

Green Growth Practice in Indonesia: Some Insight for Gambir Commodity in West Sumatra, Indonesia

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Table 1 is available in the Supplementary Files section.

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Abstract

The agricultural sector plays a very important role in sustainable development. Indonesia and West Sumatra are agricultural countries and regions where it is possible to apply green growth practices to food commodities. Gambir commodity (*Uncaria Gambir Roxb*) as one of the leading agricultural products from West Sumatra which makes up 80 percent of the global market. The purpose of this research is to analyze the green growth practices of gambir in West Sumatra, Indonesia. The analytical method used is descriptive analysis of the five indicators measuring performance green growth for commodity gambir, namely sustainable economic growth; inclusive and equitable growth; healthy and productive ecosystem providing services; economic, social, and environmental resilience; and greenhouse gas emission reduction whose opinions were taken on a research sample of 98 farmers. The sampling technique is based on purposive sampling techniques. The result of this research is that four of the five components of the performance of green growth practices on gambir commodities in Kenagarian Maek, Kabupaten Lima Puluh Kota, West Sumatra Province, Indonesia have been well implemented.

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Introduction

Green growth is aimed at realizing environmentally friendly economic growth in alleviating poverty in harmony with the preservation of natural resources and climate change. Growth and development Economic growth and development that is consistent with protecting or preserving natural resources to create prosperity is a pathway for green growth (Kasztelan, 2017). Research on these policies and their heterogeneous effects on economies is particularly important for the Global South since green growth simultaneously addresses developmental, environmental, and economic needs (Mealy, 2020; Goldthau & Hughes, 2020; Lema et al, 2018; Papaianou, 2014).

The concept of green growth refers to sustainable growth that mitigates greenhouse gas emissions, and prevents environmental degradation. It is also a new national development paradigm that creates new growth engines and jobs through green technology and clean energy (Republic of Korea, 2009). Green growth achieved by saving and using energy and resources efficiently to reduce climate change and damage to the environment, securing new growth engines through research and development of green technology, creating new job opportunities, and achieving harmony between the economy and environment (Republic of Korea, 2010). Green growth is an emerging concept that recognizes that environmental protection is a driver of global and national economic development. It refocuses society on achieving qualitative growth rather than simply increasing GDP (Republic of Rwanda, 2011).

Green growth aims to foster economic growth and development, while ensuring that natural assets are used sustainably and continue to provide the resources and environmental services on which our well-being depends (OECD, 2011). Green growth is environmentally sustainable economic progress to foster low-emission, socially inclusive development (UNESCAP, 2011). Green growth is a revolutionary new development paradigm

that sustains economic growth while at the same time ensuring climate and environmental sustainability (GGGI, 2012).

The purpose of this study was to analyze the performance of green growth performance on gambir commodity. Sectors that are expected to realize green growth, one of which is the agricultural sector which plays a role in sustainable development in a country (Tian Y et al., 2019). The agricultural sector which is seen as a strategy for realizing green growth is gambir farming (Aulia et al, 2021). Gambir is a superior product from Kabupaten Lima Puluh Kota of West Sumatra Province, Indonesia. Indonesia exports gambir to India and supplies 80 percent of the global market. Demand from India reaches 14,000 tons per year. Previously the planting and processing processes were still traditional. Farmers plant gambir on hillsides by cutting down trees in the forest to replace them with gambir plants.

This green growth performance is based on Green Growth Government Indonesia (GGGI) concept, namely 5 performance indicators including sustained economic growth; inclusive and equitable growth; healthy and productive ecosystem providing services; social, economic and environmental resilience; and greenhouse gas emission reduction. Performance indicators for performance green growth for this gambir commodity have been studied in the districts of Kabupaten Lima Puluh Kota in West Sumatra Province, Indonesia.

Methods

Green growth in Indonesia can simultaneously form a green growth performance analysis so as to obtain the expected results as illustrated below:

Figure 1. Green Growth Performance Analysis

Source: GGGI (2012) & Bappenas (2020)

The population of this research is 4200 farmers who are in Nagari Maek, Kecamatan Bukik Barisan, which is a gambir commodity production center in Kabupaten Lima Puluh Kota, West Sumatra Province, Indonesia. Sampling in this study used the slovin formula, which consisted of 98 farmers (45 males and 53 females marriage) and used a proportional random sampling technique.

The land clearing process carried out by gambir farmers in the study area still uses the manual method using tools such as *rembe* and *golok*. Most of the gambir land clearing was done by the farmers themselves, but there were some farmers who worked on their land by bringing farm laborers on a piece rate system or being paid a working day. The clearing of gambir land made by farmers in this study was divided into two, namely paddy fields or meadows that were no longer functioning and land in *the "rimbo"* forest.

In ancient times, farmers planted gambir plants on hillsides which were basically forests or buffer zones. The gambir cultivation area is basically sloping land with an acid reaction, very low physical-chemical fertility, then flat and very erosive soil making the land vulnerable to erosion.

The gambir plant production process is divided into two production processes, namely the planting process and the processing process. The planting process is carried out including: first, land clearing. Land clearing is an activity of opening new land for gambir fields. This variable is used to see how the process of clearing land is carried out by gambir farmers in Bukik Barisan District, whether farmers clear land by cutting down trees in the forest or by utilizing land that is no longer functioning, such as dry rice fields that no longer function or farmers planting gambir around settlements. Second, seeding and planting. Third, maintenance is the efforts or efforts of farmers towards gambir plants and their environment

so that gambir plants thrive through the process of weeding, fertilizing and eradicating pests and diseases.

The processing consists of: first, boiling, namely the production process of boiling processing is gambir leaves that have just been picked or taken by the stalk by the farmer which is then transferred into a *kopuak* which has been covered with a net or called *jariang* and compacted by stepping on the farmer's foot then put into the boiling *kanca*, where the *kanca* has first been filled with boiling water. After boiling, it is connected with a hook tool and removed from the *Kopuak*, then it is put into the *Kampo* or press tool for pressing. Second, pressing, namely the process of pressing the leaves that have been boiled earlier and then putting them into the press using a jack to remove the sap and collecting it in a tub under the press, then the pressed leaves can still be boiled once more and then back on the press again. Third, printing and drying. This printing is done by farmers with a special tool in the form of a small tube made of bamboo or a water pipe and placed in a *samiar* and immediately dried which can be done using direct sunlight or smoked first on the stove for boiling the gambir leaves.

Research data collection was carried out by distributing questionnaires to research samples. Processing research data through descriptive analysis of the achievement of implementing green growth practice indicators in Kenagarian Maek which is a center for planting and producing gambier commodities in Kabupaten Lima Puluh Kota, West Sumatra Province, Indonesia.

Result & Discussion

Indonesia has four provinces in Sumatra which are the largest gambir producers, one of which is West Sumatra Province (Dhalimi, 2006). Based on data West Sumatra (2022) that West Sumatra province is the largest gambir producer in Indonesia. Gambir land in West Sumatra is also the largest in Indonesia. The area of gambir land in West Sumatra is recorded at the Central Bureau of Statistics for 28,016 Ha in 2020. Kabupaten Lima Puluh Kota is the largest gambir-producing area in West Sumatra Province with an area of 16,574 Ha in 2020, which makes gambir the main source of livelihood for the community in that area. Community income is very dependent on the price and marketing of gambir (Kurniawan, et al., 2019).

Based on data for West Sumatra Province (2022) that gambir production in West Sumatra and Kabupaten Lima Puluh Kota in 2016 -2020 fluctuated tending to increase. In 2016 gambir production in West Sumatra amounted to 17,036.03 tons then decreased in 2017 to 6,156.60 tons, then for 2018-2020 it has increased every year to 7,574.30 tons, 7,582 tons and 7,583 tons respectively tons in 2020. This is also experienced by gambir production in Kabupaten Lima Puluh Kota that in 2016 gambir production was 10,881.95 tons then decreased to 5,496.70 tons in 2017 then for the last three years gambir production has increased to 6,795.60 tons in 2018, 6,802 tons in 2019 and in 2020 the gambir production of the Kabupaten Lima Puluh Kota has increased to 6,803 tons.

The production process of the gambir plant in Bukik Barisan District, Lima Puluh Regency, West Sumatra Province, Indonesia is carried out in two ways, namely the planting process and the processing process. In the past, the community or gambir farmers planted gambir on the hillsides, this was done to facilitate the weeding process, so gambir farmers used to clear gambir land by cutting down trees in the forest and then replaced it with gambir plants. However, at present farmers have paid attention to environmental aspects, although not all of them where farmers plant gambir by utilizing land that is no longer used, namely around residential houses and from dry and no longer functioning rice fields. The

maintenance of gambier plants is also carried out by fertilizing directly from *katapang* or by decoction of gambier leaves which have been squeezed (the sap of which has been taken), but some farmers provide organic fertilizer, especially for plants near settlements. The process of processing gambier in the past where boiling was done by cutting down trees in the forest, but now some farmers have switched to using trees that are no longer used or utilizing old trees, although not all farmers do this.

Gambier farmers who are still unable to obtain an adequate standard of economic life. Improving the welfare of farmers is still difficult because the price of gambir often fluctuates and the amount of gambir production is excessive. When gambier harvests are abundant, collectors buy gambir products at low prices, when gambir harvests decrease, gambir prices are high. There is no cooperative or collector forum that can help farmers to stabilize harvest prices.

During 2020, the price for gambir has dropped dramatically, which is only around Rp. 10,000 - Rp. 20,000 per kilogram. Of course this price is very unprofitable for gambir farmers and they even suffer losses if all processes are calculated. At the beginning of 2021 the price for gambir has started to gradually increase, namely in the range of Rp. 20,000 - Rp. 32,000 per kilogram. When the price of gambir is very low, many farmers cannot make ends meet.

Becoming gambir farmers is not easy because they have to work hard and the work they do is also extreme, where not everyone can do the job where they start planting, fertilizing, harvesting and the production process takes a long time until gambir is formed. Gambir is sold to middlemen (known as *toke*). Many middlemen play with the price, so that the farmers are always in a low bargaining position. Sometimes, "*toke*" take advantage of farmers' capital which is still very limited, namely by lending money to farmers for the cost of the production process, so that farmers indirectly have to sell their products to the "*toke*". A very long marketing channel also causes a lot of costs incurred, so that the income received by farmers is also very small. The price has been set by "*toke*" and "*toke*" reduces the weight of the farmer's scales. So that the "*toke*" traders get bigger profits compared to the farmers, even though the farmers are not the "*toke*" who work hard.

Information from the *gambir toke* stated that the gambir production by farmers had piled up in the warehouse owned by the *toke* due to delays in exports to India due to the impact of the COVID-19 pandemic. One gambir dealer in Kabupaten Lima Puluh Kota said that 1,000 tons of gambir are currently piled up in his warehouse. The *toke* keep buying gambir from the farmers because it's a pity for the gambir farmers if they don't have any income. So gambir was bought by the *toke* at a low price because there were too many gambir in the warehouse, so that during the pandemic, farmers' income dropped dramatically.

Even so, they will continue to produce gambir, even though the costs for harvesting and drying gambir are not in accordance with current prices, farmers still go to the garden to harvest gambir leaves, because if the leaves are not harvested, the leaves are old and no longer gummy, so for the next harvest they need capital. even bigger to improve the gambir garden.

The results of interviews with gambir farmers on the performance of implementing green growth practices in Kabupaten Lima Puluh Kota are as follows:

Table 1. Performance Measurement Indicators of Gambir's Green Growth Practices

Based on Table 1 above, The five aspects of green growth practice for the gambir commodity, there are 4 aspects that have been implemented well. So it can be concluded that green growth practices have been implemented on gambir commodities in Kabupaten Lima Puluh Kota, West Sumatra Province, Indonesia. It is illustrated that there is continued economic growth due to an increase in production output growth, profits increase although not significantly, income rises slowly, and expenses are considered constant. During the pandemic, there was no significant production growth due to global economic conditions.

Proceed with the existence of inclusive and fair growth which is reflected in the fixed number of workers which causes an increase in wages, and their knowledge is still at the basic level, limited to literacy, so wages are paid based on their level of education. The wages received are sufficient for daily food needs and the wage system is known to other workers openly without any coercion.

Economic, social and environmental resilience does not occur in this gambir commodity. This can be seen from the price volatility of commodities purchased by collectors, because it depends on commodity prices for gambir in the world. It is true that the prices of competitors are low, coming from gambir from other countries, but the quality of gambir from this area is very good. This Gambir commodity has no innovation and diversification products because it is still harvested traditionally. The uniqueness of this traditional harvest is what the market is in demand for. Judging from the infrastructure that supports the production of this commodity, it is not available properly, such as the absence of cooperatives as a production gathering place that guarantees the stability of commodity prices, plus the lack of government concern for the sustainability of this production. Because this area is located at the height of the hills, and planting is currently being done in the yard of the house, not in the forest, so the risk of natural disasters is avoided and farmers are safe from theft and crime.

In the aspect of a healthy and productive ecosystem, it looks well implemented. This is illustrated by the fact that there are still many protected animals and plants found around the production of gambir commodities, such as wild monkeys, tigers, snakes, birds and others. Then the process of planting gambir commodities can often be found around beautiful settlements with rural life with very wide distances between houses. Soil nutrients are still high because it uses organic fertilizer, namely dregs/*ketapang* from the gambir. Apart from that, this Gambir commodity is untouched by technology and digitization. Because no one has introduced and who uses it.

In the aspect of reducing greenhouse emissions, it seems that it has been carried out well. This is reflected in the indicators of waste management or dregs which are recycled into organic fertilizers, although there is still a small addition of chemical fertilizers that are useful for stimulating the growth of these commodities, such as urea, ZA and SS fertilizers. Farmers still depend on using fossil-fueled vehicles because the distance traveled makes it impossible to use a bicycle. The production process does not use plastic but uses bamboo mats or pandan mats and plant skin ingredients. In addition, the barren ex-harvest areas are replanted with new commodities so that the land is not barren.

Conclusions

Gambir commodity (*Uncaria Gambir Roxb*) superior product from Kabupaten Lima Puluh Kota of West Sumatra Province, Indonesia. Indonesia exports gambir to India and supplies 80 percent of the global market. The sustainability of the production of this commodity is seen based on five indicators of green growth practices. The indicator is

sustainable economic growth; inclusive and equitable growth; economic, social and environmental resilience; healthy and productive ecosystems; and reduction of greenhouse emissions.

Finally, from the components of the green growth practice indicators, four out of the five indicators were successfully implemented, so it can be concluded that green growth practices have been applied to gambir commodity production in Kabupaten Lima Puluh Kota, West Sumatra Province, Indonesia.

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Figures

Green Growth Practice in Indonesia: Some Insight for Gambir Commodity in West Sumatra, Indonesia



Figure 1. Green Growth Performance Analysis
Source: GGGI (2012) & Bappenas (2020)

Figure 1

See image above for figure legend.

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