community cooperatives/ village-owned village-owned institutions institutions	Training and increasing knowledge about con- servation and environmen- tal services for watershed management	Strengthening the role of the private sector and other stakeholders (NGOs) in KIPJL
	Dound				
1	Mide A				
	Inctroom				
	Intervention for Jambi	Building awareness, increasing promotion, multi-stakeholder institutions institutions institutions of regulators for the provision of environmental environmental improvements for the private sector and local communities	Increasing economies of economies of acale through the provision of farm business loans through existing microfinance institutions	Compensation/ payment for payment for services between regions and payment for environmental services (KIPJL) for watershed management	Compensation/ payment for payment for services between regions and payment for environmental services (KIPJL) for biodiversity
	No.	ы N	5.6	2.7	2.8

	gai Penuh City			
	Jambi City Sun		Check com- and benefit and benefit and benefit through all regional agencies agencies agencies agencies agency Development Planing Management Agency and Agency and companies	
	Bungo	Facilitation for volum- tary solution market market market market and inter- mediaries, as well as incen- tives for companies rivolved in the voluch tary carbon market.		Identifica- tion and assessment assessment of environ- mental ser- vices from ecotourism locations
	Tebo	Facilita- tion for voluntary market partici- partici- partici- partici- partici- partici- tives for tives		Identifica- tion of the mental mental impacts of ism
	West Tanjab	Facilitation for voluntary carbon market par- intermediar- intermediar- incentives for comparies involved in the voluntary carbon market.	Develop- ment of a disincentive mechanisms, such an anteriarisms, for business activities that for business activities that quality and quality and quality and environmen- tal services	
District/City	East Tanjab	Facilitation for voluntary carbon maket par- intermediar- ies, as well as incentives for companies involved in the voluntary the voluntary market.	Analysis of current practices and practices and for benefit sharing, sharing, the source and level of environmen- tal impacts, compersa- compersa- gets for water distribution distribution	
	Muaro Jambi	Facilitation for voluntary carbon market par- intermediar- intermediar- incentives for comparies involved in the voluntary market.		Dissemina- tion of the concept of ecotourism as special interest tour- than mass tourism
	Batang Hari	Facilitation for voluntary carbon market par- market par- intermediar- intermediar- incentives for comparies involved in the voluntary carbon market.		Development of loca- tion-space ecotourism plans (e.g., infrastructure plans, loca- tion analysis) models models in addition to strategic plans in supporting Jambi Jambi
	Sarolangun	Identifying policy and regulatory apps at the gaps at the provincial lev. et to ensure efficient mar- ket scheme premits, vol- untary carbon initiatives, and conflict resolution		Development of loca- tion-specific infrastructure plans, loca- tion analysis) models models in addition to strategic plans in supporting Jambi Jambi
	Merangin	Identifying policy and regulatory regulatory gaps at the provincial evento ensure effi- cient market permits, voluntary voluntary and conflict resolution		Develop- ment of loca- tion-specific ecotourism infrastruc- ture plans (e.g.: infrastruc- ture plans (e.g. infrastruc- ture plans in doration and busi- nes models for local for local foc
	Kerinci	Identifying policy and regulatory apas at the gaps at the provincial lev. eft to ensure eft to ensure text scheme permits, vol- untary carbom initiatives, and conflict resolution		Dissamina- tion of the concept of ecotourism as special interest tour- than mass tourism
е	Downs.			
rention Zo	Mids.			
Interv	Upstream			
Intervention for	Jambi	Voluntary carbon markets and initiatives	Water commodity markets for a sustainable water supply	with a variety of alternatives the average of alternatives tourist general landscape to tourism and specific tourism and specific tourism.
- N	Ż	2.9	2.10	2.1

	Sungai Penuh City						Making a commod- ity price database	
	Jambi City						Making a commodity price data- base	
	Bungo	Admin- istrative simplifica- too fland certification and legal status for planta- tions that suppor the ecological process					Making a commod- ity price database	
	Tebo	Adminis- trative sim- pification of land cer- tification and legal status for plantations that sup- port the ecological process			Construc- tion of type-C terminals (village and city transporta- tion)		Dissemi- nation of commodity prices on the village level	
	West Tanjab	Supervision of environ- mental, economic and social for the for the certification program			Provision of commodity transport equipment		Dissemi- nation of commodity prices on the village level	Improvement of farmers' skills in pro- cessing co- conut-derived products
District/City	East Tanjab	Supervision of environ- mental, economic economic and social indicators for the certification program		-Land acqui- sition Develop- ment of internation- al-standard facilities -Develop- ment of an economic zone for industry"	Provision of commodity transport equipment	Increased road status	Making a commodity price data- base	Improvement of farmers' skills in pro- cessing co- conut-derived products
	Muaro Jambi					Determi- nation of strategic road and bridge construction locations to support inter-regional activity centers	Dissemi- nation of commodity prices on the village level	
	Batang Hari	Administra- cavics simplifi- cation of land certification and legal status for plantations that support the ecological process			Development of river trans- portation modes		Dissemi- nation of commodity prices on the village level	
	Sarolangun	Administra- tive simplifi- certion of land certification and legal status for plantations that support the ecological process					Making a commodity price data- base	
	Merangin	Supervision of environ- mental, economic and social indicators for the certification program					Making a commod- ity price database	
	Kerinci	Supervision of environ- mental, economic economic and social indicators for the certification program			Provision of commodity transport equipment	Determi- nation of strategic road and bridge construction locations to support inter-regional activity centers	Making a commodity price data- base	
one	Downs.		ains					
vention Zt	Mids.		Value Chá					
Inter	Upstream		Sustainable					
Intervention for	Jambi	Landscape environmental services in the actionand plantation and forestry sectors	3y 3: Connectivity and	Development sainternational- sainternational- port facilities and economic zoning for industrial zones	Increased modes of transportation from production centers to processing facilities or markets	Increasing the capacity of roads and bridges that connect activity centers centers	Easy access to market information that benefits farmers	The formation of an integrated coconut derivative industry to increase added value for farmers
-	Z	2.12	Strate	Ē	3.2	ы vi	3.4	3.51 .51

	ungai Penuh City			evelopment linge nurseries d seed gardens vel (production anters) for the preupment of preuality cinna- ion seeds	
	Jambi City S			0 0 2 2 8 8 2 0 2 E	
	Bungo	Facilitation of private sector and business partner- ships, including with banks for venture capital	Develop- ment of marketing diversi- fication with new buvers of processed rubber		
	Tebo	Determi- nation of investment require- ments for the new the new the new tubber crumb in- dustry, i.e., at least at least 20% from the on planation planation	Develop- ment of marketing diversi- fication with new buyers of processed rubber		
	West Tanjab				
District/City	East Tanjab				
	Muaro Jambi	Facilitating lishment of factories for riveb products	Increasing the number and quality of UPPB facilities in accordance with local needs		
	Batang Hari	Facilitation of and business partnerships, including with banks for venture capital	Increasing the number and quality of UPPB facilities in accordance with local needs		
	Sarolangun	Determi- Determi- investment requirements rother the new industry, i.e., for the own from the own planation	Increasing the number and quality of UPPB facilities in accordance with local needs		
	Merangin	Determi- nation of investment require- ments for the new rub- ber crumb i.e., at least 20% from the own planation	Increasing the number and quality of UPPB facilities in accordance with local needs		
	Kerinci			Guaranteed availability of cinnamon seeds	
one	Downs.				
ervention Z	Mids.				
Inte	Upstream				
Intervention for	Jambi	Rubber-derived product businesses involving rubber farmers as investors	Optimizing the rubber auction market (Rubber Processing and Marketing Units - UPBB) as a clean rubber supply node	Diversification of farming businesses with agroforestry for high-ecommotives, value commodities, and improvement of post-harvest technology and marketing of cinnamon	
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KAB. TANJUNGJABUNG BARAT

KAB. TANJUNGJABENG TIMUR

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Roadmap for Green Growth

WAROJ.

The land-based sector is the main economic driver for Jambi Province. Nevertheless, there are still many issues related to land management. Economic activities in the natural resources sector in Jambi Province require good connectivity between production centers and distribution that provide the optimal added value of products without transportation costs burdening farmers and producers. Improving value chains is a strategic goal in this strategy, which increases economies of scale through the development of downstream industries, specifically for the seven leading commodities of Jambi Province.

Chapter 6 Roadmap for Green Growth

6.1 Timeline and Alternative Funding for Green Growth

Strategy 1. Land-use, Land Restoration, and the Sustainable Increase in Land Productivity

The land-based sector is the main economic driver for Jambi Province. Nevertheless, there are still many issues related to land management that occur. Land is a finite resource that is utilized by many stakeholders, and there is a high likelihood of overlapping land-uses. The first strategy addresses key elements in sustainable land management, i.e., improving land-use, restoring degraded land, and increasing productivity in strategic land sectors.

Strategy 2. Human Resources and Institutional Capacity through Increasing Access to Livelihood Capitals and Environmental Services

Green growth requires excellent human resources and strong institutions to ensure sustainability. The human resources and

institutional capacity in Jambi Province needs improvement, especially regarding community access to livelihood capitals. Support is needed to achieve equitable development and community welfare in Jambi Province. The mechanism of environmental services is also included in this strategy as a form of innovative funding that guarantees environmental conservation efforts in sustainable investments.

Strategy 3. Connectivity and Sustainable Value Chains

Connectivity and accessibility are important aspects of supporting the regional economy, especially for the Province of Jambi in connecting strategic community nodes. Economic activities dominated by the natural resources sector in Jambi Province require well-connected production centers and distribution networks. Better connectivity will lead to added value of products without transportation costs burdening farmers and producers. The main goal of this strategy is to increase value chains. This is done by developing downstream industries specifically for the seven leading commodities of Jambi Province to create economies of scale.

	2031- 2035											
Timeline	2025- 2030											
	2019- 2024											
	6											
	8											
Itial	7											
oten	9								>			
Jg P	5	>		>	>	>	>	>	>	>		
ndir	4											
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	-	>	~	>		<u>1</u>		>		>		
	Activities for Jambi	Preparing a database for the one map information system	Reviewing and synchronizing concession licenses and business rights through the one map program	Mapping and identification of the commodities that are being developed	Planning boundaries according to the spatial plan through zoning regulations	Setting up a monitoring system for spatial utilization, especially for forest security and for the distribution of forest products	Increasing the Social Forestry areas at the location of disadvantaged villages on the Indicative Social Forestry Areal Map (PIAPS)	Harmonization, consultation, and periodically updating the Indicative Social Forestry Areal Map Community Plantation/Hutan Tanaman Rakyat, Community Forest/Hutan Kenasyarakatan, and Village Forest/Hutan Desa) with spatial plans and other maps by non-governmental institutions	Studying the social forestry and livelihood activities of local communities (timber production, non-timber forest production, environmental services)	Integrated research on proposed changes in the status and function of forest areas	Establishing a Social Forestry Acceleration Working Group at the provincial level that helps facilitate and verify social forestry acceleration activities	Facilitating social forestry partnerships that involve companies
	Š	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.2.1	1.2.2	1.2.3	1.2.4	1.2.5	1.2.6
	Desired Outcomes	Integration between demand and the	availability of land by allocating commodity	through the application of a one map policy Equitable economic growth at the landscape level hrough the allocation of NTFP expansion in poor village locations								
Interventione for	Jambi	Allocation and land use in line with	the demand and availability of land	by considening protected areas and land suitability	through the application of a one	map policy	Allocation and mapping of access to forest area	for community livelihoods with priority for pockets of poverty				
	° N	1					1.2					

Strategy 1: Land Use, Land Restoration, and the Sustainable Increase in Land Productivity

Table 6-1. Timeline and alternative financing activities in strategy 1

	2031- 2035																	
Timeline	2025- 2030																	
	2019- 2024																	
	ი 8			7		>			>		>	7		>				
ntial	2																	
J Pote	5 6	>	>	>		>		>				>		>		>		
unding	4										>							
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	-				s		~				>	>		>				E
	Activities for Jambi	Study of definitions and criteria for poor villages that deserve to be prioritized in the surrounding area of forests	Feasibility study for the release of forest areas	Forest area identification	Facilitation of an integrated team for studying changes in the designation and release of forest area in the province	Preparing recommendations for changes in the designation and the release of forest areas	Revise regency spatial plan for other management areas resulting from changes in the designation and release of forest areas in accordance with commodit centers	Facilitation of poor farmers to get access to land ownership	Determination of priorities for the rehabilitation of degraded land at the village level	Survey of degraded areas	Provision of seedling and infrastructure and facilities for enrichment with local and endemic species	Planting and preservation	Monitoring and evaluation of degraded areas	Rehabilitation of former illegal quarrying, mining and drilling land in accordance with its original land allocation	Mapping commodity development/priorities at the regency level	Moratorium on new oil palm licenses	Determination of potential cultivation areas and commodities centers	Mapping the distribution of old plantations and prioritizing the revitalization and rejuvenation of seve leading commodities
	No	1.3.1	1.3.2	1.3.3	1.3.4	1.3.5	1.3.6	1.3.7	1.4.1	1.4.2	1.4.3	1.4.4	1.4.5	1.4.6	1.5.1	1.5.2	1.5.3	1.5.4
	Desired Outcomes	Achieving the ideals of Agrarian Reform related to livelihoods	and land tenure in poor and marginal villages						Restoration and reuse of idle and degraded	lands through community land	management efforts				Increased productivity of leading agricultural	and plantation commodities through	land revitalization	
and a second second	Jambi	Allocation of access-tenure of land from the	release of forest areas for livelihoods	in poor villages	(Agrarian Kerorm)				Allocation and restoration	prioritization of degraded	landscapes				Revitalization and optimization of	agricultural and plantation land	5	
	No	1.3							1.4						1.5			

No. No. Activities for Janhi 1 2 3 4 5 6 7 8 2024	Internationa for						unding	g Potentia	_		Timeline	
16.1 Mapping and planning of restoration areas v 000000000000000000000000000000000000	Jambi	Desired Outco	mes	No.	Activities for Jambi	1 2	3 4	5 6 7	6 8	2019- 2024	2025- 2030	2031- 2035
Increasing community capacity (other land-use from the land-u	Restoration of peat Natural peat	Natural peat		1.6.1	Mapping and planning of restoration areas	>	>					
16.3 Increasing community capacity (other land-use dubbin) 1.6.1 Note an intrastructure is and infrastructure is dubbin du	ecosystems ecosystems are preserved	ecosystems are preserved		1.6.2	Surveying locations form restoration suitability	7		~				
I.6.4 Peparation of materials, facilities, and infrastructure dities, I.6.4 Peparation of activities (rewetting, rewegetation, lewitalization) I.6.5 Supervision and evaluation of restoration activities, witalization) Les I.6.5 Supervision and evaluation of restoration activities, evitalization) I.6.6 Supervision and evaluation of restoration activities, including I.7.2 Disemination and evaluation of prohibition signs I	and managed in accordance with	and managed in accordance with	their	1.6.3	Increasing community capacity (other land-use areas)			> >			1	
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1.6.6Supervision and evaluation of restoration activities $1.7.1$ Dissemination and installation of prohibition signs v v v ands $1.7.2$ Preparing facilities and infrastructure for handling v v v $1.7.2$ Preparing facilities and infrastructure for handling v v v v $1.7.2$ Preparation of human resources and the formation of and government levels v v v v $1.7.4$ Forest and land fire v v v v v v $1.7.4$ Forest and land fire prevention patrols v v v v v $1.7.6$ Mapping of forest areas prone to fire v v v v v v $1.7.7$ Ground check areas or hotspots v v v v v v v $1.7.7$ Ground check areas or hotspots v v v v v v v $1.7.8$ Law enforcement for forest and land fires v v v v v v v $1.8.1$ Synchronizing boundaries of conflict-prone areas v v v v v v v $1.8.1$ Synchronizing boundaries of conflict-prone areas v v v v v v $1.7.8$ Law inforcement for forest and land fires v v v v v v v v $1.8.1$ Synchronizing boundaries of conf	of forest commod through natural/	of forest commod through natural/	ities,)	1.6.5	Implementation of activities (rewetting, revegetation, revitalization)	>		~				
Includent	planung technique and infrastructure	planting technique and infrastructure	N .	1.6.6	Supervision and evaluation of restoration activities	7						
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1.7.3 Preparation of human resources and the formation of a task force and institutional team at the community and government levels 1.7.4 Forest and land fire prevention patrols 1.7.5 Mapping of forest areas prone to fire 1.7.6 Post-fire handling, mapping, loss calculation, 1.7.7 Ground check areas or hotspots 1.7.1 Ground check areas or hotspots 1.7.7 Ground check areas or hotspots 1.7.8 Law enforcement for forest and land fires	and land fire of torest fires in management mineral and peatlar	or rorest rires in mineral and peatlar	spr	1.7.2	Preparing facilities and infrastructure for handling forest and land fires	~ ~		~				
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				1.7.5	Mapping of forest areas prone to fire	>		~				
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				1.7.6	Post-fire handling , mapping , loss calculation, recommendations	>		~				
1.7.8 Law enforcement for forest and land fires v <td< td=""><td></td><td></td><td></td><td>1.7.7</td><td>Ground check areas or hotspots</td><td>></td><td></td><td>~</td><td></td><td></td><td></td><td></td></td<>				1.7.7	Ground check areas or hotspots	>		~				
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				1.8.6	Study of the socio-economic aspects, tenure, and land access of surrounding communities	>		~				

						Funding Poten	tial		Timeline	
L ar	erventions for nbi	Desired Outcomes	No.	Activities for Jambi	1 2	3 4 5 6	7 8 9	2019- 2024	2025- 2030	2031- 2035
			1.8.7	Consultation with the surrounding community to determine zoning	>	>	>			
ji n	cefield cultivation igated, non-	Low-emissions and integrated ricefield	1.9.1	Stimulating low-emission rice practices in farmer groups	>	>				
LI S S	igated, and /amp/peat) by	cultivation (irrigated, non-irrigated, and peat/	1.9.2	Development of low-emission rice demonstration plot and System of Rice Intensification (SRI) methods	>	~				
s of E	low-emission edlings and	and sustainable practice for farmers	1.9.3	Dissemination to farmer groups regarding the use of low-emissions seedlings and labeled organic fertilizer		~				
al a	beled organic		1.9.4	Subsidizing local superior low-emission rice varieties	>					
<u>u</u>	siazili	I	1.9.5	Monitoring irrigation water quality to be free of pollutants	>	>				
			1.9.6	Extension through field schools to improve the quality of seeds, the way of selection, and handling of pests	>					
			1.9.7	Management and utilization of organic fertilizer		~ ~				
			1.9.8	Participatory planning with farmers to increase the farmer exchange rate	>	>				
Ϋ́ΩΫ́	pplication of ood Agricultural actices (GAP),	Sustainable and integrated coconut cultivation with	1.10.1	Training and counseling of coconut farmer groups in order to increase the capacity and commitment of farmers	~	~				
je je	versification farming and	the diversity of commodities, and	1.10.2	Rejuvenation of coconut plantations						
t b	st-harvest chnology, and the	harvest and post- harvest technology to	1.10.3	Development of polyculture of coconut with areca nut, coffee, and chocolate		~ ~				
b C	evelopment of the	produce commodities with high productivity	1.10.4	Development of independent village nurseries		~				
9.E	lustry		1.10.5	Management of nurseries at the regency level to develop high-quality seedlings		~ ~				
			1.10.6	Institutional strenghtening of coconut farmer groups		ح ا				

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. Activities for Jambi	1.7 Strengthening cooperatives for agricultural coconut production inputs	.1 Study of management of rubber agroforestry with productive inter-cropping	.2 Extension on Good Agricultural Practices in rubber cultivation	.3 Distribution of superior rubber and intercropping (coffee, chocolate, etc.) seedlings	.4 Facilitating the certification process for smallholder rubber seedlings, including support to increase the quality of local breeding	.5 Guarantee the supply of affordable fertilizer and provide information on balanced fertilization	.6 Rejuvenation of rubber plantations	Establishment and institutional strengthening of oil palm farmer groups	2.2 Provision of certified superior oil palm seeds	2.3 Strengthening the oil palm nursery business of high- quality and certified seeds by the community	2.4 The application of replanting programs and coaching for plasma plantations and smallholder oil palm plantations to achieve ISPO/RSPO certification standards	2.5 The development of agroforestry options with commodity crops and livestock (cattle) especially for plantations over 8 years old	<u>.</u> 6 Development of core and plasma partnerships	17 Improved access of farmers to farmer business funding and simplified requirements for receiving People's Business Loans
ÖZ	1.10	1.11	1.11	1.11	1.11.	1.11	1.1	1.12	1.12	1.12	1.12	1.12	1.12	1.12
Desired Outcomes		tion, Sustainable rubber ion, and cultivation integrated	ent of with commodity ntations diversification to	high productivity				ation of Sustainable oil ty oil palm palm cultivation;	n with national and alobal certification	standards; integrated with a diversity of	commodifies and livestock, that applies harvest and post- harvest technology	with yields that meet the palm oil factory standards		
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Decired Difference No Activition for Tembi		1.10.7 Strengthening cooperatives for agricultural coconut production inputs	Desired outcomes No. Addition in the state outcomes 1 1.10.7 Strengthening cooperatives for agricultural coconut production inputs 1 1 inon, Sustainable rubber 1.11.1 Study of management of rubber agroforestry with on, and cultivation integrated 1 1	Image: Non-andrese in the second se	No. No. <td>No. No. No.<td>Desired outcome No. Activates for agricultural coconut 1.10.7 Strengthening cooperatives for agricultural coconut 1.10.7 Strengthening cooperatives for agricultural coconut notion, and Sustainable rubber 1.11.1 Study of management of rubber agroforestry with not uith commodity 1.11.2 Extension on Good Agricultural Practices in rubber natations uith commodity 1.11.3 Distribution of superior rubber and intercropping natations nultivation natations 1.11.3 Distribution of superior rubber and intercropping notuctivity 1.11.3 Distribution of superior rubber and 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	and a second second					Fund	ding	Poter	ntial			Ē	meline		_
≣⊸≍	ambi	Desired Outcomes	No.	Activities for Jambi	1 2	m	4	9	2	0	5 S	024	2025- 2030	2031- 2035	
	evelopment	Production	1.13.1	Provision of quality seeds for alternative commodities	>	>	>								
οō	r alternative ommodities	or arternative commodities such	1.13.2	Using post-harvest technology	> >			-							
0 5	tuch as sugar	as sugar palm, sugar	1.13.3	Development of bamboo derivative products	>			>							_
~ ~ ~	bamboo, patchouli	patchouli and jelutong	1.13.4	Integration of sugar cane and livestock	>		-								
	and jelutong	which have added value	1.13.5	Increased investment in sugar cane	~			7							_
			1.13.6	Large-scale industrial processing of sugar				>		>					-
	Life-support trees program covering 20% of the industrial	The welfare of the community in/ around the forest	1.14.1	Awareness, extension on the concept of life-support trees and its implementation scheme for local communities	>	>									
_	olantation area	area increases and fires are prevented	1.14.2	Participatory mapping of land in the life-support trees zone	>	>									
		by developing agroforestry in accordance with local	1.14.3	Preparation of binding partnership agreements, including M&E indicators	>	>									
		wisdom	1.14.4	Facilitate alternative financing options for the Life Plant program	>	>	-	>							
			1.14.5	Identification of agroforestry options for timber profit-sharing; in accordance with local conditions and aspirations of the community	>										
00-	Dptimization of Seographical ndications and	Community-based coffee agroindustry that focuses on coffee	1.15.1	Extension on GAP, diversification, control of pests and biological diseases of plants, and grafting by certified instructors	>										
00	Jevelopment of downstream	with geographical indications with added	1.15.2	Manage plantation production	>	>									
	ndustries for coffee products	value and strong competitiveness	1.15.3	The expansion of coffee plantation areas is limited based on land suitability and does not encroach on forests	>										
			1.15.4	The development of demonstration plots for coffee agroforestry combined with goat livestock, and making compost and erosion-resistant grass strips	>		>	>							
			1.15.5	Improvement of harvesting and marketing techniques, such as warranties		>									
			1.15.6	Strengthening cooperatives for agriculture inputs for coffee	7										

						Fun	ding P	otent	ial			Timeline	
N	Jambi	Desired Outcomes	No.	Activities for Jambi	1 2	ო	4 5	9	7 8	6	2019- 2024	2025- 2030	2031- 2035
			1.15.7	The construction of collection center for agricultural/ plantation products of the community to be sold			>	>					
			1.15.8	The construction of a production promotion center			>						
			1.15.9	Involvement in events such as coffee festivals and exhibitions	>		>					1	
			1.15.10	Training baristas in public for the young generations	>								
			1.15.11	Optimizing and adding coffee varieties with Geographical Indications, such as Merangin Arabica and Robusta	>	>							
		ı	1.15.12	Support multi-party activities: integration of aquaculture, agro-tourism, marketing	>		>						
1.16	Development and processing of Stock	Increasing products and production of	1.16.1	Distribution of assistance for infrastructure and facilities for capture fisheries and aquaculture			>						
	Investment Driven (SAD) fisheries and	processed fishery	1.16.2	Technical guidance for processing fishery products	>	>							
	inland and marine	sustainable manner	1.16.3	Diversification of processed products	>		>						
	tisnery products	×	1.16.4	Dissemination of processing standards	>		>						
			1.16.5	Promoting fish consumption (GEMARIKAN campaign)	>		>						
			1.16.6	Organizing fish cooking competitions		>	>	>					
			1.16.7	Management of lubuk larangan and fish sanctuaries									
		×	1.16.8	Development of local fish farming centers									
1.17	Development of	Increased agricultural	1.17.1	Intensification of land with urban farming potential									
	urban Tarming	production and diversification bv utilizing land	1.17.2	Dissemination and assistance for urban farming activities in each potential area									
		around community settlements	1.17.3	Provision of supporting facilities and infrastructure including markets for urban farming products									

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					Funding Pot	tential		Timeline	
No.	Interventions for Jambi	Desired Outcomes	No.	Activities for Jambi	2 3 4 5	6 7 8 9	2019- 2024	2025- 2030	2031- 2035
2.1	Water commodity markets for a	The water commodity market has a positive impact on the	2.1.1	Institutional determination and assistance to agriculture and forestry groups	~ ~ ~				
	sustainable water supply	community through equitable [–] water supply	2.1.2	Synchronization and coordination of agricultural and forestry institutions by NGOs and the government	7				
			2.1.3	Capacity building of farmer group associations (Gapoktan)	> >				
		I	2.1.4	Increased participation of members of farmer groups including female farmers and farmer cadets	~				
			2.1.5	Planning and managing FMUs	~ ~	~			
2.2	Improving community access to capital	"High individual and group community capacity	2.2.1	Growth and development of Farmers Economic Groups (KEP), Cooperatives, Farmers-Owned Enterprises	~ ~ ~	>			
		including marginal groups, vouth and women in	2.2.2	Development of Village-Owned Enterprises (BUMdes)					
		managing lands and forests based on local wisdom	2.2.3	Partnerships with financial institutions and business actors (agriculture, plantations, fisheries)	7	>			
		Easy access for the community to sources of capital. production facilities	2.2.4	The dissemination of sources of access to capital for the community	~ ~				
		and infrastructure"	2.2.5	Capacity building of agricultural business actors in financial administration and management	7	>			
			2.2.6	Revitalizing cooperatives	7				
			2.2.7	Facilitating the provision of insurance for agriculture, plantation and fisheries activities	~				
2.3	Extension that is well-	Extension activities are	2.3.1	Strengthening extension centers (for agriculture, forestry, etc.)	~ ~				
	targeted, appropriate, and timely	weirtargetea, appropriate and timely (one instructor one	2.3.2	Standardization of extension workers	~ ~ ,				
		village)	2.3.3	Increased extension workers' competences	~ ~				
			2.3.4	Increased operational budget for extension workers and extension services	~				
			2.3.5	Increased use of ICT for extension	~ ~ ~ /				
			2.3.6	Empowerment voluntary extension workers	~ ~ ^				
			2.3.7	Increased technical assistance to the community by companies	>	~			

Table 6-2. Timeline and alternative financing activities in strategy 2
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	Activities for Jambi	Making demonstration plots or bioplots	Studying the successes of other places	Coordination, monitoring and evaluation	Strengthening and revitalizing community institutions (e.g. frre- aware communities, GAPOKTAN, rural communities in buffer zones) and the government (provincial, regency, village levels)	The allocation of funds to carry out restoration activities of land outside dissemination and prevention activities	Development multiple stakeholder partnerships	Planning extension about restoration to the community in the areas surrounding peatland and national parks (especially in terms of the expansion of land by burning)	Optimizing the function of the Regional Peak Restoration Team (TRGD) in partnership activities for the restoration of peatland	Optimizing supervision in the transparent use of the budget	Initiate budgeting for restoration from non-government funds	Awareness and promotion of the concept of environmental services and their application	Training on environmental services, payment and co-investmen in environmental services, financing environmental services; targets for local government, NGOs and the private sector	Facilitation and establishment of multi-party institutions to collect, fertilize, distribute and monitor the achievement of the use of funds	Revision of regulations related to environmental services and environmental services instruments	Institutional strengthening and increasing the expertise of community cooperatives/BUMDES/micro-finance institutions	Strengthening cooperation with local banks	Financial management and entrepreneurship training	Supervision of the use of village funds
	No.	2.3.8	2.3.9	2.3.10	2.4.1	2.4.2	2.4.3	2.4.4	2.4.5	2.4.6	2.4.7	2.5.1	2.5.2	2.5.3	2.5.4	2.6.1	2.6.2	2.6.3	2.6.4
	Desired Outcomes			•	Restoration efforts are realized through public funding, private sector support	and international partners					•	Public awareness of the concept of environmental	services, multi-stakeholder institutions that are capable of collecting, fertilizing, chappeling and monitoring	the outcomes of the use of funds fairly and efficiently, and supported by regulations and	effective policies in producing environmental services	Increased financial capacity of farmers supported by	capital provision, ability of financial management. and	support from village financial	
internations for	Jambi				Funding, policies and partnerships that support restoration	programs						Building awareness, increasing promotion,	multi-stakeholder institutions formation, and the strengthening of regulations for	the provision of environmental services and welfare	improvements for the private sector and local communities	Increasing economies of scale through the	provision of farm business loans through	existing microfinance	61000000
	No.				2.4							2.5				2.6			

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	Activities for Jambi	Training and increasing knowledge of the public about conservation and environmental services for watershed management	Capacity building, the completeness of documents and creating a legal body for the 'Environmental Services Farmer Groups' the from existing farmer groups or other institutions/village community groups	Facilitation of negotiations between providers of potential environmental services and beneficiaries	Coordination of monitoring, evaluation, and reporting on the development of contracts for environmental services and indicators were agreed as a provincial database	Strengthening the role of the private sector and other stakeholders (NGOs) in the development planning process for compensation/payment for environmental services between regions and payment for environmental services (KIPJL)	Incentive and disincentive systems for regencies and villages with unlicensed gold mining locations: upstream (Merangin, Soralangun, Mersam, Muara Panco, etc.) especially at the sub- watershed scale.	Training and increasing knowledge of the public on conservation and environmental services for biological diversity	Facilitation of negotiations between providers of potential environmental services and beneficiaries	Coordination of monitoring, evaluation, and reporting on the development of contract services environment and indicators were agreed as a database provincial	Strengthening the role of the private sector and other stakeholders (NGOs) in the development planning process for the KIPJL	Identifying policy and regulatory gaps at the provincial level to ensure efficient market scheme permits and voluntary carbon initiatives, and conflict resolution	Facilitation for participants of voluntary carbon markets and intermediaries, as well as incentives for companies that are involved in voluntary carbon markets	ToT for monitoring and measuring carbon at the site level for local governments, NGOs and communities	Support for NGOs to facilitate carbon measurement, community engagement and voluntary carbon market negotiations
	No.	2.7.1	2.7.2	2.7.3	2.7.4	2.7.5	2.7.6	2.8.1	2.8.2	2.8.3	2.8.4	2.9.1	2.9.2	2.9.3	2.9.4
	Desired Outcomes	Integrated and measurable watershed management through the implementation of	KIPJL which is operational and has a positive impact on the community.			1 1		The biodiversity outside conservation areas supports	conservation goals and benefits local communities	1		Voluntary carbon markets and initiatives that are operational, sustainable	and have a positive impact on the community and the environment, and support the achievement of rectional	targets in reducing GHG emissions	
Internantione for	Jambi	Compensation/ payment for environmental services	between regions and payment for environmental services (KIPJL) for watershed					Compensation/ payment for	environmental services between regions and navment for	(KIPJL) for biodiversity		Voluntary carbon markets and initiatives			
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	Activities for Jambi	Analysis of existing practices and its potential for benefit-sharing including sources and the level of environmental impact, the calculation of the compensation, and clean water distribution targets	Checking compensations and benefit-sharing by all local government agencies under the coordination of BAPPEDA, the Watershed Management Center (BPDAS), and companies	Implementing a monitoring system as a basis for negotiations and updates	Assessment and improvement of the efficiency of the performance of the local water utility (PDAM), especially in the supply and distribution of clean water in urban areas	Development of disincentive mechanisms, such as environmental taxes and user charges for business activities that threaten the quality and quantity of environmental services	Dissemination of the concept of ecotourism as special interest tourism rather than mass tourism	The development location-specific ecotourism plans (e.g. infrastructure plan, location analysis) and business models for the local community as an addition to the strategic plan for tourims in Jambi	Identification of the environmental and social impacts of ecotourism	Development of a participatory plan with the local community on ecotourism locations to provide added value from ecotourism as part of the income diversification program	Improved ticketing system for ecotourism locations, and identifying how to finance conservation from ecotourism revenues	Identification and assessment of environmental services from ecotourism locations	Development of disincentive mechanisms, such as environmental taxes and user fees for tourism activities that threaten the quality and quantity of environmental services in tourist areas.
	No.	2.10.1	2.10.2	2.10.3	2.10.4	2.10.5	2.11.1	2.11.2	2.11.3	2.11.4	2.11.5	2.11.6	2.11.7
	Desired Outcomes	The water commodity market has a positive impact on the community through equitable water supply		Ι	1	I	The ecotourism industry offers positive benefits	for local communities and environmental management				I	
	Interventions for Jambi	Water commodity markets for a sustainable water supply					Ecotourism markets with a variety of alternative tourist destinations: general landscape tourism specific tourism						
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	Activities for Jambi	The integration of agriculture development programs in areas that could obtain certification	Monitoring and evaluation as part of the provincial database for certification programs (environmental, economic and social)	Observing environmental, economic and social indicators for the certification program as part of the provincial database	Simplifying administration for certification of land and legal status for coffee plantations that support ecological functions, e.g. agroforestry	The application of an incentive system (tax reduction) for sustainable companies and a disincentive system (fines) for violating companies	The development and integration of green indicators for the agribusiness financial system	Simplifying industrial plantation forest (HTI) licensing as an incentive if the company has applied sustainable certification such as the Timber Legitty Verification System (SVLK), Forest Law Enforcement, Governance and Trade (FLEGT), and the Forest Stewardship Council (FSC), in accordance with global consumer demands, and in cooperation with NGOs	Analysis of the overlapping wood licensing and certification system and applying it at the provincial level as well as providing recommendations on the national level
	No.	2.12.1	2.12.2	2.12.3	2.12.4	2.12.5	2.12.6	2.12.7	2.12.8
	Desired Outcomes	Ecologically and economically positive impacts on farmers	and surrounding communities, entrepreneurs, and consumers			ı			
	Interventions for Jambi	Landscapecertification and environmental	services in the agriculture, plantation and forestry sectors						
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	Aktivitas Jambi	Land acquisition for port development	Development of road access to the port	Development of international standard export port facilities and economic zoning for industry	Construction of warehousing facilities	Development of river transportation modes	Development of a train network	Construction of type-C terminals (village and city transportation)	Provision of commodity transport equipment	Determining the locations for the construction of roads and bridges to connect inter-regional activity centers	Roads and bridges maintenance	Increased road status	Making a commodity price database	The dissemination of commodity prices on the village level
	No.	3.1.1	3.1.2	3.1.3	3.1.4	3.2.1	3.2.2	3.2.3	3.2.4	3.3.1	3.3.2	3.3.3	3.4.1	3.4.2
	Capaian Dambaan Jambi	Port and supporting	facilitate economic	activities and distribute goods from Jambi Province (economic	outlet)	Ease of distribution of products through the	provision of connecting	transportation costs		The connectivity between activity centers is ensured through improving the	quality of roads and	priages	Improvement of farmers'	profits supported by adequate market information
	Intervensi Jambi	Development	ot international- standard exnort	port facilities and economic zoning for industrial	zones	Increased modes of transportation	from production	centers to processing facilities or	markets	Increasing the capacity of roads and bridges that	connect activity	centers	Easier access	to market information that benefits farmers
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Table 6-3. Timelines and alternative financing activities in strategy 3

Strategy 3: Connectivity and Sustainable Value Chains

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	Aktivitas Jambi	Improving farmers' skills in processing coconut derived products	Development of the coconut processing industry (e.g. shell for charcoal briquettes, virgin coconut oil, nata de coco)	Facilitating investments int he processing industry to ensure the supply of raw coconut material	The development of an incentive system for the coconut industry	Study the feasibility and technology of rubber processing targeted for the development of downstream rubber products, including the latex-based industry, crumb rubber mini, and mini rubber scraper	Facilitation of private sector partnerships and business actors, including banks for venture capital	Facilitating the building of factories for rubber-derived products in accordance with the study in the previous section	Development of investment schemes by involving rubber farmers as investors	Determining investment requirements for the new rubber crumb industry, i.e., at least 20% of raw material supply originates from the own plantation	Guarantee consistent post-harvest rubber quality that is ready to be sold
	No.	3.5.1	3.5.2	3.5.2	3.5.2	3.6.1	3.6.2	3.6.3	3.6.4	3.6.5	3.6.6
	Capaian Dambaan Jambi	An integrated coconut industry that can increase	added value for farmers			Increased added value of rubber-derived products					
	Intervensi Jambi	The formation of an integrated	coconut derivative industry to increase added	value for farmers		Rubber-derived product businesses involving rubber farmers as investors					
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	Aktivitas Jambi	The development of the processing industry for rubber-derived products integrated to increase the value added (e.g. rubber asphalt, gloves, motor accessories, balloons, tires, retread tires)	Increasing the number and quality of rubber processing and marketing facilities based on local needs	Increasing the role of farmer groups in the UPPB market mechanism through an increase in capacity and clarity of guidelines and group guidelines especially regarding proper harvesting and the introduction of rubber quality standards	Improvement of the UPPB management system by issuing collection certificates based on the UPPB's location	Supervision of the auction market to avoid illegal practices and price monopolies, and guaranteeing market mechanisms	Law enforcement and strengthening regulations to ensure the incentive and disincentive system works to improve rubber quality through the UPBB	Development of marketing diversification with new processed rubber buyers
	No.	3.6.7	3.7.1	3.7.2	3.7.3	3.7.4	3.7.5	3.7.6
	i Capaian Dambaan Jambi		A raw rubber marketing chain with a strong bargaining position for	farmers for a fair trade and village economic system at the level of the farmer				
	Intervensi Jambi		Optimizing the rubber auction market (Rubber	Processing and Marketing Units) as a clean rubber supply node				
	No.		3.7					

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Potensi Pembiayaan	1 2 3 4 5 6 7 8 9	7		7	7	~	> >	~ ~	> > >	~ ~	>	
	Aktivitas Jambi	Diversification of farming businesses with agroforestry for high-economic value commodities, and improvement of post-harvest technology and marketing of cinnamon	Guaranteed availability of cinnamon seeds	Development of independent nurseries in villages and parent seed at the district level (production centers) for the development of quality cinnamon seedlings and agroforestry crops	Development of agroforestry demonstration plots with high economic value commodities (coffee, chilies, horticulture)	Training in business diversification with agroforestry and agro-tourism systems in the area of peoples cinnamon plantations	Improved quality and added value of cinnamon derivative products	Optimization of Geographical Indications of cinnamon products	Improving the quality of post-harvest technology and marketing of cinnamon with geographical indication	Facilitation of marketing high quality cinnamon and agroforestry products	Involvement of the Tourism and Creative Economy Agency (BEKRAF) in increasing the branding of cinnamon from Jambi Province	
	No.	3.8.1	3.8.2	3.8.3	3.8.4	3.8.5	3.8.6	3.8.7	3.8.8	3.8.9	3.8.10	
	Capaian Dambaan Jambi	High-quality and diversified cinnamon production with added value that benefits farmers								I		
	Intervensi Jambi	Diversification of farming businesses with agroforestry for high-	economic value commodities,	and improvement of post-harvest technology and marketing of cinnamon								
	No.	8. 										

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Thematic programs focus on relevant activities to achieve priority goals. The thematic programs are prepared with reference to the strategic programs of Jambi Province's Regional Medium-Term Development Plan (RPJMD), strategic issues in the province, and the priority activities that are stipulated by the Green Growth Master Plan. The detailed outline of the thematic programs is expected to increase stakeholders' involvement in activities aimed at achieving the thematic goals. The Jambi Province RPJMD document contains 11 strategic issues and 73 strategies that will be mapped based on their relevance to green growth for the design of the thematic programs for Jambi Province. Figure 6-1 shows the link between the strategic issues and strategies in the Jambi Province RPJMD 2016-2021. These linkages point toward some major issues culminating into the proposal of three thematic programs for in the Master Plan for Green Growth:

- 1. Downstream rubber industry
- 2. Developing the timber industry
- 3. Strengthening of coconut commodities

The preparation of the thematic program was used as a foundation for business plan formulations. The three proposed thematic programs in this master plan provide investment options for private parties investing in strategic business areas in Jambi Province.

1. Thematic Program 1: Development of Downstream Rubber Industries

Link with strategies

Thematic program 1 is related to strategy 1 (allocation and productivity), strategy 2 (rubber farmer institutions and access to capital), and strategy 3 (value chains).



Figure 6-1. Mapping strategic issues and strategies in Jambi Province

Background

Rubber is one of the world's most important commodities. The global demand for rubber increases annually by 3.27% on average. Natural rubber makes up 46.5% of the total consumption of rubber worldwide. To meet the demand for natural rubber, global natural rubber production increases by an annual average of 2.75%. Indonesia is the secondlargest producer of natural rubber (*Hevia Bresiliensis*) in the world, contributing 14% to the total global production. Indonesia's natural rubber production has increased by 3.6% on average annually. Meanwhile, Jambi Province provides 8.5% of the total production of natural rubber in Indonesia.

Natural rubber commodities are an essential source of income for the people of Jambi Province. The extent of natural rubber plantations in Jambi Province was 1,683,557 hectares in 2016. Approximately 40% of the total area of natural rubber plantations in the province consists of smallholder rubber plantations (665,306 ha), and around 212,363 farmers depend on rubber plantations. Farmers sell their smallholder rubber crumbs to traders to meet the demand of rubber crumbs for factories in and around Jambi Province.

Natural rubber is one of the sources of livelihood for farmers in Jambi. However, these rubber farmers face many problems affecting their economic profits. Problems commonly encountered by rubber farmers are related to the low productivity of smallholder rubber, the low price obtained by farmer, the low quality of the rubber harvest, limited post-harvest handling, untransparent price information, the low bargaining position of farmers in the traditional value chain, the long rubber supply chain, and the strong dominance of traditional collectors. Low world rubber prices further exacerbate this.

The volatility of natural rubber prices has long-term impacts on producers' income and increases the difficulty in production planning, including for farmers. Jambi Provincial Government has made several efforts to help rubber farmers in solving some of these problems, especially for improving the quality of smallholder rubber production by establishing several public auction markets. However, the government's efforts are ineffective for solving the problems faced by rubber farmers in Jambi Province because of a lack of government control, syndicates controlling the purchase and the price of



Figure 6-2. Rubber price volatility

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rubber, the lack of quality standards, the fact that better quality does not necessarily result in price increase the price, and weak commerce.

Main Purpose

Increased welfare of rubber farmers through sustainable market interventions.

Objectives

- a. Increasing the productivity of natural rubber plantation businesses through certified superior seeds and good agricultural practices.
- b. Improving the value chain of smallholder natural rubber products to provide a better and fair bargaining position along with an increase in the production quality by farmers.
- c. Increasing farmers' welfare that is mutually beneficial for each business actor and sustainable through the full involvement of off-takers.

Suggested Green Growth Interventions

Planned interventions for smallholder rubber farmers in the province of Jambi have the following targets:

- a. Increasing rubber productivity by revitalizing and rejuvenating smallholder rubber plantations with high-productivity certified seeds. Moreover, extension systems on good agricultural practices and fertilizing should help change the behavior of farmers in rubber cultivation.
- b. Improving marketing value chains and the quality of smallholder natural rubber. This will provide farmers fair prices and will develop patterns of cooperation between farmers and the downstream industry.

c. Developing a mutually beneficial relationship between rubber farmers and industrial rubber crumb business actors. An additional target is to scale up by adopting interventions in the production area of other smallholder rubber plantations.

This intervention targets smallholder rubber farmers in Bungo District with a total rubber plantation area of 101.851 hectares, a rubber processing factory located in the district, and the related government agencies. This intervention has the potential to improve economies of scale in Muara Jambi District with 58.427 hectares worth of smallholder rubber plantations and a rubber processing factory as the intervention partner. Support from the Jambi Provincial and district governments is very tangible for the rubber business since it is a leading regional commodity.

Intervention Partners

This intervention was designed with the involvement of the business sector and partnerships with companies under the Public-Private Partnership scheme where companies and farmers have shared interests and mutually beneficial relations. The aspect of sustainability can be achieved through interventions in partnerships with companies that have mutually beneficial business models between farmers and off-takers. To achieve this, a rubber crumb company must be committed to the shared values with the stakeholders of the company, primarily rubber farmers.

One rubber crumb company which is a potential partner for green growth intervention is Kirana Megatara Group. Kirana Megatara Group was officially established on 27 October 1964. In the year 1991, PT Kirana Megatara Tbk was established. By now, it is the parent company for 14 rubber crumb processing factories and one plantation sub-holding. These subsidiaries are spread over Sumatra and Kalimantan. PT Kirana Megatara Group has an annual production capacity of 720,000 tons of rubber crumb.

Kirana Megatara Group produces SIR 10, SIR 20, and SIR 20 VK products. Their products are exported to the world's leading tire factories, such as Apollo, Bridgestone, Continental, Cooper Tires, Fate, Good Year, Gajah Tunggal, Hankook, Kumho Tires, Michelin, Nexen, Pirelli, Sumitomo, Toyo Tires, and Yokohama Rubber. Furthermore, Kirana Megatara Group also fulfills domestic market rubber demand.

PT Kirana Megatara has several business strategies, which are as follows:

1. Focus on customers

Maintaining proper and mutually beneficial relationships with the main customers of the company, i.e., many of the top 20 tire companies globally.

- 2. Ensuring the supply of raw material
 - a. Implementing various partnerships and coaching programs to change the composition of suppliers to increase the portion of small farmers.
 - b. Improving the purchasing process to increase the speed of purchase transactions and convenience for suppliers.
 - c. Extending purchases by increasing the reach of the purchasing area.
 - d. A replanting program to support the regeneration process of smallholder plantations.
 - e. Expanding through an upstreaming strategy with the rubber plantation business.

- 3. Developing production capacity
 - a. Increasing production capacity by improving the production capacity of existing factories, building new factories, and acquiring factories.
 - b. Implementing various process improvements focusing on QCDSME.

The strategy of Purchasing Raw Materials

Some of the strategies and derivative programs carried out in the purchasing of raw materials aim to ensure a higher supply and quality of raw materials. This is to guarantee the availability of raw materials for increasing the company's sales volume. Ensuring the sustainability of raw materials supply is crucial for the company's operations.

The production of natural rubber in Indonesia is dominated by a large number of smallholder farmers who are scattered all over Indonesia. Moreover, the rubber trade chain is long and involves intermediaries. Considering these circumstances, the key to the success of Kirana Megatara is its ability to form partnerships with its suppliers, whether merchant intermediaries or small farmers.



Various initiatives are included in a special roadmap created in 2011 to improve the welfare of farmers assisted by the Sourcing Development Division.

Backgrounds on the Strategy of Purchasing Raw Material

Kirana Megatara Group mapped and implemented several main strategies because the company identified two main risks for their business activities. These risks are caused by the characteristics of the rubber industry, namely:

- 1. Market prices are beyond the company's control because rubber is an international commodity, so prices fluctuate daily following global trading.
- 2. Indonesia's unique industrial structure shapes the supply of raw materials. Specifically, this structure is dominated by small farmers' ownership of rubber plantations with various limitations.

The company is committed to the just-in-time inventory system that aligns raw-material orders with production schedules. This creates a natural protection against the risk of



price fluctuations and ensures the company can achieve its desired profit target. To do this, the company has various business strategies to guarantee the supply of raw materials with a variety of intensification and extension programs that are aimed at suppliers and strategic upstream plantations.

Implementation of the Raw Material Purchase Strategy

Various programs are derived from the strategy of purchase intensification and extensification:

1. Intensification of Raw Materials Purchasing

This strategy seeks to increase the volume of purchases from existing suppliers, as follows:

- Improving service to suppliers by speeding up the transactions process of purchase by way of:
 - An online digital scale that is integrated with the company's information application to streamline work processes, improve weighing accuracy, and provide transparent and reasonable information on weight volume to suppliers.
 - The installation of multi unloading terminals and sorting facilities to serve multiple suppliers simultaneously in the sorting and weighing process to reduce queuing time.
- Strengthening ties with traders through Supplier Relationship Management. This builds a strong relationship, which helps increase the business volume of existing suppliers.



Figure 6-3. The partnership with farmers business model

- c. Intensifying cooperation with existing farmer groups by providing an extension about increasing productivity and the quality of processed rubber materials. The company has Sourcing Development Officers (SDO) in each plant who are assigned to make regular visits to existing partner farmer groups to improve the supply of high-quality rubber and to identify potential new farmers to form new partnerships with.
- 2. Extending the Purchase of Raw Materials

This strategy is aimed at adding new suppliers to secure the potential supply of high-quality raw materials and is carried out in various ways:

 Building depots in nearly all potential raw material regions. This strategy is an extension to purchasing from factories that are located far from rubber production centers. This strategy cuts transportation costs that farmers had to bear for sending their products to the company's factory location.

- b. Identifying potential regions for processed rubber material and opening new depots with the same purpose as above.
- c. Approaching farmer groups that have not been reached by cooperative institutions nor nongovernmental organizations.
- 3. Optimizing Sourcing Development

achieve various Τo goals, the company has identified some root problems. These include the quality of smallholder rubber production and the low productivity of trees due to poor seedling quality. This results in sub-optimal tapping results by rubber farmers. In the year 2011, the company has formed a sourcing development division to start a program to supply high-quality seedlings ranging from young seedlings up to those ready for planting.

Business Model

At the time of the study, only about 8% of supply was obtained from the Kirana Megatara Source Development business model. Given that the capacity of one PT Djambi Waras factory is 68,000 tons per year, an increase in supply is possible in the range of 80,000 hectares of community rubber plantations. Besides this, only around 30%-45% of PT Djambi Waras' factory supply is from within Jambi Province due to the strong dominance of traditional collectors. Shortages of supply caused raw rubber to need still to come from outside the province through the collectors at a higher price while at a lower quality. Considering this situation, the intensification of source development has excellent potential to guarantee the supply of high-quality rubber directly from rubber farmers.

The price range of rubber crumbs is based on FOB price. At the time of this study, this price was IDR 16,500 per kg, with a required Dry Rubber Content of 70%, whereas, the price at the farm level is IDR 11,500 per kg. For comparison, the price of rubber sold through the traditional supply chain to the collectors is approximately IDR 6,000 per kg. There are also practices that disadvantaged farmers, such as substantial cuts by traditional collectors for various reasons. In addition, the level of dirt/water is still 5%-10% of the total weight without any significant quality improvements. With value chain and quality improvements, the guided independent smallholders can obtain DRC (Dry Rubber Content) prices of 55%-68% of the FOB price.

To realize its business model of cutting the traditional supply chain, PT Kirana Megatara (PT Djambi Waras) built several storage depots with a capacity of 200-300 tons of dry rubber, where farmers can sell their rubber. Kirana Megatara Group places Source Development Staff in each depot to provide technical assistance to the company's farmer group partners, in the form of technical assistance regarding Good Handling Practices and Good Agricultural Practices. The company's demand for quality rubber supplies can be met through an increase in farmers' productivity, postharvest handling, and a shorter supply chain.

Through Public-Private Partnerships with rubber farmers, the company can increase its economies of scale, provided that there are mutually beneficial and sustainable relationships between rubber farmers and the company.

Table 6-4 illustrates the condition of the traditional smallholder rubber farming budget before and after the intervention. The Value Chain Improvement Business Model delivers a 75% increase, whereas a 100% increase is obtained if improvements in farming practices accompany the intervention.

	Current practice	By applying Good Agricultural Practices	With value chain improvements in the business model	Good Agricultural Practices and value chain improvements in the business model
Total Revenue (IDR)	9,424,382	11,009,692	11,910,884	13,918,943
Productivity (rubber)- kg/ha	1,243	1,455	1,243	1,455
Price per kilogram (IDR)	7,500.00	7,500.00	9,500.00	9,500.00
Total Cost (IDR)	6,102,179	7,255,971	6,102,179.14	7,255,970.88
Input (IDR)	380,150	756,981	380,150	756,981
Labor (IDR)	5,722,029	6,498,990	5,722,029	6,498,990
Profit (IDR)	3,322,203	3,753,721	5,808,704	6,662,972
NPV IDR/ha (30 years)	27,970,706.30	30,975,840.26	53,030,427.38	60,077,609.71
Increase in Revenue		13.0%	74.8%	100.6%

Table 6-4. Income calculation from various management models

Table 6-5. Intervention activities based on objectives and indicators

Activity	Indicator
Objective 1: Increasing the productivity of natural rubber plant seeds and good agricultural practices	ation businesses through certified superior
Determination of the extent of smallholder rubber plantation	Mapping potential smallholder rubber
area that could supply the intervention partner companies	production areas of partner companies
The selection and institutional strengthening of the farmer	Strong institutional capacity of partner farmer
group partner companies	groups that meet standards
Extension on good agricultural practice in rubber cultivation to the company's source development staff and partner farmer groups	A smallholder rubber model in line with GAP for rubber plantations
Ensuring the equitable supply and distribution of superior rubber seedlings to foster villages	Qualitative assessment of the availability of superior seedlings and infrastructure and facilities
Facilitating the certification process for smallholder rubber seedlings and improving the quality of local nurseries at foster villages	The extent of smallholder rubber farmers' planting area rejuvenated with certified seedlings
Ensuring the supply of affordable fertilizer and providing information on balanced fertilization	The number of rubber farmers who have implemented balanced fertilization
Applying good agricultural practices in the company's partner rubber plantations	The number of rubber farmers and the extent of smallholder plantations that have implemented good agricultural practices
Objective 2: Improving the value chain of smallholder natural r bargaining position along with an increase in the production q	ubber products to provide a better and fair uality by farmers
Establishing a sound information system between the partner	Qualitative assessment of the relationship
company's foster farmer groups and the partner companies	between company source development staff
Ensuring the quailability of rubber processing motorials	The number of pertner rubber formers
Ensuring the availability of rubber processing materials	who have implemented good post-harvest handling practices
Extension on good post-harvest handling practice of	An increase in the quality of smallholder
smallholder rubber to the company's source development staff and partner farmer groups	rubber products and better prices received by fostered farmers
Applying good post-harvest handling practices by fostered rubber farmers	The number of rubber farmers who have implemented good post-harvest handling practices
Meeting the company's supply-demand obtained from the production of smallholder rubber cultivated by the company's partners	The sales volume of the company's smallholder rubber partners to the company
Objective 3. Increasing farmers' welfare to be mutually benefic involvement of off-takers	sial and sustainable through the full
Conducting a feasibility study of the business model for intervention partner companies	The profitability ratio obtained by intervention partner companies and fostered partner farmers
Providing guidance and facilitation to intervention partner companies regarding the need for continuous intervention	The type and value of investments made by interventions partner companies
Facilitating partnerships between rubber farmers and the community	The number of fostered rubber farmers who are permanent partners of the company
Scaling up a business model for similar rubber companies	The number of companies adopting partnership-based business models with farmers

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2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

Figure 6-4. Timber production in Jambi Province

Implementation Potential

- 1. Informal commitments from potential companies to become partners in this activity
- 2. Informal commitment and support from the Jambi Province chapter of the Rubber Association of Indonesia (Gapkindo).
- 3. Full support from the Provincial Government of Jambi.

2. Thematic Program 2: Development of the Timber Industry

Link with strategies

This thematic program is related to the three green growth strategies.

Background

Indonesia is one of the countries with the most extensive tropical forest cover in the world. Unfortunately, the timber industry has not been able to meet the demand for timber in a sustainable way (Nawir, et al., 2003). Production of timber from production forests is still minimal compared to the extent of land allocated as industrial plantation forest (HTI). In addition to problems of production, the pressure to distribute profits from timber forests to the community is increasing in urgency. One of the reasons for this urgency is high welfare inequality. Thus, social benefits for the community must be optimized to be more than just timber production. The urgency of developing the timber product industry is also apparent in Jambi Province.

Jambi Province has 1,167,638 ha of forest, which consists of 83% production forest and 16% protected forest, whereas the remainder is conservation forests (BPS, 2017). Despite the dominance of the production forest area, Figure 6-4 shows that the production of timber in the province decreased significantly and stagnated since 2013.

The solution to increasing sustainable timber production while sharing benefits to the broader community is through partnership schemes. These schemes comprise the cooperation between two or more parties in the topics of land resources, capital, management, and market opportunities to achieve mutual benefits.

Main Purpose

Increasing the production of sustainable timber forest products that improve community welfare in Jambi Province.

Objectives

- 1. Increasing the productivity of timber forest products
- 2. Optimizing mutually beneficial private and community partnership schemes
- 3. Improving the bargaining position of the community by determining fair prices

Suggested Green Growth Interventions

The following interventions are proposed to increase community welfare through timber production:

1. Developing a mutually beneficial partnership scheme between communities and companies.

- 2. Increasing the productivity of timber production by planting superior staple crops in partnership forests.
- 3. Improving the production quality and standards to increase the prices obtained by partner communities.

Plantation forest partnerships will be developed in collaboration with private companies. One of the companies suggested in this study is PT Wirakarya Sakti.

Partner Company Profile

Wirakarya Sakti is a national company that has concessions for industrial plantation forests under a ministerial decision. It manages the concession area measuring ± 290,378 hectares in Jambi Province, located in the districts of West Tanjung Jabung, East Tanjung Jabung, Batang Hari, Muaro Jambi, and Tebo. The company's work area is divided into eight districts. Details about its locations

No	District	Administrative Region	Forest Group	Forest Stakeholders
1	District I	West Tanjung Jabung District, Muaro Jambi District	S. Betara - S. Pengabuan	FMU West Tanjung Jabung District, FMU Muaro Jambi District
2	District II	West Tanjung Jabung District, East Tanjung Jabung District, Muaro Jambi District	S. Lagan – S. Mendahara	FMU West Tanjung Jabung District, FMU East Tanjung Jabung District, FMU Muaro Jambi District
3	District III	West Tanjung Jabung District, Batanghari District, Muaro Jambi District	S. Air Hitam – S. Danau Bangko	FMU Batanghari District, FMU Muaro Jambi District, FMU West Tanjung Jabung District
4	District IV	West Tanjung Jabung District, Batanghari District	S. Danau Bangko – S. Singoan – S. Benanak	FMU Batanghari District, FMU West Tanjung Jabung District
5	District V	West Tanjung Jabung District	S. Pengabuan – S. Lumahan – S. Limburan	FMU West Tanjung Jabung District
6	District VI	West Tanjung Jabung District, Muaro Jambi District	S. Pengabuan – S. Bram Hitam – S. Simp. Kadam	FMU West Tanjung Jabung District
7	District VII	West Tanjung Jabung District, Muaro Jambi District	S. Batanghari – S. Lagan – S. Mendahara	FMU Muaro Jambi District, East Tanjung Jabung District
8	District VIII	West Tanjung Jabung District, Muaro Jambi District	S. Batanghari – S. Rengas dan S. Emparing – S. Mengupeh	FMU. Batanghari District, Tebo District, West Tanjung Jabung District

Table 6-6. Wirakarya Sakti's work area



can be seen in Table 6-6. The company has started planting in the year 1989. The wood produced is distributed to Lontar Papyrus Pulp and Paper Industry (LPPPI) located in Tebing Tinggi, West Tanjung Jabung, Wirakarya Sakti and LPPPI are subsidiaries of Asia Pulp and Paper, one of the largest pulp and paper companies in the world. The company's production capacity is around 430,000 tons per year. A study from 2003 found that only 31% of the total concession area was planted (Nawir, et al., 2003). Concession areas often experience land ownership disputes with the community, which makes it impossible to plant parts of the land. Nawir et al. (2003) found that 33% of the total concession area could be developed as a partnership area. Establishing a partnership area could reduce tension between the company and the community while increasing the standard of living in the surrounding community.

The Decree of the Minister of Environment and Forestry No. SK 57/Menlhk/Setjen/ PHL.0/1/2018 concerning Spatial Planning of PT Wirakarya Sakti's Work Areal stipulates that the most extensive area is for staple crops, although it makes up only 47.79% of the total area. The second is protected peat ecosystem area (KFLEG) making up 25.10% of the total area and the remainder is for the zones of life-support trees, local protected area, other non-peat protected areas, and protected aquaculture area (Figure 6-5).

The main crops that are grown include *Acacia crassicarpa* in wet areas (swamps) and *Acacia mangium* and *Eucalyptus pellita* in dry areas. The system used is silviculture using clear-cutting with artificial regeneration.

Company commitment

PT Wirakarya Sakti's has published four commitments which will be broken down based on relevance for the partnership activities in the green growth master plan, namely:



Source: processed from RKU 2018-2027 PT Wirakarya Sakti Figure 6-5. Land-use of PT Wirakarya Sakti's work area

- 1. Environmental commitment
 - Improve environmental quality based on ISO 14001:2004
 - Maintaining and enhancing the conservation value in high conservation value areas according to the precautionary principle.
 - Preserving the peat ecosystem including the application of an effective system of water management
 - Applying an appropriate silvicultural system that controls physical, biological, and chemical impacts
- 2. Commitment to sustainable production
 - Building regional stability based on zoning systems that guarantee the sustainability of production, and environmental and social functions
 - Building industrial plantation forests supported by appropriate silvicultural systems and effective

forest protection to achieve land productivity

- Yield regulation is based on productive and ethical cycles (area and volume)
- Implementing environmentally friendly harvesting systems and applying the traceability principle for raw timber materials
- 3. Social Commitment and Human Resources
 - Recognizing and respecting the rights of local communities and indigenous people in and around the concession area by applying the principles of openness, equality, and fairness in the decision-making process
 - Implementing community empowerment programs for indigenous and local communities that are designed in an open and participatory manner together with beneficiary groups
 - Taking strategic steps in empowering the local workforce
- 4. Commitment to FSC-Controlled Wood by PT Wirakarya Sakti
 - Prove that the supplied wood is controlled
 - Comply with the applicable laws and regulations
 - Make every effort to preserve the environment and reduce the environmental impact of the operational activities in the plantation forest
 - Preserve forest areas with HCV (High Conservation Value) and HCS (High Carbon Stock) criteria
 - Seek to improve the welfare of communities around the plantation

forest in accordance with the scope of operations of the management unit

• Manage plantation forests by involving the relevant stakeholders

Business Model

PT Wirakarya Sakti (WKS) has two partnership schemes, i.e., WKS-Plantation Forest Partnership (WKS-HTPK) in concession areas and WKS-People's Forest Partnership (WKS-HRPK). Wirakarya Sakti's plantation forest partnerships with the community have the following goals (Witono, 2005):

- 1. Reducing investment risk
- 2. Increasing the supply of shale raw material for the company
- 3. Creating business opportunities for the community
- Maintaining good relations with the communities that live around the company's operating location
- 5. Acting as a government partner in forestry and community development

Forest management with a partnership mechanism gives the community rights to forest products in the partnership areas (WKS-HTPK). The company also encourages the unproductive land outside the concession belonging to the public to be planted and developed through WKS-HRPK. These partnerships commenced in the early 2000s. Initially, their purpose was to resolve longlasting land disputes. WKS has 134 foster villages in the surrounding of their work area where the company carries out community empowerment programs. In 2006, WKS started a community empowerment program for alternative livelihoods in the concession area. This program comprised three different projects that trained community members as honey farmers, fish farmers, and bamboo artisans. For this effort, WKS received the Asia Responsible Entrepreneurship Awards 2012 -Southeast Asia award in the category of Social Empowerment. Given these achievements, WKS could be a suitable partner to develop a thematic program for green growth for increasing the production of timber, which improves community welfare.

The development pattern of HTPK and HRPK, as undertaken by the company, includes three aspects, i.e., regional management, institutional management, and business management, as can be seen in Table 6-7 (Witono, 2005).

Implementation Potential

The development of partnerships in the future is expected to progress beyond efforts of conflict resolution and toward developing business models that benefit both parties. Some of the activities listed in the PT WKS Re-certification Document are quite relevant in building milestones towards the implementation of a cooperative effort, including:

- Building partnerships with stakeholders in the utilization of life plant land
- Conducting social mapping in the surrounding villages
- Conducting training on appropriate technology in utilizing local resources and developing a productive economy
- Building a trade channel for the produced economic resources with the community
- Monitoring and evaluating economic diversity development programs

3. Thematic Program 3: Strengthening Coconut Commodities

Link with strategies

This thematic program is related to strategies for increasing human resources and institutional capacity by improving access to livelihood capitals. It also involves the utilization of environmental services and strategies to improve connectivity and sustainable value chains by downstreaming leading commodities.

	HT	РК	HR	PK
Regional management	•	Survey of the location and orientation of the claimed land	•	Data collection of unproductive areas outside the forest area
	•	Settlement of claims	•	Determination of boundaries collectively
			•	Information dissemination program that involves the community
Institutional management	:	Formation of Forest Farmer Groups (KTH) Formation of cooperatives	•	Formation of Forest Farmer Groups (KTH)
		·	•	Formation of cooperatives
Business management	•	Partnerships between companies and farmer groups or cooperatives known to the Forestry Agency or related officials	•	Involving farmer groups in the stages of land preparation, nursery, planting, maintenance,
	•	Assistance to farmer groups for nurseries, land preparation, planting, maintenance and harvesting	•	and harvesting. Guiding and assisting farmer
	•	Nurseries of farmer groups can yield 500,000- 1.500.000 stems per month		groups and cooperatives

Table 6-7. The pattern of partnership management by PT WKS

Background

Coconut is a commodity that has a long history in several districts of Jambi Province. The extent of land for coconut plantations is estimated at 118,540 ha and spread over East Tanjung Jabung and West Tanjung Jabung with an area of 58,589 ha and 50,414 ha, respectively. Generally, coconut trees are planted with other commodities such as areca nuts. The total production in 2016 amounted to 104,528 tons. Since the period of 2010-2016, the coconut production in Jambi Province decreased by 1.48% per year.

Grade-C Coconut (IDR 800/kg) is used as raw material for copra. Farmers sell coconuts in two forms, i.e., per piece or those that have gone through a burning process. The price per kg is based on water content. After going through a two-hour long burning process, the average price will be 60% of the selling price, whereas, for six hours of burning achieves 80% of the selling price. The price at writing is IDR 645 per kg for copra and IDR 270 per kg for coconuts sold per piece. The average price per bag is IDR 650 up to IDR 700 per kg. The standard price used is the standard price in Rotterdam.

Crude coconut oil factories primarily receive copra in dry form (53-56%), whereas the remainder is received per piece. The average farmer sends 10-20 sacks every three months (one sack = 90 kg, dry = 50 kg). The capacity of the factory is 30 tons of oil ingredients per day, and on average the plant requires 90 tons of raw coconut per day. The results obtained are in the form of 58% coconut oil and 30% of palm kernel. On average, 100 kg of coconut produces 36 kg of oil, 45 kg of palm kernel, and 20% shrinkage. Profits are USD 13 - 14 per ton of palm oil. Palm kernel is sold at IDR 200,000 per kg. PT Prima Makmur Abadi, located in Tungkal, is one of the companies that process coconut oil. In total, there are three coconut oil factories located in Kuala Tungkal, West Tanjung Jabar, and one company in Kuala Jambi, East Tanjung Jabar.

Coconuts go through the process of crushing, grinding, heating with water, and three stages of pressing to obtain crude coconut oil. Most crude coconut oil is exported to RBD companies in Malaysia, whereas the remainder is sent to Surabaya to also be exported to RBD companies in Malaysia. Each year, the factory can operate for 24 days per month for two months. Ten days per month, the factory does not operate because of the limited supply of raw materials.

Main purpose

- 1. Increasing farmers' capacity for using good agricultural practices in the management of coconut plantations
- 2. Increasing the productivity and quality of coconuts by farmers
- 3. The formation of the downstream oil industry for a number of derivative products to fulfill market demand and ensure the absorption of the coconuts from farmers

Objective

The model of green investment in coconut commodities increases community access to livelihood capitals. This leads to increased productivity while creating a fair value chain through product downstreaming. The intervention is expected to increase the absorption of input factors, labor absorption, and increase community income.

Suggested Green Growth Interventions

The interventions in this program require various stages as follows:

 Increasing the productivity of coconut plantations

Many of the aging coconut plantations are not well-managed, resulting

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in a decrease in land productivity. Interventions are needed to rejuvenate the coconut plantations through agroforestry systems that combine coconut trees and other commodities such as areca nut. Part of this effort is also to provide guidance and technical assistance and various forms of input assistance for the agricultural business activities.

• Establishing farmer institutions and farmer groups

Farmer institutions are a medium for carrying out various activities collectively to empower farmers in various ways. These include the provision of inputs on agriculture, plantation management, sales, and maintain selling prices. Through institutions such as cooperatives, farmer groups, and business groups seek to improve coordination. This facilitates the various parties in providing effective assistance.

• Downstreaming the coconut derivative industry

One reason for the decline in coconut farming is the lack of a profitable sustainable market for farmers. Coconut products are marketed without the certainty of sales and reasonable prices. Downstreaming of closely related activities is expected to increase uptake in the coconut market in various forms. However, this downstreaming process requires a supportive business environment that facilitates investors.

Business Model

Figure 6-6 shows the value chain of coconuts from upstream to downstream. The figure shows the primary value chain, supporting services, and the relevant business environment. This value chain analysis shows the existing condition, the gap, and the potential of achieving added value in the existing process to increase benefits for all actors, especially farmers/farmer groups in the countryside. Based on these conditions, this section proposes a business model for the coconut business.

The business model for this thematic program breaks up the roles of various parties, i.e., the government, the community, and the private



Figure 6-6. Coconut value chain in Jambi Province

Table 6-8. The division of roles in the intervention program

No	Stakeholders	Role
1	Jambi Provincial Government	Establishing and assisting in the establishment of coconut farmers groups in the investment area. Various programs could include:
		1. Making roads to connect farmers businesses with locations outside their villages.
		2. Constructing ditches to prevent standing water that can damage plant roots.
		3. Assistance with adequate machinery and attention to workforce balance.
2	Coconut Processing Companies	Purchasing from farmers and farmer groups and processing the coconuts into various derivative products for profit
3	Community/ farmers	Managing coconut plantations using good agricultural practices to produce high- quality and sustainable coconut products and be profitable

sector. As a breakthrough program, various actors must address the upstream and downstream aspects in a balanced way so that all parties will gain benefits.

Calculation of Coconut Production at the Farmer/Farmers' Group Level

Coconut production is assessed by considering the environmental conditions and farmers' habits. The activities that are proposed combine planting coconuts and areca nut so that farmers can make higher profits. Areca nut has high economic value, so growing this commodity is a very effective way for farmers to increase their income. Areca nuts are processed semi-finished and sold in the form of dried fruit. Farmers harvest and process the areca nuts, e.g., pruning and drying the flesh.

Based on various sources, the ideal planting distance for coconut plants is 8 X 8 meters, while areca nut is planted between posts in rows of 2 X 2 meters. This scheme provides an average coconut production of 84 coconuts/ tree/year or 10,080 coconuts/ha/ year. The BC ration of this business scheme is around 3.3-3.5, with a profit of around IDR 65 million per hectare.

The optimal land area and the number of coconut trees can be calculated by estimating the daily factory capacity. The higher the input

capacity, the higher the number of coconut trees that the farmer groups must manage.

Calculation of Coconut Derivatives Production (Processing/Downstreaming)

Some of the information below are assumptions, and the calculations indicate estimations of coconut processing activities. The first information below is on factors of input and production (Table 6-9).

Investment in coconut processing is divided into initial investment and working capital as in Table 6-10. Based on these financial calculations, this business is feasible with an average payback period of four years, while the IRR and BC ratio calculations are presented in Table 6-11.

Potential for Implementation

- All levels of government from the province down to the village level - are committed to developing coconut commodities as a source of livelihood for the community
- 2. The formation of coconut farmers' group can be initiated by the government and NGOs that have experience in the management of coconuts
- 3. New technologies can increase the processing capacity of existing coconut processing companies.

Table 6-9. Estimated raw material and production requirements

Supply	Quantity	
Copra	2 tons per day	
	600 tons per year	
Coir	6 tons per day	
	1800 tons per year	
Charcoal	3 tons per day	
	900 tons per year	
Production	Quantity	
Cooking oil	270 tons per year	
Palm Kernel	210 tons per year	
Coco Peat	1080 tons per year	
Coco fiber	360 tons per year	
Charcoal	360 tons per year	

Table 6-10. Estimated investment value

Initial Investment			
Cooking oil	IDR 150,700,000		
Coir	IDR 309,650,000		
Charcoal	IDR 70,630,000		
Total	IDR 530,450,000		
Working capital			
Cooking oil	IDR 28,663,667		
Coir	IDR 92,747,833		
Charcoal	IDR 62,921,317		
Total	IDR 436,332,817		

Table 6-11. IRR and BC Ratio of coconuts

Cooking oil			
IRR	76.7%		
BC Ratio	1.30		
Coconut Fiber			
IRR	75.0%		
BC Ratio	.77		
Charcoal			
IRR	115.0%		
BC Ratio	6.83		





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Green Growth Governance

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Determining green growth indicators considers the aspirations of stakeholders who are actors in development activities. Since the green growth master plan involves multi-stakeholder, the language and details of the planning document must reach all relevant stakeholders.

Bab 7 **Green Growth** Governance

7.1 Mainstreaming

Mainstreaming is an essential aspect of the governance of green growth, so local stakeholders will be able to implement the ideas and concepts. This mainstreaming must target many parties, governmental as well as non-governmental. For non-governmental elements, mainstreaming is intended to align activities, developments, and other forms of investments with the strategies and interventions in the green growth plan. This stage requires a systematic effort to target all groups, including communities at the lowest village level.

The process of mainstreaming government elements can be more systematic because a formal development planning system is in place that must be followed based on standard procedures. One way of carrying out the mainstreaming process is by integrating the achievement of development outputs and outcomes. Therefore, the integration of green growth indicators into regional development performance indicators is a crucial strategic step.

To facilitate the mainstreaming process, adequate indicators were designed for measuring the performance of the green growth plan.

- The indicators are easily measurable to show the achievements for the strategic issues that are targeted. The indicators include at least two components, namely the issues and an indication of time and location.
- Indicators can fulfill several objectives at once. For example, whether the strategic objectives have been achieved, communicating achievements to stakeholders and the general public, and showing the implications of policy choices in the context of specific scenarios.
- The indicators are prepared to be used instrumentally, for example, to inform about financing with a budget allocation that is associated with a target that is precise and time-specific.

The green growth indicators consider the aspirations of stakeholders in development activities. Since the green growth master plan involves multiple stakeholders, the language and detail of the planning document need to reach all relevant stakeholders. After determining the indicators, the mainstreaming stage involves the following instruments: (1) ensuring green growth as an indicator in the implementation of regional development programs; (2) allocating regional budget to fund green growth activities; (3) monitoring and evaluation of periodic measurable achievements



7.2 Communication and Partnerships Strategy

Communication and partnerships are key factors in ensuring the sustainability of green growth programs. With communication and strategic partnerships, multi-stakeholder involvement can be synergized in achieving green growth goals. Partnerships aim to achieve Sustainable Development Goal (SDG) 17. This goal focuses on various issues, e.g., policy and institutional coherence and data, monitoring, and accountability. In line with this goal, a communication and partnership green growth strategy for achieving governance will be developed as a means of implementation of sustainable development goals.

An integral part of strategic communication is the delivery of narratives to influence other parties. Green growth plans must be formulated to be sensitive to local conditions to facilitate communicating it as a regional narrative that is in line with government policies as well as environmental and community conditions. Thus, it is better to avoid grand narratives that incumber the synergy of a program with stakeholders on the local level. Multi-stakeholder involvement must start as early as possible; one approach in the preparation of this document was to ensure the interaction with relevant local government agencies, academics, NGOs, entrepreneurs, and community groups.

Through participatory communication via seminars, FGDs, interviews, and public consultations, active multi-stakeholder involvement was developed. In addition to oral communication, there was also written communication, for example, through the formulation of policies that could reach out and bind various actors, government as well as communities. It should be noted that communication is not a step that is checked off before moving on to the next stage. Instead, maintaining svneraistic and productive interactions between parties requires ongoing efforts.

After understanding was established through communications, partnerships could be developed between parties. This discussion refers to partnerships in the context of shared commitment and involvement of stakeholders. in each process. This document has a dequately mapped strategic partnership targets through the identification of various parties related to green growth. It is expected that this mapping will direct partnerships to realize green growth. Partnerships can take various forms, such as cooperation with development partners in funding such as grants or soft loans, collaborations between companies and farmers that are mutually beneficial in production and increasing productivity, or borrow-to-use schemes between the concessionaire and the community. The purpose of the partnership must be based on the spirit of capacity building of social assets through mentoring and extension so that transformations can affect fundamental socio-cultural aspects.

Communication and partnerships are also ways to improve governance through feedback mechanisms in green growth activities actively. This feedback needs to happen horizontally (local government agencies, the private sector, and communities at the provincial level) or vertically (district or city, nationally, and globally). The dissemination to districts/regions aimed to introduce the regional green growth development program and to provide directions for the development planning process at the district/city level. Furthermore, learning forums can be an effective means of communication to achieve broader impacts and increase national and international recognition of green growth achievements in Jambi Province.



7.3 Funding and Budgeting

Green growth involves multi-stakeholder interaction in land allocation for public and investment interests, in commodity value chains from producers to consumers, and the linkages of environmental services at various scales. The complexity of connectedness and mutual dependence is the basis why funding for green growth should come from a variety of funding sources, involving governments, the private sector, and non-profit organizations. Figure 7-1 describes the flow of financing that applies at the provincial/district/city level.

1. Provincial/District/City budget (APBD)

The APBD is the basis for regional financial management within one fiscal year from January 1 to December 31. It consists of regional income, regional expenditure, and financing.

- 2. Transfer to Regions and Village Funds (TKDD)
 - a. Special Transfer Fund (DTK)

DTK is sourced from the APBN to fund special activities, which are regional affairs in accordance national priorities. with DTK consists of physical and nonphysical Special Allocation Funds (DAK). Special Allocation Funds that are associated with green growth activities include Special Allocation Funds for Environment and Forestry; Public Works and Public Housing; Small and Medium Industry; Markets; Agriculture; and Tourism

b. Regional Incentive Funds (DID)

DID is allocated to specific regions as a reward for certain achievements in the area of regional



Figure 7-1. Program funding scheme at the provincial/district/city level

financial governance, essential public services, and community welfare.

c. Village Funds

Village Funds are allocated directly to villages through improved formulations concerning equity aspects. The use of Village Funds is regulated in Law No. 6 of 2014 concerning Villages.

3. Regional Grants

Regional Grants transfer rights from the government or other parties to the regional government. Regional Grants are designated through an agreement (Government Regulation No. 2/2012). Grants to local governments can be sourced from the government (including domestic revenues, foreign grants, and foreign loans); domestic agencies, institutions, or organizations; and from domestic community groups or individuals. 4. Public-Private Partnerships

Based on Presidential Regulation 38/2015, public-private partnership (PPP) is a form of cooperation between government and business entities for the public interest that partially or fully uses the resources of enterprises by spreading risk between stakeholders. PPP schemes focus on cooperation in the development of economic and social infrastructure. The implementation of PPP is regulated in more detail in Regulation of the Minister of National Development Planning No. 4/2015.

5. Regional Loans

Regional loans are all transactions that result in the region receiving an amount of money or benefits with monetary value from other parties so the region has the obligation to repay the loan (Government Regulation No. 30/2011). 6. Innovative Funding

Innovative funding is a scheme that focuses on finding alternative sources of funding that do not depend on the national budget.

7. Non-Government Budget Investment (PINA)

PINA is a facilitation scheme to accelerate private investment in developing national strategic projects financed through non-government funding and fully supported by government policies. Some regulations related to this financing model are the Presidential Regulations No. 58/2017, No. 20/2016, and No. 66/2015.

8. Bonds

Regional bonds can be an alternative instrument for local leaders in financing developments to improve the welfare and competitiveness of the region. Previously, the government issued Government Regulation No. 30/2011 regarding Regional Loans and Minister of Finance Regulation Number 111/ PMK.07/2012 concerning Procedures for Issuance and Accountability of Regional Bonds. Regional Bonds are explained in more detail in the Financial Services Authority (OJK) Regulations. Green Bonds are Financial Service Authority Regulations related to green growth, which are debt securities whose proceeds from issuance are used to finance or refinance parts of or all environmentally sound business activities

9. Environmental Economic Instruments

Based on Government Regulation No. 46/2017, Environmental Economic Instruments are an economic policy to encourage the central and regional governments, or any person to preserve environmental functions. This government regulation also regulates environmental funding consisting of guarantee funds for environmental recovery, funds for pollution prevention and/or damage and recovery of the environment, and trust funds/ conservation assistance.

10. Collaboration with the Private Sector

Collaboration with the private sector can be done through PPP, loans, or creative funding. Collaboration schemes can be in the form of (a) public-private partnership with a Build Operate Transfer (BOT) scenario or a project financing scenario; (b) Private investment schemes facilitated by local governments; (c) Corporate Social Responsibility (CSR); and (d) Payment and co-investment in environmental services. Payment and co-investment schemes in environmental services can be internalized as part of companies' operational costs that are voluntary and improve the quality and quantity of environmental services

7.4 Monitoring and Evaluation

1. Evaluation Mechanisms in the Green Growth Master Plan

Measuring the success of the green growth master plan requires three main components: (1) indicators that measure desired outcomes, (2) monitoring and evaluation schemes, and (3) data collection mechanisms. The green growth master plan has formulated five achievements and its indicators (Table 7-1). Projections from macro indicators have been analyzed based on BAU scenarios and green growth plans in Table 5-1 in Chapter V. The indicators have been elaborated at the level of strategies and interventions to carry out a more detailed assessment of achievements. The preparation of achievements and indicators has considered the logical relationship between input, results, purpose, and goals.

The principle used in preparing the monitoring and evaluation scheme is to emphasize the importance of outcomes in reporting, rather than just output. The application of effective and innovative assessment mechanisms is also important to realize better monitoring and evaluation. Nonetheless, a green growth monitoring and evaluation scheme should be integrated with the key performance indicators (KPI) of the government. This will achieve synergies and inclusivity in implementing the green growth master plan. Monitoring and comprehensive evaluation must refer to mainstreaming efforts, which are described in subsection 7.1. This section aligns green growth outcome indicators with national SDGs indicators and with provincial government policies.

2. Macro Indicators to Measure Green Growth Outcomes

Macro indicators and indicators for green growth interventions and activities have been determined based on agreement among the stakeholders in Jambi Province. The indicators are expected to be an appropriate measure of the performance of green growth in Jambi Province. Table 7-1 describes the macro indicators that have been agreed upon for every desired outcome of the green growth plan.

Capaian Pertumbuhan Ekonomi Hijau	Indikator Makro		
1. Sustainable economic growth	1. GRDP		
	2. Income (wages/salary)		
	3. Business profit		
2. Inclusive and equitable growth	1. Labor absorption		
	2. The ratio of income to business profits		
3. Social, economic, and environmental resilience	1. Percentage of agroforestry area		
	2. The intensity of GHG emissions		
4. Healthy and productive ecosystems that provide	1. Deforestation rate		
environmental services	2. Tree cover		
	3. Erosion		
	4. Surface flow		
	5. Habitat fragmentation		
	6. Fire risk		
5. Reduction of GHG emissions	1. Land-based sector emissions		
	2. Peat decomposition emissions		
	3. Sequestration rate		

Table 7-1. Outcomes and indicators of success



3. Data Collection Mechanisms

The data that is used is an equally important aspect of monitoring and evaluation. The use of valid data is crucial to uncover problems and is the basis for formulating corrective feedback policies, programs, and monitoring the progress of a program. Issues of data availability and reliability can hamper the evaluation process. Therefore, data improvements should prioritize disaggregated data, focus on indicators, and standardize assessment indicators.

The ability to conduct adequate data analysis is needed to obtain the necessary data. This process is often considered difficult because of the absence of data that meets the expected standards. Therefore, relevant government agencies must be tasked to collect this data.

4. Monitoring and Evaluation Strategy

The strategy for monitoring and evaluation is to improve the organizational culture

to critically assess the sustainability of a program or activity to improve decision making in the future. Decision-makers need to be committed to more effective planning through inclusive monitoring and evaluation. In addition to the government, the community and the private sector also need to be actively involved as an empowerment effort and to ensure accountability.

To achieve this, concrete efforts need to be made to include monitoring and evaluation activities as an essential part of the governance of each local government agency in Jambi Province. Monitoring and evaluation activities not only monitor budget absorption but also measure development performance up to the level of outcomes. Standard operating procedures need to bind stakeholders more to collectively conduct monitoring and evaluation as part of a comprehensive regional development process. The involvement of other elements needs to be regulated legally and provide space for the participation of all parties in the monitoring and evaluation of regional development.



Mitigation efforts are described based on risk estimates and the likelihood of their occurrence. Each green growth strategy has risk estimates based on the characteristics of activities for these strategies. It is expected that mitigation can be a guide for the better implementation of green economic growth plans. Table 7-2 explains in detail the indications for mitigation efforts that need to be prepared.





Overall some major limitations could not be controlled in the preparation and implementation of the Jambi Province Green Growth Master Plan:

1. Analysis of Data Processing

- The availability and quality of data for analysis are limited. Some spatial data is not in the Geographic Information System (GIS) format and thus required further processing to be analyzed.
- Green growth simulations take a long time.
- Information related to regional development that can explain the allocation of land-use at the provincial and district/ city is very limited. In this case, information limitations relate to the outcome targets of each sector.

2. Facilitation and Partnership Process

• As a relatively new initiative, stakeholders did not fully understand the green growth plan, so a lot of discussion and meetings were needed to achieve a similar level of understanding among stakeholders.

- The stakeholders were working on several critical regional agendas simultaneously along with the preparation of this master plan for green growth, especially government agencies at the provincial level. Aligning the agendas required intensive coordination with the parties.
- The collaboration and common understanding between parties were hampered because, in principle, the green growth plan requires the commitment and partnership agreements between the parties.

3. Discussion and Implementation Plan

- As a document in the form of a master plan and roadmap, this green growth plan will regulate macro aspects but on the other hand, it must also be clear enough to provide directions for implementation. This led to the use of different levels of detail in several cases.
- There is no implementation plan, yet at the time of the preparation of this green growth plan that gives examples of how the implementation of the green growth plan can work. It is expected that this will be realized after the master plan and roadmap are completed.

Table 7-2. Mitigation ba	ased on risk potential
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Strategy	Risk	Potential	Mitigation efforts
1. Land- use, Land Restoration, and the Sustainable Increase in Land Productivity	The inability to build partnerships between companies and the community	Medium	 Involve companies as early as possible in the preparation of activities Prepare cooperation models that benefit both parties Integration with programs that have been carried out by companies such as CSR
	Administrative and bureaucratic processes hamper the facilitation of land conflicts	Medium	 Simplifying administrative processes for resolving land conflicts Formal and informal assistance by third parties in partnerships with the government
	The expansion of oil palm plantations continues for economic gain	High	 Reaffirming the moratorium on oil palm land through regional regulations
	Limited funding for land restoration	Medium	 Funding options through international partner institutions engaged in environmental issues and climate change
	Peatland clearance continues to occur due to overlapping regulations	High	 Harmonization of overlapping regulations related to peat on the national level Monitoring of protected peatlands Law enforcement for illegal land clearing
	Alternative rice cultivation is hampered due to lack of farmer involvement	Low	The application of incentive systems for alternative rice cultivation
	Farmers are not motivated to develop alternative commodities	Medium	The implementation of an incentive system for the development of alternative commodities
			 Increased shared awareness through the farmers' group associations (Gapoktan) forum
	Rubber farmers do not have the expertise needed to become investors	Medium	 Capacity assessment before training and coaching to ensure it well-targeted Pilot projects for several rubber farming groups
Strategy	Risk	Potential	Mitigation efforts
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2. Human Resources and Institutional	Unresolved conflicts	High	- Socio-cultural approaches to conflict resolution
Capacity through Increasing			 Preparation of compromise options mediated by neutral parties
Access to Livelihood Capitals and	Extensions do address the needs of farmers in	Low	- Preparation of extension materials that are appropriate and well-targeted
Environmental Services	une neix		 Implementing feedback mechanisms from farmers to review extension ma- terials
			- Place-based and flexible extension schemes
	Policies and governance are unprepared for regulating compensation or payment for environmental services	Medium	- Compiling regional policies to imple- ment environmental service practices
	Small farmers have difficulties in accessing commodity certification	Low	 Cooperation with the private sector in managing commodity certification for small farmers
3. Connectivity and Sustainable Value Chains	Construction of ports, roads, and bridges is hampered by funding	Medium	- Applying innovative and creative infra- structure funding
	Limitations on investments in downstream industries based on leading regional commodities	Low	 Company assistance to small busi- nesses related to downstreaming
	Difficulties in working with microfinance institutions to provide farmers with financial training	Low	- Incentives for microfinance institu- tions



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KAB. TANJUNGJABUNG TIMUR

Conclusion and Closing Remarks

This green growth plan is an important and monumental initiative by Jambi Province in providing long-term development directives and a reference for short-term development for achieving sustainable community welfare. This green growth plan translates the ideals of economic growth by optimizing the allocation of space and improving access to livelihoods and production functions, improving value chains, increasing added value, and downstreaming regional products and commodities.

Chapter 8 Conclusion and Closing Remarks

This green growth plan is an important and monumental initiative by Jambi Province in providing long-term development directives and a reference for short-term development for achieving sustainable community welfare. This green growth plan translates the ideals of economic growth of optimizing the allocation of space and improving access to livelihoods and production functions, by improving value chains, increasing added value, and downstreaming regional products and commodities. The green growth plan does not replace the function of formal development plans such as the Long-Term Development Plan. Regional Medium-Term Development Plan, and Strategic Plans of local government agencies. Instead, the green growth plan is a reference or source of information for the preparation of these documents. This is made possible due to the long-term orientation of the green growth plan by considering the long-term carrying capacity of the region and paying attention to the outcomes of important indicators of green growth.

The green growth plan contains various discussions that led to a roadmap containing programs and activities to achieve green growth. The green growth plan is based on the following aspects:

- An analysis of past processes
- The formulation of green growth objectives
- The BAU scenario
- Agreement on the GGP scenarios,

- The formulation of the green growth strategies,
- Interventions as a translation of these strategies,
- An ex-ante analysis based on agreed-upon macro indicators for green growth
- Activity plans, and
- Various selected indicators to measure the performance of interventions as a basis for the monitoring and evaluation process.

All government elements must refer to the green growth plan in creating regional development programs. Whereas, other elements of society must adhere to the plan and use it as a guide for prioritizing regional development activities. This master plan is expected to accelerate the process of achieving the green growth goals of Jambi Province.

The preparation of the green growth plan is based upon some essential principles for general development planning. The first element was an inclusive process. This refers to the involvement of stakeholders and accommodating their proposals and inputs in the plan. The independent nature of this process - when compared with other formal processes in development planning - allows for greater accommodation of stakeholders' interests and capabilities in every discussion process. Furthermore, this process also accommodated stakeholder all inputs

because no limits were set on the topics that could be discussed.

The integrative process that was carried out in the preparation of this green growth plan eliminated the boundaries between sectors. authorities, and the scope of the discussion of each formal development plan. The process integrated sectoral development plans into a comprehensive green growth plan through the review of Regional Spatial Plans, Long-Term Development Plans, Regional Medium-Term Development Plans, Strategic Plans of local government agencies, Commodity Development Master Plans, and master plans of several provincial strategic areas. The other process that was carried out was to connect existing information on spatial and non-spatial plans.

The process of analysis and results as presented in the green growth plan are based on new and existing valid data and information. Some data was collected specifically for the analysis. Biophysical and socio-economic data, as well as policies, were collected to describe the actual conditions of the region. The calculations and modeling in this process also use feasible methodologies commonly used in the academic world.

As a reference for regional development, Jambi Province's green growth plan requires all parties to take part in it in accordance with their respective duties and functions. This entails the coordination and building of various partnership schemes between the government, the community, the private sector, and other donors/development partners. With the help of various partnerships, the plan is expected to be able to overcome limitations and obstacles such as in system capacity, resources, capital, and other aspects. Forming partnerships is one of the elements that were suggested in the green growth plan in which various goals and partnership processes are anticipated to accelerate green growth in Jambi Province.

The recommendations in the green growth plan are expected to be incorporated into all development plans and implementation plans for the activities of the government and non-government actors. This requires the dissemination of plans to ensure its more comprehensive understanding of all parties. The greater the stakeholders' understanding, the greater the synergy is expected. The mainstreaming process incorporates recommendations in plans of institutions, spatial plans, sectoral plans, and plans for other activities. This is an important element of planning green growth. It looks easy at first glance, however, in fact, this process requires a high level of collaboration considering each institution has its own planning process standards

Monitoring and evaluation are an inseparable part of the green growth plan. This is crucial for measuring progress and consistency in reaching the objectives, and it is expected to be used as input in subsequent planning processes. These activities must be integrated into the monitoring and evaluation system for regional development via a participatory stakeholder process. As such, political will is required from the government to implement such a green growth monitoring and evaluation process.

Lastly, this conclusion emphasizes the importance of a policy or regional regulatory framework that forms a legal umbrella. The success of the development plan does not always depend on the availability of a detailed regulatory framework. However, in an era where clear directives and accountability are required, the relevant authorities should provide tangible directives in the form of technical and explanatory regulations.

References

- National Development Planning Agency. 2005. National Long-Term Development Plan 2005 – 2025.
- National Development Planning Agency. 2014. National Medium-Term Development Plan 2014 – 2019.
- National Development Planning Agency. 2019. National Medium-Term Development Plan 2020 – 2024.
- Jambi Province Statistics Agency (BPS). 2018. The number of Poor Residents of Jambi Province by District/City 2000-2018. https://jambi. bps.go.id/dynamictable/2019/02/01/811/ jumlah-penduduk-miskin-menurut-kabkota-2002-2018.html. (accessed 4 April 2019).
- Jambi Province Statistics Agency (BPS). 2018. Jambi Province Human Development Index by District/City 2010-2018. https://jambi. bps.go.id/dynamictable/2018/04/03/362/ indeks-pembangunan-manusia-metode-barumenurut-kabupaten-kota-2010-2018.html. (accessed 13 April 2019).
- Jambi Province Statistics Agency (BPS). 2018. GRDP Jambi Province According to Business Field 2010-2018. https://jambi.bps.go.id/ dynamictable/2017/07/05/59/-seri-2010pdrb-adhk-provinsi-jambi-menurut-lapanganusaha-2010-2018.html. (accessed 21 Mei 2019).
- Statistics Indonesia. 2017. Jambi Province in Numbers 2017. http://jambiprov.go.id/v2/files/ Provinsi%20Jambi%20Dalam%20Angka%20 2017.pdf. (accessed 16 September 2019).
- Forest and Land Fires. 2018. The Forest and Land Fire Monitoring System of the Directorate of Forest Fires Management of the Ministry of Environment and Forestry. http://sipongi. menlhk.go.id/home/main. (accessed 2 April 2019).

- Decision of the Minister of Environment and Forestry No. SK. 130/MENLHK/SETJEN/PKL.0/2/2017 concerning Determination of Map of National Peatland Ecosystem Functions
- Nawir AA, Santoso L, Mudhofar I. 2003. Towards Mutually-Beneficial Company-Community Partnerships in Timber Plantation: Lessons learnt from Indonesia. CIFOR Working Paper No. 26.
- OECD. 2011. Towards Green Growth. OECD Publishing.
- Jambi Provincial Government. 2016. Regional Medium-Term Development Plan (RPJMD) Jambi Province 2016 – 2021.
- Presidential Regulation No. 38/2015 concerning Public-Private Partnerships in the Infrastructure Provision.
- Sayer J, Sunderland T, Ghazoul J, Pfund J-L, Sheil D, Meijaard E, Venter M, Boedhihartono AK, Day M, Garcia C. 2013. Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land-uses. Proceedings of the National Academy of Sciences 110, 8349-8356.
- United Nations Environment Programme (UNEP). 2010. Green Economy Report: A Preview. https://unep.ch/etb/publications/Green%20 Economy/GER%20Preview%20v2.0.pdf. (accessed 5 Mei 2019).
- Witono H. 2005. Pengembangan Social Forestry pada Hutan Tanaman Melalui Pola Kemitraan Pengalaman PT. Wirakarya Sakti. Bogor, IPB Scientific Repository.

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Strategy 1: Land-use allocation and sustainable productivity enhancement

	-noN	Government Organization															
der	t	Government Agency	Forest Area Designation Bureau	Food Crop, Horticulture, and Livestock Office	Estate Plantation Office	Regional Development Planning Agency	Public Work and Settlement Office	Communication and Informatics Office	Mining and Energy Office	Maritime and Fisheries Office	Forest Area Designation Bureau	Agriculture Office	Agriculture Office	Regional Development Planning Agency	Central Bureau of Statistics	Food Security Office	Agriculture Office
Stakehol	Provincial Governmer	code Nomenclature of Program/Activity	Establishment of forest information system/database	Formulation of the potential food product database	Formulation of the potential food product database	Data collection for the formulation of planning documents	Establishment of infrastructure information system/database	Assessment and development of information systems	Establishment of mining information system/database	Establishment of coastal information system/database	Monitoring, evaluation, and reporting of permits in forest area	Monitoring, evaluation, and reporting of permits/licenses for agricultural/plantation areas	Formulation of the potential food product database	Formulation of regional commodity profile	Formulation and collecting of regional database and statistics	Formulation of the potential food product database	Formulation of the potential food product database
	Activity		Establishment of one map database system								Reviewing and synchronization of concession permits and	business license through one map program	Mapping and identification of existing commodities				
	Activity	Index	1.1.1								1.1.2		1.1.3				
	Intervention		Land-use allocation	according to land requirement	by considering protected areas	and land suitability through the	implementation of one map initiative										
	Intervention	Index	1.1														

				Stakehol	der	
	Activity	Activity		Provincial Governmen	t	-noN
	Index	Ĩ	Code	Nomenclature of Program/Activity	Government Agency	Government Organization
	1.1.4	Boundary arrangement according to the Regional		Formulation of the detailed regional spatial plan	Regional Development Planning Agency	
		Spatial Plans through zoning regulations		Formulation of forest zonation plan	Forest Area Designation Bureau	
		ı		Coordinating the development of agricultural/plantation/barn area boundaries	Agriculture Office	
	1.1.5	The implementation of land-use monitoring system especially forest security and the distribution of forest product		Development of assessment and forest product distribution controlling system	Forestry Office	NGO
	1.2.1	Revising PIAPS for the implementation of social forestry in the poor villages		Forest management	Regional Development Planning Agency	
<u> </u>	1.2.2	PIAPS harmonization, consultation, and updating with the spatial plan document and any other maps		Facilitation of business partnership	Forestry Office	
	1.2.3	Study of the typology of social forestry and the livelihood activities of the local community		Planning and development of community forest	Forestry Office	
	1.2.4	Integrated research on proposed changes to the status and function of forest area		Forest management		NGO
	1.2.5	The formation of a task force in the provincial level to accelerate the implementation of social forestry		Fostering village development community groups	Cooperatives and Small and Medium Enterprise Office	
	1.2.6	Facilitation of social forestry partnership that involves the private sector		Facilitate business partnership for micro, small and medium enterprise	Regional Development Planning Agency	

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	-noN	Government Organization					Private sector								
der	ŧ	Government Agency	National Land Agency	Forestry Office	Forestry Office	Forestry Office	Regional Development Planning Agency	Forestry Office	Forestry Office	Forestry Office	Forestry Office	Forestry Office	Mining Office	Environment Office	Estate Plantation Office
Stakehol	Provincial Governmen	Nomenclature of Program/Activity	Deliberation for development of village	Structuring the land authorization, ownership, and utilization	Compilation of natural resource data and national and regional forest resources balance	Establishment of Forest Management Unit for production purpose	Forest management	Revision of district spatial plans for the other use areas (APL) considering the changes in the designation and release of forest area, also the production of a certain commodity	Planning and development of community forest	Coordinating the implementation of reforestation	Survey of degraded land	Forest plant nurseries	Planting around the area of industrial forest	Monitoring, evaluation and reporting the environmental damage due to community mining activities	Restoration of ex illegal mining and drilling land
		Code													
	Activity		Study about the definition and criteria of the poor village that deserved to be prioritized around the forest area	Feasibility study for the release of forest area	Identification of forest area	Facilitation of an integrated team in making a study related to changes in designation and release of forest area in the provincial level	Recommend the release of forest area	Revision of district spatial plans for the other use areas (APL) considering the changes in the designation and release of forest area, also the production of a certain commodity	Access to land ownership for the poor farmers	Prioritization of degraded land for rehabilitation at the village level	Survey of degraded land	Provision of seeds and infrastructure for enrichment with local and endemic species	Planting and maintenance	Monitoring and evaluation of degraded areas	Restoration of ex illegal mining and drilling land
	Activity	Index	1.3.1	1.3.2	1.3.3	1.3.4	1.3.5	1.3.6	1.3.7	1.4.1	1.4.2	1.4.3	1.4.4	1.4.5	1.4.6
	Intervention		Access for land ownership from the release of forest area for the	community who lives around the forest						Allocation and prioritization of degraded	landscape				
	Intervention	Index	1.3							1. 4.					

	-noN	Government Organization	Private sector													
lder	ıt	Government Agency	Environment Affairs Office	Estate Plantation Office	Estate Plantation Office	Environment Affairs Office	Environment Affairs Office	Forestry Office	Forestry Office	Peat Restoration Agency	Peat Restoration Agency	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office
Stakeho	Provincial Governmer	Nomenclature of Program/Activity	Commodity mapping at the district level	Moratorium on new licenses for palm oil	Determination of potential areas for the center of commodity cultivation	Mapping the distribution of old plantation and prioritizing revitalization and rejuvenation of the seven-main commodity	Mapping and planning restoration area	Socializing local regulations regarding the management of the forest product industry	Preparation of materials and infrastructure	Implementation of rewetting, revegetation, and revitalization	Monitoring and evaluation of restoration activities	Formulation of norms, standards, procedures, and manuals for controlling forest fires	Procurement of forest fire extinguishers	Coordination of forest fire control	Forest and land fire prevention patrols	Mapping of forest and land fire- prone areas
		Code														
	Activity	ĺ	Commodity mapping at the district level	Moratorium on new licenses for palm oil	Determination of potential areas for the center of commodity cultivation	Mapping the distribution of old plantation and prioritizing revitalization and rejuvenation of the seven-main commodity	Mapping and planning restoration area	Community capacity building	Preparation of materials and infrastructure	Implementation of rewetting, revegetation, and revitalization	Monitoring and evaluation of restoration activities	Socialization of the installation of a ban board	Fulfillment of facilities and infrastructure for handling forest and land fires	Community capacity building and formation of a task force at the community and government level	Forest and land fire prevention patrols	Mapping of forest and land fire- prone areas
	Activity	Index	1.5.1	1.5.2	1.5.3	1.5.4	1.6.1	1.6.2	1.6.3	1.6.4	1.6.5	1.7.1	1.7.2	1.7.3	1.7.4	1.7.5
	Intervention		Allocation of revitalization	optimization of	plantation area		Peat ecosystem restoration					Integrated forest and land fire management				
	Intervention	Index	1.5				1.6					7.1				

Bits Territial Concentration Non- transistication Provincial Concentration Non- concentration Non- conconcentration Non-						Stakehol	der	
Index Code Nomenclature of Program/Activity Codemin Agency Codemancedin Agency Codegench Codeganc	S	Intervention	Activity	Activity		Provincial Governmen	-	-non-
Rice cultivation introduction 1-0.1 Encourage the practices of low- introduction Formation and development of low- emission rice in tarmer groups Food Crop. Horticulture, and emission rice in tarmer groups introduction 1-9.2 Development of low- metation plot and system of rice intensitioation Emission rice in tarmer groups Framersion coups. intensition 1-9.3 Dreacehot frace intensitioation method Emission rice intensitioation constration plot and system of method Framersion coups. Framersion framersion method Framersion framersion method Framersion framersion method Framersion framersion method Framersion framersion method Framersion framersion framersion method Framersion framersion			Index	ĺ	Code	Nomenclature of Program/Activity	Government Agency	Government Organization
Indication, and swamplesity by maximizing by maxi		Rice cultivation (irrigation, non-	1.9.1	Encourage the practices of low- emission rice in farmer groups		Formation and development of low- emission rice task force	Food Crop, Horticulture, and Livestock Office	
accompany organic fertilizer egarding the use of low- mission ringated rice varieties and ensision rengated rice varieties and organic fertilizer Training Agency emission integrated livestock demonstration organic fertilizer 1.9.4 Subsidizing low-emission organic fertilizer Training and implementation of low- mission ringated rice varieties and integrated livestock demonstration organic fertilizer Training Agency 1.9.4 Subsidizing low-emission organic fertilizer Development of superior seeds partice seeds with superior performance and local varieties Agriculture/Estate Plantation/Food Security Office 1.9.5 Monitoring water quality for inrigation Evelopment of superior seeds partice seeds with superior office Plantation/Food Security Office 1.9.6 Training the farmer sthrough pest management Rehabilitation/maintenance of post management Public Works and Settlement 1.9.7 Management of organic fertilizer Provision of subsidized organic fertilizer Agriculture/Estate plantation/Food Security 1.9.8 Planming farmer participatory Provision of subsidized organic fertilizer Agriculture/Estate plantation/Food Security		irrigation, and swamp/peat) by maximizing the use of low-emission	1.9.2	Development of low emission rice demonstration plot and system of rice intensification method		Development of low emission rice demonstration plot and system of rice intensification method		Farmers, Farmer groups, Village Unit Cooperative
13.4 Subsidizing low-emission Development of superior seeds Agriculture/Estate 13.5 Inceseds with superior Office Plantation/Food Security 13.5 Monitoring water quality for Inceseds Plantation/Food Security 13.6 Insing the farmers through Rehabilitation/maintenance of Public Works and Settlement 13.6 Fraining the farmers through Inrigation infrastructure Office 13.7 Management Provision of subsidized organic Plantation/Food Security 13.7 Management Provision of subsidized organic Plantation/Food Security 13.8 Plantation/Food Security Office Plantation/Food Security 13.9 Plantation/Food Security Office Plantation/Food Security 13.8 Plantation/Food Security Office Plantation/Food Security 13.8 Plantation/Food Security Office Plantation/Food Security		organic fertilizer	1.9.3	Outreach to farmer groups regarding the use of low- emission seeds and labeled organic fertilizer		Training and implementation of low- emission irrigated rice varieties and integrated livestock demonstration plots	Training Agency	
1.9.5 Monitoring water quality for irrigation 1.9.6 Training the farmers through field schools to improve seed quality, selection methods, and pest management Rehabilitation/maintenance of Office Public Works and Settlement 1.9.7 Management Office Provision of subsidized organic fertilizer Agriculture/Estate 1.9.8 Plannagement Provision of subsidized organic fertilizer Agriculture/Estate 1.9.8 Planning farmer participatory Retuilizer NGO, Priverent 1.9.8 Planning farmer participatory NGO, Priverent NGO, Priverent			1.9.4	Subsidizing low-emission rice seeds with superior performance and local varieties		Development of superior seeds	Agriculture/Estate Plantation/Food Security Office	
1.9.6 Training the farmers through field schools to improve seed quality, selection methods, and pest management Rehabilitation/maintenance of office Public Works and Settlement 1.9.7 Management Office Agriculture/Estate 1.9.7 Management Provision of subsidized organic Agriculture/Estate 1.9.8 Plantation/Food Security Office NGO, Privace, Provision of subsidized organic 1.9.8 Planning farmer participatory Provision of subsidized organic NGO, Privace, Provision of subsidized organic			1.9.5	Monitoring water quality for irrigation				
1.9.7 Management of organic Provision of subsidized organic Agriculture/Estate 1.9.8 Planning farmer participatory Office NGO, privacion of subsidized organic 1.9.8 Planning farmer participatory Sector			1.9.6	Training the farmers through field schools to improve seed quality, selection methods, and pest management		Rehabilitation/maintenance of irrigation infrastructure	Public Works and Settlement Office	
1.9.8 Planning farmer participatory action to increase farmer sector exchange rate			1.9.7	Management of organic fertilizer		Provision of subsidized organic fertilizer	Agriculture/Estate Plantation/Food Security Office	
			1.9.8	Planning farmer participatory action to increase farmer exchange rate				NGO, Private sector

ctivity Activity
Index
.10.1 Training for coconut farmer groups to increase the capacit and commitment of farmers
.10.2 Rejuvenation of coconut plantations
.10.3 Development of intercropping of coconut with area nut, coffee, and cocoa
.10.4 Village nursery development
.10.5 Management of parent seed orchards at the district level for the improvement of seeds quality
 10.6 Institutional strengthening of coconut farmer groups
.10.7 Strengthening of coconut farming production cooperatives
 .11.1 Study of rubber agroforestry management involves productive intercropping plant
.11.2 The practice of GAP on rubber cultivation
.11.3 Distribution of superior rubber seeds and intercropping plant (coffee, cocoa, etc.)
.11.4 Facilitate the process of smallholder rubber nurseries certification, including support for improving the quality of local nurseries
.11.5 Guarantee the supply of affordable fertilizers and balanced fertilization information
.11.6 Rejuvenation of rubber plantations

Intervention Activity Index 2 Intersification of high-quality palm 1.12.1 Formation 0 0 1.12.2 The supply 1.12.3 Strengthen farmer gro palmollouid 1.12.3 Strengthen farmer gro palmollouid 1.12.4 The supply 1.12.4 The impler farmer gro palmollouid 1.12.4 The impler farmer processor 1.12.4 The impler farmer processor	Activity Code	Provincial Governmen Nomenclature of Program/Activity	ŧ	-uon
2 Intensification of high-quality palm 1.12.1 Formation strengthen 0ilplantation 1.12.2 The supply 1.12.3 Strengthen Intensification plantation 1.12.4 The supply 1.12.3 Strengthen 1.12.4 The supply 1.12.4 The supply 1.12.4 The impler 1.12.4 The impler 1.12.4 The impler	Code on and institution eening of palm oil yroups ply of certified and palm oil seeds rening of high-quality nurseries and the der certified-seed ses ses and the dementation of lementation of	Nomenclature of Program/Activity		
2 Intensification of high-quality palm 1.12.1 Formation strengthen oil plantation 1.12.2 The supply 1.12.3 Strengthen superior ps 1.12.4 The supply 1.12.3 Strengthen palm oil n 1.12.4 The impler enterprise 1.12.4 The impler palm oil ni	on and institution tening of palm oil groups ply of certified and palm oil seeds tening of high-quality nurseries and the der certified-seed der certified-seed		Government Agency	Government Organization
1.12.2 The supply superior particular superior particular particular indication 1.12.3 Strengther particular enterprise developme particular particular particular particular particular	ply of certified and palm oil seeds nening of high-quality nurseries and the ider certified-seed lementation of lementation of g programs and the	Formation and institution strengthening of palm oil farmer groups	Estate Plantation Office	
1.12.3 Strengthen palm oil nu smallholde enterprises 1.12.4 The impler developme palm oil pi	tening of high-quality nurseries and the Ider certified-seed ses lementation of g programs and the	The supply of certified and superior palm oil seeds	Estate Plantation Office	
1.12.4 The impler replanting developme palm of plo resonasse	lementation of ng programs and the	Strengthening of high-quality palm oil nurseries and certified seed business by smallholder	Estate Plantation Office	
	ment of smallholding plantation to meet SPO standard	The implementation of replanting programs and the development of smallholding palm oil plantation to meet ISPO/RSPO standard	Estate Plantation Office	Private sector
1.12.5 Developme agroforesti plant and li particularly old plantat	ment of palm oil sstry with intercropping d livestock (cows) arly for the over 8-years- tation	Development of palm oil agroforestry with intercropping plant and livestock (cows) particularly for the over 8-years-old plantation	Agriculture/Estate Plantation/Food Security Office	
1.12.6 Partnershi between ni	ship development 1 nucleus and plasma	Partnership development between nucleus and plasma	Agriculture/Estate Plantation/Food Security Office	
1.12.7 Increasing c financing c the farmer Business C	ng farmers' access to g option and facilitating ters to access People's s Credit (KUR)	Increasing farmers' access to financing option and facilitating the farmers to access People's Business Credit (KUR)	Agriculture/Estate Plantation/Food Security Office	

		Non-	Government Organization		NGO						Private sector	Financial institutions	Private sector		Financial institutions
			Government Agency	Agriculture Office, Forestry Office	Agriculture Office, Forestry Office	Agriculture Office	Agriculture Office	Forestry Office	Agriculture Office	Cooperatives and Small and Medium Enterprise Office	Cooperatives and Small and Medium Enterprise Office	Cooperatives and Small and Medium Enterprise Office	Cooperatives and Small and Medium Enterprise Office	Cooperatives and Small and Medium Enterprise Office	Agriculture Office
)	Stakeholder	Provincial Government	Nomenclature of Program/Activity	Formation of solid institution and assistance to farmer groups	Synchronization and coordination of agricultural and forestry institution by NGOs and government	Strengthening the capacity of farmer groups	Increase the participation of farmer group including women and the young man	Formation of forest management units	Development of farmers' economic groups (KEP), cooperatives and business entities owned by farmers (BUMP)	Development of village-owned enterprises (BUMDes)	Partnership with financial institutions and business actors	Socialization the sources of capital for smallholder	Strengthening the capacity of agriculture business actors on administration and financial management	Facilities and infrastructure improvement for cooperative education and training	Provision of insurance for agricultural, plantation and fishery activities
			Code												
ò		Activity	×	Formation of solid institution and assistance to farmer groups	Synchronization and coordination of agricultural and forestry institution by NGOs and government	Strengthening the capacity of farmer groups	Increase the participation of farmer groups including women and the young man	Planning and management of Forest management unit	Development of farmers' economic groups (KEP), cooperatives and business entities owned by farmers (BUMP)	Development of village-owned enterprises (BUMDes)	Partnership with financial institutions and business actors	Socialization the sources of capital for smallholder	Strengthening the capacity of agriculture business actors on administration and financial management	Revitalization of cooperatives	Provision of insurance for agricultural, plantation and fishery activities
		Activity	Index	2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	2.2.1	2.2.2	2.2.3	2.2.4	2.2.5	2.2.6	2.2.7
•		Intervention		Solid agriculture and forestry	institutions				Capital access for the smallholder						
5		Intervention	Index	2.1					2.2						

Strategy 2: Capacity building, institution and environmental services management

			Stakenolder	
	Activity	Provi	ncial Government	
	·	ode Nomenclature of	Program/Activity	Government Agency
in in	ning the function of the inter	Strengthening the fi training center	unction of the	Agriculture Office
Ň	ation the quality of trainers	Standardization the	e quality of trainers	Agriculture Office
گ ا	le competencies of trainers	Improve the compe	tencies of trainers	Agriculture Office
E E	ne operational budget for ainers and training activities	Increase the operat both the trainers an	ional budget for Id training activities	Agriculture Office
LE X	ne use of information and ation technology for training	Increase the use of communication tec activities	information and hnology for training	Agriculture Office
3	nent of independent trainers	Empowerment of in	idependent trainers	Agriculture Office
0 7	ent of technical assistance to unity by the private sector	Improvement of tec to the community b	chnical assistance by the private sector	Agriculture Office
Ċ	nent of demonstration plot/	Establishment of de biplot	emonstration plot/	Agriculture Office
H H	irn from other places	Lesson learn from o	other places	Agriculture Office
	on, monitoring, and	Coordination, monit evaluation	toring, and	Agriculture Office
	ing and revitalization of itution (e.g. communities with fire (Masyarakat Peduli er groups, rural communities er area and government district and sub-district)	Strengthening and I a local institution (e cancerned with fire Api), farmer groups in the buffer area ar (provincial, district £	revitalization of g. communities (Masyarakat Peduli , rural communities nd government and sub-district)	Community and Village Empowerment Office
	or restoration activities ocialization and prevention	Funding for restora besides socializatio activities	tion activities In and prevention	Forestry Office
	eholder partnership	Multi-stakeholder p	artnership	Forestry Office
	f community training on n activities related to land using burning method for the community around ational park areas)	Planning of commu- restoration activitie expansion using bu (especially for the c peat and national p	unity training on s related to land rning method ommunity around ark areas)	Forestry Office
ວຼ	y the TRGD function to carry nd restoration partnership	Optimizing the TRG out peatland restor	D function to carry ation partnership	Forestry Office

	Non-	Cy Organization		Private sector	S	Ś	δ	ŝ	E			
		Government Agen	Forestry Office	Forestry Office	Environment Affai Office	Environment Affaii Office	Environment Affaii Office	Environment Affaii Office	Cooperatives and Small and Medium Enterprise Office	Cooperatives and Small and Medium Enterprise Office	Cooperatives and Small and Medium Enterprise Office	Cooperatives and Small and Medium Enterprise Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Optimizing monitoring activities to keep the transparent use of budget	Initiation of restoration budgeting from non-government funds	Increasing awareness and promotion of environmental services concept and the application	Training on environmental services concept, payment, and co-investment in environmental services, financing for environmental services; targeting governments, NGOs and private sectors	Facilitation and establishment of multi-stakeholder institutions for the collection, distribution and monitoring the use of funds	Facilitation and establishment of multi-stakeholder institutions for the collection, distribution and monitoring of funding	Institutional strengthening of cooperatives/village-owned enterprises (BUMDes)/microfinance institutions	Strengthening partnership with local banks	Financial management and entrepreneurship training	Supervision the use of village funds (dana desa)
		Code										
	Activity	×	Optimizing monitoring activities to keep the transparent use of budget	Initiation of restoration budgeting from non-government funds	Increasing awareness and promotion of environmental services concept and the application	Training on environmental services concept, payment, and co-investment and financing for environmental services; targeting governments, NGOs and private sectors		Revised the regulations related to environmental services and environmental service instruments	Institutional strengthening of cooperatives/village-owned enterprises (BUMDes)/microfinance institutions	Strengthening partnership with local banks	Financial management and entrepreneurship training	Supervision the use of village funds (dana desa)
	Activity	Index	2.4.6	2.4.7	2.5.1	2.5.2	2.5.3	2.5.4	2.6.1	2.6.2	2.6.3	2.6.4
	Intervention				Increasing awareness, promotion, the	formation of multi-stakeholder institutions and strengthening the provision of	services and improving the private sector and local community	welfare	Expanding the economic scale through the provision of	farming business credit products involving existing	institutions	
	Intervention	Index			2.5				2.6			

	Non-	Government Organization					NGO, private sector	Private sector				
		Government Agency	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Training and capacity building for the community to increase awareness of conservation and watershed management	Capacity building, document formulation, and establishment of legal entities for environmental service farmer groups	Facilitate the negotiations between the supplier of potential environmental services and beneficiaries	Coordination, monitoring, evaluation and reporting on the development of environmental services contracts and agreed indicators as provincial database	Strengthening the role of the private sector and NGOs through the development of KIPJL	Incentives and disincentives systems for illegal mining; upstream areas (Merangin, Soralangun, Mersam, Muara Ponco, etc.) particularly in the sub-watershed scale	Training and capacity building for the community to increase awareness of conservation and biodiversity	Facilitate the negotiations between the supplier of potential environmental services and beneficiaries	Coordination, monitoring, evaluation and reporting on the development of environmental services contracts and agreed indicators as provincial database	Strengthening the role of the private sector and NGOs through the development of KIPJL
		Code										
	Activity		Training and capacity building for the community to increase awareness of conservation and watershed management	Capacity building, document formulation, and establishment of legal entities for environmental service farmer groups	Facilitate the negotiations between the supplier of potential environmental services and beneficiaries	Coordination, monitoring, evaluation and reporting on the development of environmental services contracts and agreed indicators as provincial database	Strengthening the role of the private sector and NGOs through the development of KIPJL	Incentives and disincentives systems for illegal mining, upstream areas (Merangin, Soralangun, Mersam, Muara Ponco, etc.) particularly in the sub- watershed scale	Training and capacity building for the community to increase awareness of conservation and biodiversity	Facilitate the negotiations between the supplier of potential environmental services and beneficiaries	Coordination, monitoring, evaluation and reporting on the development of environmental services contracts and agreed indicators as provincial database	Strengthening the role of the private sector and NGOs through the development of KIPJL
	Activity	Index	2.7.1	2.7.2	2.7.3	2.7.4	2.7.5	2.7.6	2.8.1	2.8.2	2.8.3	2.8.4
	Intervention		Inter-regional compensation for environmental services and	payment (KIPJL) for watershed management					Inter-regional environmental services	compensation and payment for biodiversity		
	Intervention	Index	2.7						2.8			

	Non-	Government Organization								
		Government Agency	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Identification of policy and regulatory gaps in the provincial level to ensure efficient market-schemes permits and voluntary carbon initiatives and conflict resolution	Facilitation for the participation of voluntary carbon markets and intermediaries as well as incentives for companies/private sectors that involved in the voluntary carbon markets	ToT for monitoring and measuring carbon at the site level for regional government, NGOs and the community	Support NGOs to facilitate carbon measurement, community engagement, and voluntary carbon market negotiations	Analysis of current practices and their potential for benefit sharing including the sources and levels of environmental impacts, calculation of compensation and water distribution targets	Reviewing compensation and benefit- sharing through all government agencies under the coordination of Regional Planning Development Agency, Wattershed Management Agency and private sectors	Adoption of the appropriate monitoring system as a basis for negotiations and contract renewal	Assessing and improving the efficiency of Local Water Company (PDAM) performance, especially in providing and delivering drinking water in urban areas
		Code								
	Activity		Identification of policy and regulatory gaps in the provincial level to ensure efficient market-schemes permits and voluntary carbon initiatives and conflict resolution	Facilitation for the participation of voluntary carbon markets and intermediaries as well as incentives for companies/private sectors that involved in the voluntary carbon markets	ToT for monitoring and measuring carbon at the site level for regional government, NGOs and the community	Support NGOs to facilitate carbon measurement, community engagement, and voluntary carbon market negotiations	Analysis of current practices and their potential for benefit sharing including the sources and levels of environmental impacts, calculation of compensation and water distribution targets	Reviewing compensation and benefit- sharing through all government agencies under the coordination of Regional Planning Development Agency, Wattershed Management Agency and private sectors	Adoption of the appropriate monitoring system as a basis for negotiations and contract renewal	Assessing and improving the efficiency of Local Water Company (PDAM) performance, especially in providing and delivering drinking water in urban areas
	Activity	Xanıı	2.9.1	2.9.2	2.9.3	2.9.4	2.10.1	2.10.2	2.10.3	2.10.4
	Intervention		Voluntary carbon market and initiatives				Water commodity market for sustainable water supply			
	Intervention	IIIdex	2.9				2.10			

	Non-	Government Organization	Private sector							
		Government Agency	Environment Affairs Office	Environment Affairs Office, Tourism Office	Environment Affairs Office, Tourism Office	Environment Affairs Office, Tourism Office	Environment Affairs Office, Tourism Office	Environment Affairs Office, Tourism Office	Environment Affairs Office, Tourism Office	Environment Affairs Office, Tourism Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Development of disincentive mechanisms, for example, environmental taxes and user charges for business activities that threaten the quality and quantity of environmental services	Socialization of ecotourism concept as special interest tourism rather than mass tourism	Development of location-specific ecotourism plans (for example, infrastructure development plans, location analysis) and business models for local communities	Identification of environmental and social impacts of ecotourism	Development of participatory plans involves the local communities to develop ecotourism schemes as other sources of incomes	Improve the ticketing system for the location of ecotourism and identify how to finance the conservation activities from ecotourism revenues	Identification and assessment of environmental services in the location of ecotourism	Development of disincentive mechanisms, for example, environmental taxes and user charges for tourism activities that threaten the quality and quantity of environmental services
		Code								
	Activity		Development of disincentive mechanisms, for example, environmental taxes and user charges for business activities that threaten the quality and quantity of environmental services	Socialization of ecotourism concept as special interest tourism rather than mass tourism	Development of location-specific ecotourism plans (for example, infrastructure development plans, location analysis) and business models for local communities	Identification of environmental and social impacts of ecotourism	Development of participatory plans involves the local communities to develop ecotourism schemes as other sources of incomes	Improve the ticketing system for the location of ecotourism and identify how to finance the conservation activities from ecotourism revenues	Identification and assessment of environmental services in the location of ecotourism	Development of disincentive mechanisms, for example, environmental taxes and user charges for tourism activities that threaten the quality and quantity of environmental services
	Activity	шаех	2.10.5	2.11.1	2.11.2	2.11.3	2.11.4	2.11.5	2.11.6	2.11.7
	Intervention			Ecotourism with a variety of alternative tourist	destinations: general landscape tourism and special interest tourism					
	Intervention	Xanu		2.11						

	on-	rnment nization					e -		ی ہے	
	Z	Gove					Priva		Priva	NGO
		Government Agency	Environment Affairs Office, Tourism Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office	Environment Affairs Office, Tourism Office	Forestry Office	Forestry Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Integration of agricultural development programs in potential areas for certification	Monitoring and evaluation as part of provincial database for certification programs (environmental, economic and social)	Supervision of environmental, economic and social indicators for the certification program as part of provincial database	Simplifying the administration of land certification and legal status for coffee plantations that support ecological functions, for example, applied agroforestry system	Application of an inventive system (tax reduction) for sustainable companies and a disincentive system (fines) for violating companies	Development and integration of green indicators for the agribusiness financial system	Simplification of forest plantation permits as an incentive system if the certification such as Timber Legality Verification such as Timber Legality Verification Systems (SVLK), Porest Law Enforcement, Governance and Trade (FLEGT) and Forest Stewardship Council (FSC), by following the demands of global consumers and in collaboration with NGOs	Analysis of overlapping permits and timber certification systems in the provincial level; providing recommendation in the national level based on the lesson learned
		Code								
	Activity		Integration of agricultural development programs in potential areas for certification	Monitoring and evaluation as part of provincial database for certification programs (environmental, economic and social)	Supervision of environmental, economic and social indicators for the certification program as part of provincial database	Simplifying the administration of land certification and legal status for coffee plantations that support ecological functions, for example, applied agroforestry system	Application of an inventive system (tax reduction) for sustainable companies and a disincentive system (fines) for violating companies	Development and integration of green indicators for the agribusiness financial system	Simplification of forest plantation permits as an incentive system if the company has applied sustainable certification such as Timber Legality Verfication Systems (SVLK), Forest Law Enforcement, Governance and Trade (FLECT) and Forest Stewardship demands of global consumers and in collaboration with NGOs	Analysis of overlapping permits and timber certification systems in the provincial level; providing recommendation in the national level based on the lesson learned
	Activity	Index	2.12.1	2.12.2	2.12.3	2.12.4	2.12.5	2.12.6	2.12.7	2.12.8
	Intervention		Landscape and environmental services	certification in agriculture, plantation and forestry sectors					1	
	Intervention	Xapul	2.12							

	Non-	Grganization			Private sector	Private sector							
		Government Agency	Transportation Office, Public Work and Settlement Office, Regional Development Planning Agency	Public Work and Settlement Office	Public Work and Settlement Office	Public Work and Settlement Office	Public Work and Settlement Office	Public Work and Settlement Office	Public Work and Settlement Office	Public Work and Settlement Office	Public Work and Settlement Office	Public Work and Settlement Office	Public Work and Settlement Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Construction of international port for export and economic zoning areas for industrial zones	Construction of roads	Construction of international port for export and economic zoning areas for industrial zones	Construction of warehousing facilities	Development of river transportation modes	Construction of railway network	Construction of type C terminal (city transport and urban transport)		Determining the location of the construction of roads and bridges to support inter-regional activities	Roads construction	I Improved the status of the roads
		Code											
	Activity		Land acquisition for port construction	Construction of roads around the port	Construction of international port for export and economic zoning areas for industrial zones	Construction of warehousing facilities	Development of river transportation modes	Construction of railway network	Construction of type C terminal (city transport and urban transport)		Determining the location of the construction of roads and bridges to support inter-regional activities	Roads and bridges maintenance	Improved the status of the roads
	Activity Index		3.1.1	3.1.2	3.1.3	3.1.4	3.2.1	3.2.2	3.2.3	3.2.4	3.3.1	3.3.2	3.3.3
	Intervention		Construction of international port for export and economic zoning areas for industrial zones				Increased modes of transportation	from production center areas to processing	facilities or markets		Improvement of the infrastructures specifically roads	and bridges that connect activities centers	
	Intervention Index		Ľ.				3.2				с. С.		



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		Government Agency	Agriculture Office, Estate Plantation Office	Agriculture Office, Estate Plantation Office	Estate Plantation Office	Industry and Trade Office	Industry and Trade Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Formulation of commodity price database	Socialization of commodity prices in the village level	Training and mentoring farmers and agribusiness actors	Development of coconut processing industry (e.g. briquettes from coconut shells, charcoal, oil, VCO, nata de coco)	Facilitation of investment on the coconut processing industry by ensuring the supply of the raw materials	Assessment of the development of incentive systems	Conducting a feasibility study and adopting appropriate rubber management technology for the processing of downstream rubber products, including latex-based industries, mini crumb rubber, mini rubber scraper, and concentrated rubber processing	Facilitation of private sector partnerships and business actors, including banks for venture capital	Facilitation of the establishment of factories for rubber derivative products	Development of investment schemes by involving rubber farmers as investors
		Code										
	Activity		Formulation of commodity price database	Socialization of commodity prices in the village level	Improving farmers' skills in processing coconut-derived products	Development of coconut processing industry (e.g. briquettes from coconut shells, charcoal, oil, VCO, nata de coco)	Facilitation of investment on the coconut processing industry by ensuring the supply of the raw materials	Development of incentive systems for the coconut processing industry	Conducting a feasibility study and adopting appropriate rubber management technology for the processing of downstream rubber products, including latex-based industries, mini crumb rubber, mini rubber scraper, and concentrated rubber processing	Facilitation of private sector partnerships and business actors, including banks for venture capital	Facilitation of the establishment of factories for rubber derivative products	Development of investment schemes by involving rubber farmers as investors
	Activity Index		3.4.1	3.4.2	3.5.2	3.5.2	3.5.3	3.5.4	3.6.1	3.6.2	3.6.3	3.6.4
	Intervention		Easy access to market information for	une rarmers	The establishment of an integrated	coconut derivative industry to increase added value for farmers			The business of rubber derivative products involves farmer as investors			
	Intervention		6. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		3.5				Э. Э.			

	Non-	Organization	Private sector						
		Government Agency	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Determination of investment requirements for the new crumb rubber industry, namely at least 20% of the product are met from its plantation	Quality assurance of post-harvest rubber	Development of integrated processing industry of rubber derivative products to increase added value (e.g. rubberized asphalt, gloves, motorcycle accessories, balloon, tires, retread)	Increasing the quantity and quality of Processing and Marketing Unit of Community-Based Processed Rubber Materials (UPPB) facilities by following the local needs	Increasing the role of farmer groups in the UPPB market mechanism by improving capacity and clarity of the implementation instruction and technical instruction regarding good harvesting processes and introduction of rubber quality	Improvement of UPPB management system by issuing collector certificates by following the location of the Units	Surveillance in the auction market to avoid illegal practices, monopoly prices, and guarantee the market mechanisms
		Code							
	Activity		Determination of investment requirements for the new crumb rubber industry, namely at least 20% of the product are met from its plantation	Quality assurance of post-harvest rubber	Development of integrated processing industry of rubber derivative products to increase added value (e.g. rubberized asphalt, gloves, motorcycle accessories, balloon, tires, retread)	Increasing the quantity and quality of Processing and Marketing Unit of Community-Based Processed Rubber Materials (UPPB) facilities by following the local needs	Increasing the role of farmer groups in the UPPB market mechanism by improving capacity and clarity of the implementation instruction and technical instruction regarding good harvesting processes and introduction of rubber quality	Improvement of UPPB management system by issuing collector certificates by following the location of the Units	Surveillance in the auction market to avoid illegal practices, monopoly prices, and guarantee the market mechanisms
	Activity Index		3.6.5	3.6.6	3.6.7	3.7.1	3.7.2	3.7.3	3.7.4
	Intervention					Optimization of the rubber auction market as a clean rubber supply node			
	Intervention					3.7			

	Non-	Grganization									
		Government Agency	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office	Estate Plantation Office
Stakeholder	Provincial Government	Nomenclature of Program/Activity	Law enforcement and regulation strengthening to implement the incentive and disincentive system for the improvement of the quality of clean rubber through UPPB	Development of marketing option with new buyers of UPPB	Partnership with Forest Management Unit through Social Forestry Program for the improvement of cultivation and production of cinnamon	Guarantee the availability of cinnamon seed	Development of village independent nurseries and parent seed orchards at the district level (production center) for the improvement of cinnamon seedlings quality and other agroforestry crops	Development of agroforestry demonstration plot with high economic value commodities (coffee, chili, shade-tolerant horticulture)	Training on business diversification through agroforestry and agritourism system around cinnamon community plantation	Improving the quality and added value of cinnamon derivative products	Optimization of geographical indications of cinnamon products
		Code									
	Activity		Law enforcement and regulation strengthening to implement the incentive and disincentive system for the improvement of the quality of clean rubber through UPPB	Development of marketing option with new buyers of UPPB	Partnership with Forest Management Unit through Social Forestry Program for the improvement of cultivation and production of cinnamon	Guarantee the availability of cinnamon seed	Development of village independent nurseries and parent seed orchards at the district level (production center) for the improvement of cinnamon seedlings quality and other agroforestry crops	Development of agroforestry demonstration plot with high economic value commodities (coffee, chili, shade- tolerant horticulture)	Training on business diversification through agroforestry and agritourism system around cinnamon community plantation	Improving the quality and added value of cinnamon derivative products	Optimization of geographical indications of cinnamon products
	Activity Index		3.7.5	3.7.6	3.8.1	3.8.2	3.8.3	3.8.4	3.8.5	3.8.6	3.8.7
	Intervention				Diversification of farming practices through agroforestry of	nign economic values commodities and	improvement of post-harvest technology and marketing of cinnamon				
	Intervention				8.						

					Stakeholder		
ntion	Intervention	Activity	Activity		Provincial Government		Non-
1				Code	Nomenclature of Program/Activity	Government Agency	Government Organization
		3.8.8	Improving the quality of post-harvest technology and marketing of cinnamon with geographical indication		Improving the quality of post- harvest technology and marketing of cinnamon with geographical indication	Estate Plantation Office	University
		3.8.9	Facilitation of marketing cinnamon products and high-quality agroforestry products		Facilitation of marketing cinnamon products and high-quality agroforestry products	Estate Plantation Office	
		3.8.10	Involvement of Creative Economic Agency (BEKRAF) in promoting cinnamon product brand from Jambi		Involvement of Creative Economic Agency in promoting cinnamon product brand from Jambi	Creative Economic Agency	Private sector



Jambi Province's green growth master plan and roadmap is the initiative to manage and utilize renewable resources sustainably. It is prepared and developed through a participatory process that involves multiskateholders, integrated to the development planning processes, and based on valid and up-to-date data and information.