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NATIONAL GUIDANCE

BOOK 1 :
DATA COLLECTION AND ANALYSIS OF SUSTAINABLE JURISDICTION INDICATORS

MINISTRY OF NATIONAL DEVELOPMENT PLANNING /
NATIONAL DEVELOPMENT PLANNING AGENCY 2023

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1. INTRODUCTION

1.1 Background

The Sustainable Jurisdictional Indicators (SJI) is an initiative supported by the Directorate of Food and Agriculture of the Ministry of National Development Planning / National Development Planning Agency, the European Union. and other parties to achieve the development agenda in the 2020-2024 RPJMN. This is done in the context of implementing the Priority Program (PP) for Increasing Added Value, Employment, Real Sector Investment, and Industrialization – Priority Activities (KP) for Improving the Processing Industry Based on Agriculture, Maritime, and Non-Agro integrated Upstream-Downstream. In line with the government's agenda, SJI is expected to provide guidelines for planning and evaluating the performance of a region in applying sustainable principles to the production process of plantation commodities.

SJI is built on a jurisdictional approach at the District/City level. This is in line with the division of agricultural affairs to local governments at the district/City level as stated in Law Number 23 of 2014 concerning Regional Government. A jurisdictional approach is a type of landscape approach that uses administrative (juridical) boundaries, especially sub-national, to determine the scope of actions, activities, and stakeholder engagement. The jurisdictional approach combines and creates synergies between government authorities and the capabilities or resources that different parties have to achieve common goals. Through a collaborative process involving a multi-party advisory board consisting of elements of government, civil society, and the business community, 23 Sustainable Jurisdiction Indicators have been produced that are built based on Indonesian laws and regulations and aligned with international commitments such as the Sustainable Development Goals (SDGs) and the Paris Agreement). SJI is designed to be able to provide benefits to several needs at once. For the regions, SJI is expected to be an instrument that helps regions to measure, and gradually achieve, sustainability and inclusivity in agricultural development. SJI is also in line with the Regulation of the Minister of Agriculture No. 38 of 2020 concerning the Implementation of Indonesian Sustainable Palm Oil Plantation Certification. Another issue that is currently developing is deforestation, IYB can help in showing the level of deforestation that occurs in a district, by looking at the definition of forest according to FAO which is an area of more than 0.5 hectares with trees higher than 5 meters and canopy cover of more than 10%.

Picture 1: Indicator in SJI

The Central Government can also use SJI indicators and monitoring systems to develop incentive and disincentive systems for local governments to achieve sustainable and inclusive agricultural development. This need can be met because SJI is prepared in line with laws and policies that support sustainable agricultural commodity certification schemes, such as the Indonesian Sustainable Palm Oil (ISPO) standard. The guidelines contain explanations and descriptions of the SJI 23 indicators developed to evaluate the performance of local governments in achieving sustainability. A thorough explanation for each indicator is outlined in Section 2.1 which consists of 3 parts, namely a) the correlation of each indicator with the sustainable development goals, b) the benefits of the indicators and c) the methodology and data required for the indicators. Section 2.2. presents a compilation of the identification of the presence of data necessary to measure the current SJI.

2. Assessment and Data Collection of Sustainable Jurisdiction Indicators

2.1 Indicator Description

2.1.1 INDICATOR 1 : Protection for Permanent Forest

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 15 Protecting, restoring, and enhancing the sustainable use of terrestrial ecosystems, managing forests sustainably, stopping desertification, restoring land degradation, and stopping biodiversity loss Target 15.1 By 2020, ensure the preservation of restoration and sustainable use of inland and inland ecosystems and their environmental services, particularly forest, wetland, mountainous and dryland ecosystems, in line with obligations under international agreements.

SDG 6, ensures the availability and sustainable management of clean water and sanitation for all. Forest protection and restoration are needed because forests act as a medium of water infiltration to the soil and maintain a sustainable hydrological cycle. Maintaining and protecting forests, it will guarantee and help improve the availability of clean water and water quality. These activities also synergize with the 6th SDG value, namely clean water, and sanitation.

B. Benefit

This indicator is used to monitor how far the government is committed to protecting areas that should be protected and maintained in terms of forest cover, both at the policy and factual levels. This is because the plantation sector is often associated with deforestation and forest degradation. Therefore, through this indicator, it is hoped that the government will not only pay attention to the product-activity aspects of plantations but also ensure that productivity is achieved with a sustainable approach.

Through these indicators, local governments are expected to have preliminary information to evaluate various activities and policies in their regions that have direct or indirect impacts on deforestation and forest degradation. For buyers of plantation products, this information is useful for assessing the commitment of an area to realize deforestation-free commodities. Where the FAO definition of forest follows that is more than 0.5 hectares of land with trees taller than 5 meters and a canopy cover of more than 10%, or trees can reach a threshold by insitu, the land does not include agricultural or urban land. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology & Data

By applicable laws and regulations, this indicator uses calculations based on areas that must at least be protected and maintained, namely forests with conservation and protection functions. In addition, considering that the identification of the two types of forests is also part of the PIPPIB instrument (Indicative Map for the Termination of New Permits), protected and conservation forests located within forest areas and moratorium maps (PIPPIB) covering areas inside or outside the forest area (Other Use Areas) are included in the calculation of this indicator.

This indicator is measured by calculating the portion of forest in conservation areas or protected areas that have been determined by the MoEF. In addition, this indicator also measures the risk of commodity-related deforestation within a jurisdiction, which is described in the jurisdictional risk equation. Sub-national governments are required to ensure 30% of their territory is designated as a protected forest. With the passage of the Job Creation Law, sub-national governments are no longer required to ensure that 30% of their territory is designated as protected forest. Since the amount of 30% can no longer be used as a reference, another way that can be done to measure permanent forest protection is to check whether the spatial plan includes the protection of protected forests and conservation forests contained in the Decree on the Determination of Protected and Conservation Areas.

This indicator aims to see a picture of the factual situation in the area that is supposed to be protected. When measured over some time, it can provide information about deforestation occurring in the area or restoration efforts that have been carried out. Performance indicators can be described by equation 1:

Equation 1 : $$FC.HP_i(\%) = \frac{(FC.HL_i + FC.HK_i + FC.M_i)\ \text{x } 100\%}{\text{HLk+HKk}}$$

Where,

$FC.HL_i$:	Total area of protected forest cover in district/cities *i* (hectares)
$FC.HK_i$:	Total area of Conservation Forest cover in district/City *i* (hectares)
$FC.M_i$:	Total area according to an indicative map of the termination of new permits (PIPPIB) in district/City *i* (hectares)
HL_k+HK_k:	Total area of Protected Forests and Conservation Forests in the Decree on the Determination of Forest Areas (PKH) for district/Cities *i* (hectares)

Analysis of these implementation indicators can be carried out by overlaying a map of protected forests and conservation forests by the Decree on the Determination of Forest Areas (PKH) HL_k+Hk_k with a map of forest cover for forest classification ($FC.HL_i$, $FC.HK_i$, $FC.M_i$) The data required for this analysis are:

1. Remote sensing data of forest cover or local community reporting. Community or local reporting data is used to identify conditions in the field. For remote sensing, spatial data can be collected from the public domain, remote sensing catalog from the Deputy for Remote Sensing, National Institute of Aeronautics, and Space/ LAPAN. The data to be used is sourced from SPOT 6/7 and Landsat 8 images with a resolution of 15km. These data are updated once every one to two weeks.

Furthermore, to measure forest protection, it is still necessary to know the risk of deforestation in a jurisdiction caused by land clearing for plantations or commodity farming. This is represented in equation 2 jurisdictional risk:

$$\text{Equation 2 : } \boldsymbol{JR} = \frac{\boldsymbol{PiF}}{\boldsymbol{FC\ or\ FA}} \times \mathbf{100\%}$$

Where,

JRi : Risk Jurisdiction indicating risk deforestation in district/ cities *i* as a result of certain commodities such as Palm Oil, Rubber, and cocoa (%).

PiFi : Total plantation cover of related commodities (Palm oil, rubber, etc.) located in Forest Cover in district/Cities *i* (hectares).

FCi: Total Forest Cover in Districts/Cities *i* (hectares).

Fai: Total Forest Area in district/City *i* (hectares).

Analysis of these implementation indicators can be done by overlaying commodity cover maps (Palm oil, coffee, etc.) with forest cover maps in district/cities. The data required for this analysis are:

1. Commodity Cover Maps (Palm Oil, Coffee, Rubber, etc.) are obtained from the Ministry of Agriculture or SJI partners engaged in Agriculture or Plantations. The map is in the form of an SHP (Shapefile) which will be used for overlaying with the Forest Cover Map.

2. Forest Cover Map obtained from the Ministry of Environment and Forestry in SHP (Shapefile) format and Forest Area Map in SHP (Shapefile) format.

3. District/City Administration Map obtained from the Directorate General of Population and Civil Registration (Ditjen Dukcapil) in SHP (Shapefile) format.

2.1.2 INDICATOR 2 : Protection for Areas Important for Ecological Services

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 15 Protecting, restoring, and enhancing the sustainable use of terrestrial ecosystems, sustainably managing forests, stopping desertification, restoring land degradation, and stopping biodiversity loss.

Target 15.1 By 2020, ensure the preservation of restoration and sustainable use of inland and aquatic ecosystems and their environmental services, in the particular forest, wetland, and mountainous and dryland ecosystems, in line with obligations under international agreements.

SDG 6, ensures the availability and sustainable management of clean water and sanitation for all. Protection of areas that are important for ecological services such as springs is an activity that can help maintain a continuous hydrological cycle that will produce quality clean water with a quantity that can meet the needs of life.

B. Benefit

This indicator is used to monitor local government's efforts to protect areas that have important ecological services, including other use areas that still have forest cover, from massive forest cover conversion. The area includes areas with production functions both inside and outside the forest area, including within the plantation area, which has an important ecological function or actual forest cover that provides ecological services for surrounding life. The additional protection of the region demonstrates the commitment of regional management with a sustainable principle approach. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology & Data

This indicator is assessed by calculating the percentage of the total designated area with the protection function in the spatial plan of the total area of the essential ecosystem zone (KEE) within the District/City. Included in the definition of KEE is an Area with High Conservation Value (HCV). This indicator assesses the extent of local government support in incorporating KEE into the protected function prescribed by the District/City government. In addition, the commitment of local governments to the protection of important areas for ecological services can also be seen from the presence or absence of KEE mapping initiatives carried out by the local government.

Indicator 2, ESPi (%), is estimated by the percentage of the total designated area with the protection function in the District/City spatial plan of the total area of the essential ecosystem zone (KEE) stretched in the district/City i area, which can be described by:

$$\text{Equation 3 : } ESP_i\,(\%) = \frac{(FC.KEE_i)}{KEE_i} \times 100\%$$

Dimana,

$FC.KEE_i$: Total forest cover area within KEE in district/city *i* (hectares).

KEE_i: Total area of Essential Ecosystem Areas in Districts/Cities *i* (hectares).

Data required for analysis:

1. District/City Forest Cover Map (see indicator 1);
2. Map of Essential Ecosystem Areas. This data is produced by the Ministry of Forestry and Environment.

2.1.3 INDICATOR 3 : Fire Prevention

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 13. Take swift action to address climate change and its impacts. Target 13.2 Integrating climate change anticipatory actions into national policies, strategies, and planning.

SDG 6 ensures the availability and sustainable management of clean water and sanitation for all. Fire prevention efforts indirectly also play a role in maintaining the hydrological cycle because activities related to fire prevention are closely related to maintaining and protecting the existence of forests and maintaining important areas for economic services for drought mitigation and forest fire vulnerability.

B. Benefit

This indicator is used to assess local government support in reducing forest and land fire rates with the causes of deforestation and forest degradation and greenhouse gas emitters. This method of examining indicators is based on an assessment of the impact of performance. The impact-based assessment approach is used to overcome biases in evaluating programs or actions that vary between districts/cities. The analysis will also not separate fires within forest areas and other use areas. This indicator is useful in measuring the development of forest and land fire events every year. The decrease in the amount of land burned shows the success of local governments as the vanguard of climate change mitigation through forest and land fire prevention. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

The indicator is estimated using the sum of the reductions in the area of fire areas (in hectares) each year, ΔBA_{it}*(count)*, both during the extreme and normal years of the base year which can be described as:

Equation 4 : $\Delta BA_{it} = BA_{ib+1} - BA_{ib}$

Where,

BA_{ib}: Area of fire in District/City i in base year b (hectares)

BA_{ib+1} : Area of fire in district/City i in year b + 1 (hectares)

The data required for this analysis are:

1. Map of forest and land fires. This data was obtained from the Ministry of Environment and Forestry, Directorate of Forest Fire Control, and land.

Policy indicators are measured based on the presence or absence of Local Government Governance Policies or Documents on Forest Fire Prevention.

Equation 5: $DGFPi \in \{0,1\}$

Where,

$DGFP_i$: Local Government Governance Policies or Documents related to Forest Fire Prevention

2.1.4 INDICATOR 4 : Protection for Peatlands

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 13. Take swift action to address climate change and its impacts.

Target 13.2 Integrating climate change anticipatory actions into national policies, strategies, and planning.

SDG 15 Protecting, restoring, and enhancing the sustainable use of terrestrial ecosystems, sustainably managing forests, stopping desertification, restoring land degradation, and stopping biodiversity loss.

Target 15.1 By 2022, ensure the preservation of restoration and sustainable use of inland and aquatic ecosystems and their environmental services, in a particular forest, wetland, and mountainous and dryland ecosystems, in line with obligations under international agreements.

B. Benefit

This indicator is used to monitor the local government's efforts to protect peatlands. Peatlands are included in areas important for ecological services. However, peatlands in particular are not included in ecological service areas because peatlands store more carbon than mineral lands. Often, peatlands are linked to plantation clearing practices in Indonesia that are associated with forest and land fires. Therefore, this indicator is related to Indonesia's commitment to climate change mitigation. The non-protection of peatlands as protected areas at the policy level will have the potential to facilitate fires on these peatlands. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

This indicator is assessed by looking at the proportion of peat area included by the government in protected forests set by the Ministry of Environment and Forestry, further divided by the total area:

Equation 6 : $$HP_i(\%) = \frac{KG \cap KHL}{KG} x\ 100\%$$

Where,

$KG \cap KHL$: Total area of peat area within the protected forest

KG: Total peatland area stretched in district/city i (hectares) based on land cover

The data required for this analysis are:

1. 1:50,000 scale land cover map.
2. Peat Hydrological Unity Map/KHG. Spatial data and information can be downloaded from the public domain of the Ministry of Environment and Forestry. The KHG map covers peatland areas in Indonesia.

2.1.5 INDICATOR 5 : Climate Change Mitigation

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 13 Take swift action to address climate change and its impacts.

Target 13.2 Integrating climate change anticipatory actions into national policies, strategies, and planning.

SDG 6 ensures the availability and sustainable management of clean water and sanitation for all. Forest protection, areas critical to ecological services, and wildfire prevention are some examples of actions that can be taken to mitigate climate change. Climate change causes an increase in the earth's surface temperature which has an impact on the high level of evapotranspiration of water that falls on earth. Mitigating climate change will reduce the level of evapotranspiration and the availability of sustainable groundwater will be maintained.

B. Benefit

This indicator is used to monitor the progress achieved by local governments in reducing emissions from deforestation and forest degradation by referring to the Forest Reference Emission Level (FREL) set by the Ministry of Environment and Forestry. climate change mitigation efforts in the land and forest sector. Measurements are carried out by looking at the availability of three documents in the district/City Government consisting of: reporting an inventory of Greenhouse Gas emissions to the Provincial Government, a reference emission formulation (FREL) at the District/City level, and a Climate Change Mitigation Action Plan. The availability status of the document can be preliminary information for local governments to evaluate programs in their areas that have an impact on climate change in the forest and land sector. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

For buyers of plantation products, this information can be used to assess a region's commitment to climate change mitigation.

Going forward, the formulation will compare the level of carbon dioxide emissions produced by districts/cities from the forest and land sector, with the proxy for deforestation and forest degradation compared to reference emissions (FREL). Currently, this calculation cannot be applied because data is not yet available, especially FREL at the district/City level.

C. Methodology and Data

Indicator 5 is assessed based on three sub-indicators, namely :

- The existence of an inventory report on greenhouse gas (GHG) emissions,
- The existence of guidelines and formulas for calculating GHG emissions used by local governments, and;
- Action plan for climate change mitigation adaptation at the district/city level.

Equation 7 : $E_{DF} = (v_n \times w_n) + (v_m \times w_m) + (v_a \times w_a)$

Where,

$$v_n \in \{0,1\}, v_m \in \{0,1\}, v_a \in \{0,1\}$$

v_n: An index that shows the presence/absence of an inventory reporting of greenhouse gas (GHG)

w_n: Weight of GHG emissions inventory reporting index (30%)

v_m: An index that shows the presence or absence of guidelines and formulas for calculating FREL (baseline) at the District / City level

w_m: FREL formula index weights (baseline) (30%)

v_a: Index showing the presence/absence of an action plan for climate change mitigation adaption

w_a: Index weight of the existence of an action plan for climate change mitigation adaptation (40%)

Judging by equation 6, values E_{DF} are in the range 0–1. For the index value, if the document exists then the value is 1, if it does not exist then the value is 0.

The data required for this analysis are:

1. List of districts/cities that have reported an inventory of GHG emissions.

2. A list of Districts/Cities that have established guidelines for calculating FREL at the District/City level.

3. List of Districts/Cities that already have a Climate Change Mitigation Action Plan in place.

These three data can be obtained from the Directorate of Greenhouse Gas Inventory and Monitoring Reporting and Verification (Dit. IGRK MPV). The Directorate of IGRK MPV has built a GHG inventory reporting system through the SIGN-SMART online platform. The District/City Government is expected to periodically report its GHG emissions to the provincial government every March. The Provincial Government is expected to periodically report provincial-level GHG emissions to the Central Government every May. Through the SIGN-SMART platform, Dit. IGRK MPV can see which district/city governments have reported their GHG emission inventory.

Regarding the guidelines for calculating FREL at the district/City level, the Ministry of Environment and Forestry has provided national calculation guidelines through the SIMONELA platform. However, district/cities are still expected to calculate FREL in their areas which are in line with the calculation of GHG emissions at the district/city level. The Ministry of Environment and Forestry will verify the calculation of the district/City FREL prepared by the district/City Government. Therefore, data on the list of district/cities that already have guidelines for calculating FREL at the district/city level can be obtained from the Ministry of Environment and Forestry.

Data on the list of districts/cities that already have a Climate Change Mitigation Action Plan can be obtained from the Ministry of Environment and Forestry. The Ministry of Environment and Forestry has an SRN (National Registry System) platform where the platform contains a list of district/ Cities that already have a district/city-level climate change mitigation action plan.

Here are the website addresses that can be visited regarding the three data above:

- SIMONELA : TBA (In the making)
- SIGN SMART : https://signsmart.menlhk.go.id
- SRN : https://srn.menlhk.go.id

2.1.6 INDICATOR 6 : Sustainable Production Forest Management

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 15 Protecting, restoring, and enhancing the sustainable use of terrestrial ecosystems, sustainably managing forests, stopping desertification, restoring land degradation, and stopping biodiversity loss

Target 15.1 By 2022, ensure the preservation of restoration and sustainable use of inland and aquatic ecosystems and their environmental services, in a particular forest, wetland, and mountainous and dryland ecosystems, in line with obligations under international agreements.

B. Benefit

This indicator is used to monitor the number of production forest concessions that already have a Timber Forest Product Utilization Business Permit (IUPPHK) and have sustainable certification in both the Forest Stewardship Council (FSC) and Sustainable Production Forest Management (PHPL) schemes. Certification ensures concessions meet the criteria for sustainable forest management thus preventing any environmental damage that may be caused directly or indirectly by non-sustainability-oriented practices such as illegal logging and the destruction of protected biodiversity. With this indicator, data is obtained that plantation products that come out in one jurisdiction do not result in illegal logging in that jurisdiction. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

The indicator is assessed by calculating the percentage of sustainably managed production forest area compared to the total production forest area in district/City i, SHP Ratioi (%), which is described by:

Equation 8 : $$SHP\ Ratio_i(\%) = \frac{SForcon_i}{HP^i} \times 100\%$$

Where,

$SForcon_i$: total area of production forest concessions that have obtained sustainability certification (PHPL and FSC) in district/Cities *i* (hectares)

HP_i: Total area of production forest in district *i* (hectares)

For this analysis, the necessary data are:

1. A map of production forest concessions accessible from the Ministry of Environment and Forestry's website is currently available to the public in PDF format, which still requires a digitization process to be used in the spatial analysis process. The map of production forest concessions is sourced from the Directorate of Forest Resources Inventory and Monitoring, Ministry of Environment and Forestry to Bappenas.

2. List of production forest concessions that have been certified by PHPL or FSC in each province/district/city, SForconi. PHPL data is collected from the official PHPL website.

2.1.7 INDICATOR 7 : Environmental Quality Control

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 12 Ensuring sustainable production and consumption patterns.

Target 12.4 By 2022, achieve environmentally sound management of chemicals and all other types of waste throughout its life cycle, following the agreed international framework, and significantly reduce the release of such chemicals and waste into the air, water, and soil to reduce adverse impacts on human health and the environment.

B. Benefit

This indicator is used to look at the quality of water, air, and land in a jurisdiction to ensure that plantation activities do not have adverse environmental impacts on local communities. This indicator measures the level of water, air, and land pollution in a district/city compared to safe/healthy standards by the Decree of the Minister of Environment No. 45 of 1997 concerning the Air Pollution Standard Index and Decree of the Minister of Environment Number 115 of 2003 concerning Guidelines for Determining Water Quality Status.

Deforestation, land clearing, and the use of chemicals for various land-based activities as well as post-production activities can reduce the quality of river, air, and land water below healthy standards and suitable for consumption. Although waste from plantations and agriculture is not the only source of river water pollutants, for areas producing plantation and agricultural products, pollution from this sector is the most dominant source of pollution. With this indicator, local governments are expected to not only pay attention to aspects of plantation productivity but also ensure that productivity is achieved in sustainable ways.

C. Methodology and Data

Indicator 7 will measure the condition of water, air, and land quality with the following measurements, $AWPC_i$, spelled out:

Equation 9 : $$AWPC_i = IKLH_i$$

Where:

$\boldsymbol{IKLH_i}$: Is an index of environmental qualiyt in district/cities i

Index data is currently available online and published by the MoEF.

2.1.8 INDICATOR 8 : Free, Prior and Informed Consent (FPIC) Integrated into the Plantation Permit Application Process

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 16 Strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels.

Target 16.7 Ensure responsive, inclusive, participatory, and representative decision-making at every level.

B. Benefit

This indicator is an indicator used to assess the commitment of local governments to protecting everyone's right to participate in activities that will have an impact on themselves and/or their environment. In the context of plantation licensing, FPIC is a principle that affirms that communities in and around permit sites have the right to obtain information and freely approve or not activities that will take place within their territory or on their lands. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

Indicator 8 is a process indicator characterized by the existence of Standard Operating Procedures (SOPs) for measures to obtain FPIC from the community at the District/ City level. The existence of SOPs for the implementation of FPIC is taken as a proxy, because the existence of SOPs is expected to provide concrete directions to implementers at the site level to ensure that the process of obtaining approval from the community as a condition for applying for a plantation permit is implemented. SOPs are important considering that plantation

business activities are often associated with social conflicts. By implementing this process, it is hoped that it can mitigate conflicts caused by all activities related to plantations. This indicator is useful in monitoring the existence of SOPs for the implementation of FPIC in districts/cities as a form of the government's seriousness in preventing and reducing conflicts in their regions. The absence of FPIC SOPs can be a loophole for the non-implementation of this process and potentially contribute to future conflicts.

Therefore, the indicator can be spelled out to:

Equation 10 : $\boldsymbol{FPIC_i \in \{0,1\}}$

Where,

$\boldsymbol{FPIC_i}$: Is equal to 1 if there is an SOP in obtaining community approval related to plantation permits in the district/City *i*, and 0 if vice versa.

Based on trials at the district/city level, none of the regions have SOPs for the implementation of FPIC. In all test districts, the District/City government considers environmental permits to have adopted the principles of FPIC. The district/city government also believes that the Standard Procedure and Criteria Norms (NSPK) of the environmental permit granting procedure are sufficient as a guide for the implementation of FPIC. However, given that this principle is important in conflict prevention and the protection of community rights, the absence of technical SOPs at the local level is considered to be one of the causes of the FPIC principle gap in the licensing process at the current implementation level. For this reason, it is still expected that the regions show their commitment to the preparation of the PADIATAPA SOP.

Other options that can be considered are:

- Declaration by the district/City government regarding the implementation of FPIC principles in the licensing process which then the results are integrated into the SJI Platform.

- Integration of FPIC report requirements as part of the District/City government's annual accountability report, LAKIP (Government Performance Accountability Report) to the Ministry of Home Affairs.

2.1.9 INDICATOR 9 : Recognition of Indigenous Peoples

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 16 Strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels.

Target 16.7 Ensure responsive, inclusive, participatory, and representative decision-making at every level.

B. Benefit

This indicator is used to assess the commitment of local governments in recognizing customary lands that have been guaranteed in the constitution and various applicable laws and regulations. One of the problems that often arises is the unresponsiveness of local governments in recognizing indigenous peoples in their territories. This has resulted in the rights of these indigenous peoples often being overlooked, especially in land ownership. Indigenous peoples who have not been recognized for their existence often have difficulty obtaining access to justice in defending their rights, especially regarding customary land. Therefore, this indicator is useful in monitoring the progress of the mapping process and legalizing the status of indigenous peoples in the regions.

With the registration of indigenous peoples, their rights and obligations as well as their role and position in decision-making on activities to be carried out on their land will become clear before the law.

C. Methodology and Indicators

Indicator 9 is a policy indicator to measure efforts to recognize customary land rights by looking at government support for the acceleration of customary forest determination by the MoEF, as well as the process of releasing customary land from state forest areas. This indicator is measured by looking at the existence of regional policies or regulations related to the recognition of the rights of regional indigenous peoples recognized by the district/City government. Therefore, if the local government has these regulations or policies, it will get a score of 1, otherwise, it will get a score of 0.

Therefore, the indicator can be spelled out to:

Equation 11 : $IRD_i \in \{0,1\}$

Where,

IRD_i : A policy document or local regulation regarding the recognition of indigenous peoples' rights recognized by the district/City government.

The data required for this analysis is the total area of customary forests indicated by indicative maps of customary forests that can be downloaded from the public domain of the MoEF.

2.1.10 INDICATOR 10 : Land and Agricultural Conflict Resolution

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 16 Strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels.

Target 16.6 Develop effective, accountable, and transparent institutions at all levels.

B. Benefit

This indicator is necessary to monitor the performance of local governments in resolving social conflicts related to the development of plantations in their jurisdictions. Social conflicts are often associated with land use sectors such as plantations. This indicator can be the basic information to measure the success and effectiveness of efforts that have been made in reducing and resolving conflicts as well as being the first step to realizing sustainable agricultural practices that provide access to justice for all and realize effective and accountable institutions. With the indicator, buyers of plantation commodities in one jurisdiction obtain information or assurance that the production process of the purchased plantation commodities is not related to conflicts in the area.

C. Methodology and Data

This indicator is closely related to Indicator 8 which focuses on measures implemented to prevent social conflicts. Indicator 10 is measured based on the presence or absence of SOPs for handling land and agricultural conflicts at the District/City level of government.

Therefore, the indicator can be spelled out to:

Equation 12 : $\boldsymbol{RK_i} \in \{\mathbf{0}, \mathbf{1}\}$

Where,

$\boldsymbol{RK_i}$: is equal to 1 if the district/city *i* has an SOP for handling land and agricultural conflicts and 0 and vice versa.

The challenge for this indicator is to determine how all districts can report and publish their progress in dealing with conflict resolution regularly. Some options to consider:

- Declaration of the district/City government in the SJI platform. The District/City Government can declare the total number of cases registered annually, the total processed, and resolved on the SJI platform.
- The District/City Government reports the data annually and publishes it as part of the district's official statistics. Reporting activities can be budgeted through the Regional Revenue and Expenditure Budget (APBD) with the aim of Peace and Order.
- Identification of conflict handling regulations at the provincial/district/city level (Regional Regulations, Governor Regulations, Regent Regulations).
- Develop mechanisms for reporting and updating relevant data from district/cities to provinces using a scheduled format.
- Develop a data collection system both manually and online.

2.1.11 INDICATOR 11 : Percentages for Independent Smallholder

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 8 Promote inclusive and sustainable economic growth, productive and comprehensive employment opportunities, and decent work for all.

Target 8.3 Promote development policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro, small, and medium enterprises, including through access to financial services.

B. Benefit

This indicator aims to observe the large involvement of independent smallholders in the plantation sector in a district/city. This indicator helps translate the inclusive principle as one of the important principles in the SJI. By knowing the number of independent smallholders in a jurisdiction, the government and markets can understand the contribution of independent smallholders in the plantation sector at the district/city level.

With this indicator, the government has information related to the number of independent smallholders in an area which will be useful in planning government programs aimed at independent smallholders.

C. Methodology and Data

The indicator is measured by calculating the proportion of the total land area managed by independent smallholders to the total plantation area in the district/City *i, Sholderi* (%), which can be described as:

Equation 13 : $sholder_i(\%) = \frac{sh.area_i}{plantation_i} \times 100\%$

Where,

$sh.area_i$: total area of plantations managed by independent smallholders in district/city i (hectares).

$plantation_i$: total plantation area in district/City i (hectares). The data necessary for the analysis can be obtained from:

Statistics of Indonesian Plantations, where the statistical report can be downloaded from the public domain of the Directorate of Gender- al Plantations, Ministry of Agriculture (Kementerian Pertanian Direktorat Jenderal Perkebunan » Buku Publikasi Statistik 2019 – 2021). As of March 2020, the latest dataset available at the District/City level is from 2017.

2.1.12 INDICATOR 12 : Registration of Independent Smallholder

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 8 Promote inclusive and sustainable economic growth, productive and comprehensive employment opportunities, and decent work for all.

Target 8.3 Promote development policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro, small, and medium enterprises, including through access to financial services.

B. Benefit

This indicator aims to measure the performance of district/city governments in facilitating independent smallholders to take part in sustainable supply chains. One of the many ways to measure this is to look at the responsibility of local governments in issuing Cultivation Registration Certificates (STDB) for farmers.

This indicator is used to monitor the number of independent smallholders who have been registered and verified through the STDB. STDB ensures that farmer data is recorded consistently both at the center and in the regions. With the registration of independent smallholders in the STDB, there are opportunities for farmers to participate in sustainability certification and the opportunity to gain access to various government assistance programs. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

This indicator can also be used as a proxy in seeing the seriousness of local governments implementing the completion of STDB registration as a first step in supporting farmers to be recorded and formally involved in the plantation sector. The higher the number of farmers who have registered through the STDB, the higher the likelihood that sustainable agricultural practices can be properly monitored and regulated. Traceability will also be easier to do if the STDB has been carried out thoroughly in a district/city.

C. Methodology and Data

Indicator 12 is an output indicator that can be calculated by looking at the percentage of the number of independent smallholders who have STDB compared to the total number of independent smallholders in the district/city *i, stdb.ratio*$_i$ (%), which is described by:

$$\text{Equation 14 : } \boldsymbol{stdb.ratio}_i(\%) = \frac{\boldsymbol{sh.stdb}_i}{\boldsymbol{sh}_i} \times 100\%$$

Where,

$\boldsymbol{sh.stdb}_i$: total number of independent smallholders who have STDB in district/City *i* (count).

$\boldsymbol{sh}_i$: total number of independent smallholders in district/city *i* (count).

The data required for this analysis are:

1. Data on the number of independent smallholders in district/cities can be obtained from the publication of Indonesia's Plantation Statistics (see indicator 11).

2. Data on the number of independent smallholders who have STDB can also later be collected from the STDB electronic platform which is being developed by the Directorate General of Plantations.

2.1.13 INDICATOR 13 : Food Security

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

Food Security Indicators are closely linked to SDGs 15: Ending hunger, achieving better food security and nutrition, and supporting sustainable agriculture.

SDG 15.3: By 2030, double the agricultural productivity and income of small-scale food producers, particularly women, indigenous peoples, family farms, ranchers, and fishermen, including through safe and equal access to land, other sources of production as well as inputs, knowledge, financing services, markets and opportunities for added value and non-agricultural employment.

SDG 15.4: By 2030, ensuring a sustainable food production system and implementing agricultural practices that durable and can increase productivity and production, which can help maintain ecosystems, which can strengthen adaptation capacity to climate change, extreme weather, droughts, floods, and other disasters, and progressively improve land and soil quality.

B. Benefit

This indicator is used to monitor how far the government is committed to achieving food security in regions throughout Indonesia. With the management of high-value agricultural commodities, it is hoped that the community's economy can be improved, so that they can reach the food needs of their families. Through this indicator, local governments are expected to have preliminary information in evaluating various activities and policies in their regions that will have a direct or indirect impact on the food security conditions of the population in their regions. For buyers of plantation products, this information can be used to assess the condition of food security in the area including buyer support for the improvement of the Food Security Index (IKP) in the area concerned through the products to be purchased.

C. Methodology & Data

The National Food Agency (BPN) has set indicators and conducted food security assessments in all districts/cities in Indonesia through IKP. Therefore, this indicator will use the parameters used by the IKP. The index is measured by considering several elements consisting including food availability, food insecurity, and food affordability. A comprehensive IKP calculation can represent the condition of food security at the regional level. Therefore, the formulation of Food Security Indicators can be directly reflected in the IKP. The IKP database is available on an annual basis on the website:

http://app2.badanpangan.go.id/

Equation 15 : $FSi = IKPi$

Where,

$\boldsymbol{IKPi}$: Food Security Index in district/Cities i (index)

2.1.14 INDICATOR 14 : Productivity of Independent Smallholder

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 8 Promote inclusive and sustainable economic growth, productive and comprehensive employment opportunities, and decent work for all.

Target 8.3 Promote development policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro, small, and medium enterprises, including through access to financial services.

B. Benefit

This indicator helps translate the inclusive principle as one of the important principles in the SJI. By knowing the number and productivity of independent smallholders, this indicator can help the government and markets to understand the number, productivity, and contribution of independent smallholders in the plantation sector and their production contribution at the district/city level. By monitoring the level of productivity of independent smallholders in district/cities, the government can use this information to evaluate and plan appropriate programs to increase the productivity of independent smallholders. It is hoped that with the higher productivity of independent smallholders, the income of independent smallholders will increase so that later it is expected to be able to reduce the pressure of expansion into forests. In particular, this indicator looks at the productivity of independent oil palm smallholders at the district/city level. This indicator is an output indicator related to the support provided by local governments to independent smallholders to achieve sustainability. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

The indicator is measured by calculating the division between the production of independent smallholder plantations and the total area of plantations managed by independent smallholders is $sh.prod_i$ (kg fruit/hectare / year) $sh.prod_i$ spelled out with:

Equation 16 : $$\boldsymbol{sh.prod_i(kg/hektar/year)} = \frac{\boldsymbol{sh.yield_i}}{\boldsymbol{sh.area_i}}$$

Where,

$\boldsymbol{sh.yield_i}$: Total oil palm plantation production of independent smallholders in district/cities/in 1 year (KG of fruit/year)

$\boldsymbol{sh.area_i}$: Total area of oil palm plantation managed by Independent smallholders in district/city *i* (Hectares)

The data source for the analysis is similar to indicators 11 and 12.

2.1.15 INDICATOR 15 : Number of Associations/Groups of Independent Smallholders

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 8 Promote inclusive and sustainable economic growth, productive and comprehensive employment opportunities, and decent work for all.

Target 8.3 Promote development policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro, small, and medium enterprises, including through access to financial services.

B. Benefit

This indicator aims to observe the existence of plantation farmer associations, especially oil palm at the district/city level, in the form of farmer groups (poktan) or a combination of

farmer groups (gapoktan). Membership in the association is one of the important prerequisites for increasing the capacity of independent smallholders so that they can take part in sustainable supply chains. This is because the function of the association is not only a vehicle for learning but also a prerequisite for independent plantation farmers to get various assistance provided by the government such as subsidized fertilizers and/or certified seeds. Membership in the group can also increase the bargaining power of farmers toward buyers. Thus, the higher the number of independent smallholders who have joined an association/group of plantation farmers, the higher the chance they will benefit from a sustainable supply chain, among others, through certification mechanisms. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

The indicator is measured by calculating the percentage ratio of the total number of farmer associations/groups/ organizations compared to the number of independent plantation farmers, and $plant.FG_i$ (count), which can be spelled out by:

$$\text{Equation 17}: plant.FG_i = \frac{plant.G_i}{plant.F_i} \text{ x } 100\ \%$$

Where,

$plant.G_i$: The number of plantation farmer groups registered in the district/City *i (count)*.

$plant.F_i$: number of independent smallholders in the district/city *i (count)*.

The data needed for the analysis is the number of independent smallholders based on plantation commodities, for example, oil palm, in each district/city. The data was published through the publication of Indonesian Plantation Statistics (See indicator 11) and the Inter-Agricultural Census (SUTAS).

2.1.16 INDICATOR 16 : Assistance For Independent Smallholder

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 8 Promote inclusive and sustainable economic growth, productive and comprehensive employment opportunities, and decent work for all.

Target 8.3 Promote development policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro, small, and medium enterprises, including through access to financial services.

B. Benefit

This indicator is used to assess how high the government's commitment at the jurisdictional level is related to the principle of inclusivity for independent smallholders. This indicator aims to measure the performance of local governments in assisting independent smallholders, one of which is through the provision of plantation extension workers in each district/city. Assistance to independent smallholders shows the government's support for realizing the success of farmers in achieving land productivity and high incomes. The increase in the level of land productivity is also expected to reduce pressure on land needs from forests. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

This indicator is a process indicator that is closely related to Indicator 13. One proxy that can be assessed for government assistance to smallholders is to calculate the ratio of government-provided plantation extension workers to the number of smallholders at the jurisdictional level. Therefore, this indicator can be measured by the percentage ratio of the number of extension workers per number of independent smallholders,

$rext.agent_i$ (*count*), which can be described by:

Equation 18 : $$rext.agent_i = \frac{ext.agent_i}{plant.F_i} \text{ x } 100\ \%$$

Where,

$ext.agent_i$: The number of plantation extension workers in district/City *i* *(count)*.

$plant.F_i$: The number of independent smallholders in the district *i* *(count)*.

The data required for analysis are:

1. The number of independent smallholders, especially oil palm, in each district/city. (See Indicator 15).

2. The number of plantation extension workers in each district/city. Data can be collected from the Directorate General of Plantations, Ministry of Agriculture.

2.1.17 INDICATOR 17 : Sustainable Certified Plantation

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

Assessment of Indicator 17 based on ISPO certification that has supported the 12 Sustainable Development Goals. SDG 1 Ending all forms of Poverty everywhere. SDG 3 Ensures a Healthy Life and Improves the Welfare of the Entire Population of all Ages.

SDG 4 Ensures Inclusive and Equitable Education Quality and enhances lifelong Learning Opportunities for all.

SDG 5 Achieving Gender Equality and Empowering Women.

SDG 8 Promotes Inclusive and Sustainable Economic Growth, Employment Opportunities, productive and comprehensive work, and decent work for all.

SDG 10 Reducing intra- and interstate inequalities. SDG 12 Ensures sustainable production and consumption patterns.

SDG 13 Takes swift action to address climate change and its impacts.

SDG 15 Protecting, restoring, and enhancing the sustainable use of terrestrial ecosystems, sustainably managing forests, stopping desertification, restoring land degradation, and stopping biodiversity loss. SDG 16 Strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels.

B. Benefit

This indicator is used to monitor the proportion of plantation land that has been certified for sustainability through either ISPO and/or RSPO in one jurisdiction. Certified plantation land ensures that all activities and production products are carried out sustainably, including by not destroying forests and not neglecting social rights. This information is a benchmark for the extent to which plantation commodities produced in an area are guaranteed to meet sustainability standards. The higher the number of plantations that have been certified, the higher the sustainability value of the jurisdiction. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

The indicator is measured by calculating the percentage (%) between the total area of sustainable-certified oil palm plantations compared to the total area of oil palm plantations in district/cities *i*, SC_i which is described by:

$$\text{Equation 19}: \boldsymbol{SC_i}(\%) = \frac{\boldsymbol{ISRSPO.area_i}}{\boldsymbol{OP.Plantation_i}} \textbf{ x 100 \%}$$

Where,

$\boldsymbol{ISRSPO.area_i}$ **:** RSPO and/or ISPO-certified oil palm plantation area in district/City *i* (hectares)

$\boldsymbol{OP.Plantation_i}$ **:** the total area of oil palm plantations in district/cities *i* (hectares).

The data required for analysis are:

1. Total RSPO and ISPO certified area within the District/ City, ISRSPO.*areai*. This data and information can be obtained from the public domain of the RSPO and ISPO websites.

2. The total area of oil palm plantations, OP. Plantationi can be obtained from the annual report of Palm Oil Statistics published by the Directorate General of Plantations, Ministry of Agriculture.

   The report can be downloaded from the public domain of the Ministry of Agriculture's website.

For commodities other than palm oil, the type of certification can be adjusted according to various sustainable certification mechanisms, e.g. those issued by the Rainforest Alliance, Fair Trade International, UTZ, etc.

2.1.18 INDICATOR 18 : Poverty Rate

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 1 End poverty in all forms everywhere.

Target 1.1 By 2030, alleviate extreme poverty for all people who currently earn less than US$1.25 per day.

SDG 10 Reducing intra- and interstate inequalities. Target 10.1 By 2030, progressively achieve and maintain population income growth that is below 40% of the population at a level higher than the national average.

SDG 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Target 1.1 to increase the proportion of children above the minimum competency standard, target 1.2 to increase the completion rate of education for elementary school, Junior High School, and Senior High School.

B. Benefit

This indicator is used to find out how much the population has an economic inability to meet basic needs in a jurisdiction. This output indicator can measure the performance of local governments in achieving the goals of SDGs 1 and SDGs 10. This indicator can at least be utilized for two things:

1. Shows a correlation between the level of social welfare of the community and the existence of land-based industries as the dominant livelihood;

2 It is one of the indications of the area that needs attention by both the government and the market, especially to achieve sustainable plantation management standards in its jurisdiction.

Buyers of plantation products can use this information to determine the destination area of purchase while contributing to poverty alleviation in a district/city.

C. Metodologi dan Data

Indicator 17 is measured by calculating the percentage of the total number of people living below the district/city poverty line *i* against the total population within the district/city,

Poverty *i* which is spelled out by:

Equation 20 : $$Poverty_i \quad \frac{Poor.People_i}{Population_i} \text{ x 100 \%}$$

Where,

$Poor.People_i$: The number of people living below the poverty line in the District/City *i*.

$Population_i$: Total population in district/City i (people).

For analysis, the necessary data are:

1. The annual publication of the Central Statistics Agency (BPS) on people living below the poverty line and population data for each District/City in Indonesia.

2.1.19 INDICATOR 19 : The Proportion of the District/City Budget Allocated for Sustainability

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 16 Strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels.

Target 16.6 Develop effective, accountable, and transparent institutions at all levels.

SDG 6, ensures the availability and sustainable management of clean water and sanitation for all.

SDG 7 Ensures access to affordable, reliable, sustainable, and modern energy for all.

SDG 13 Takes swift action to address climate change and its impacts. In carrying out inclusive economic development, it is necessary to make a proportion of the budget that leads to the sustainability of a region (District/city) so that it is realized.

B. Benefit

This indicator aims to assess the commitment of the district/City government to realizing various policies related to environmental management and protection. The availability of the Regional Budget (LOCAL BUDGET) is important to support sustainability-oriented programs. This indicator monitors the proportion of total (APBD) allocated for environmental functions so that it can be a reference measurement of the success of sustainability programs carried out by a region.

C. Methodology and Data

The proxy to be used is a budget allocated specifically for environmental functions. Development targets under the responsibility of DLH at the District/City level can be seen in Table 1. Therefore, Indicator 19 as an output indicator is closely related to the achievement of many environmentally related output indicators and some social indicators such as Indicator 9. The measurement of this indicator is the percentage of the budget allocated to the environmental function divided by the total district/city budget listed in the local budget each year, *bratio*. DLHi (%), which is spelled out with:

Equation 21 : $$bratio.LH_i \quad \frac{budget.LH_i}{APBD_i} \text{ x } 100\ \%$$

Where,

$budget.LH_i$: the amount of budget allocated for environmental functions (rupiah).

$APBD_i$: the total amount of regional budget *i* (rupiah).

The data required for analysis are:

1. Regional budgets and expenditures for each District/City. This data can be collected from the publication of the Regional Budget (APBD) on the website of the Directorate General of Financial Balance, Ministry of Finance.

2.1.20 INDICATOR 20 : Access to Public Information

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 16 Strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels. Target 16.6 Develop effective, accountable, and transparent institutions at all levels.

SDG 10 Reducing intra- and interstate inequalities. Maintaining access to public information, also indirectly gives the public the right to be able to access the data available on this platform and bridge differences, and reduce gaps between government and society.

B. Benefit

This indicator aims to measure the performance of the district/City government in ensuring good governance, one of which is public access to information. Public access to information is one of the important instruments that realizes the concept of accountability of a government unit and ensures that people have basic information related to their lives. For example, with guaranteed public access to plantation licensing information, the community can participate in monitoring the implementation of the obligations of plantation companies in their area, including obligations related to environmental management, obligations related to plasma, and others. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

Because currently, the information commission is only mandatory at the provincial level, after consulting with various stakeholders at the national and local levels, it was decided to use the existence of an Information and Documentation Management Officer (PPID)

either for district/city-level agencies that regulate the plantation/agriculture sector or for the entire district/City government as a proxy for this indicator. In particular, the existence of a local government regulation (Perda) or a Decree of the Regional Head (SK Bupati) appointing PPID in the agency in charge of regulating the agricultural sector or for all district/ City governments can be a sufficient proxy for this indicator.

The indicator is spelled out as a binary variable, PIA_i:

Equation 22 : $\boldsymbol{PIA_i \in \{0,1\}}$

Where,

PIA_i is equal to 1 if there is a Regional Regulation / Decree of the Regent for the Appointment of PPID Officials in the district / Cityi, and 0 if not. The Regent's Bylaw/Decree may be available on the official website of the district/City government. However, some district/cities have not published it online. Therefore, it is necessary to manually confirm the existence of PPID. At the national level, sources of information regarding the existence of PPID are also collected by the PPID of the Ministry of Home Affairs which can then be accessed through the Central Information Commission. As an alternative option, in the future, the Central Information Commission can be the party that assesses the performance of the District/City level government in ensuring access to public information with the methods that have been implemented to assess the performance of provincial governments.

2.1.21 INDICATOR 21 : Multi-Stakeholder Participation in District/City Planning

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 16 Strengthen inclusive and peaceful societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels. Target 16.7 Ensure responsive, inclusive, participatory, and representative decision-making at every level.

SDG 10 Reducing intra- and interstate inequalities. Collaboration and participation from multi-stakeholders in district/city planning are important to reduce the gap between regulators and stakeholders in a country because it will create synergy and integration in realizing the sustainability of a country.

B. Benefit

This indicator is used to assess the extent of local government commitments in actualizing local governments' obligations to involve communities in the planning process in their jurisdictions. Participation is one of the pillars of an important safeguard framework in sustainable development through the assurance that the implementation of development in an area has been based on the aspirations of the people in the region. Through the realization of this security framework, it is hoped that the direction of development in an area, including plantations, has considered various impacts that may occur in the region.

C. Methodology and Data

National-level laws and regulations, such as the Regulation of the Minister of Home Affairs Number 86 of 2017 has a clear obligation on how public participation is treated as one of the legal requirements regarding the preparation of Regional Medium-Term Development Plans (RPJMD) and Regional Development Work Plans (RKPD).

However, the quality of the public participation process has not been measured. One proxy that can be used to measure this indicator is to identify the existence of Standard Operating Procedures (SOPs) for community participation in spatial planning and medium- and annual development plans as derivatives of the implementation of these obligations. The indicator is measured in the form of a binary variable MSP_i, which is described as:

Equation 23 : $\boldsymbol{MSP_i \in \{0,1\}}$

Where,

MSP_i is equal to 1 if there is an SOP for Development Planning Deliberations for community participation in the preparation of annual and medium-term spatial development plans in the district/City i, and 0 and vice versa. The data required for the analysis is a list of related SOPs in each District/City. However, this data is not available at the central level. Based on trials in pilot districts/cities, it is known that the regions do not have the SOP in question.

Other alternatives that can be considered for the fulfillment of data from the district/City government are:

- Local governments are required to submit the Minutes of Agreement produced during the RPJMD and RKPD development process as required in the Minister of Home Affairs Regulation Number 86 of 2017 to the SJI platform managed by Bappenas (as part of the evaluation). The note contains details of the parties who followed and agreed on the draft RPJMD/RKPD.

2.1.22 INDICATOR 22 : Complaint Mechanism

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 16 Strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels.

Target 16.10 Ensure public access to information and protect fundamental freedoms, by national regulations and international agreements.

Target 16.3 Promote countries based on national and international laws and ensure equal access to justice for all.

SDG 10 Reducing intra- and interstate inequalities. The establishment of a complaint mechanism will give the right to express opinions or input to the government.

B. Benefit

This indicator aims to measure the government's performance in handling Complaint as one of the important pillars of good governance. The complaints mechanism is an important mechanism that bridges between rules and implementation in the field. The existence of this indicator is important to ensure the readiness of local governments in implementing regulations and policies related to the production of sustainable plantation commodities within their jurisdictions. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

This commitment will be assessed from the implementation of the National Public Service Complaint Management System – People's Online Aspiration and Complaints Service (SP4N-LAPOR) by the district/city level government. Through the implementation of SP4N-LAPOR,

it is hoped that local governments will be able to handle complaints for public services, including matters related to SJI.

Therefore, this indicator can be spelled out to:

Equation 24 : $I_c \in \{0, 1\}$

Where,

I_c equals 1 if the District/City operates SP4N-LAPOR and 0 for vice versa.

Data for such indicators can be obtained from the Information Center of the Ministry of Internal Affairs.

2.1.23 INDICATOR 23 : Sustainable Land Use Planning

A. Correlation with Indonesia's Sustainable Development Goals (SDGs)

SDG 11 Making cities and settlements inclusive, safe, resilient, and sustainable.

Target 11. b By 2022, substantially increase the number of cities and settlements adopting and implementing integrated policies and planning on inclusion, resource efficiency, mitigation and adaptation to climate change, disaster resilience, and developing and implementing holistic management of disaster risk on all fronts, following the Sendai Framework for Disaster Risk Reduction 2015-2030.

Target 11.a Supports economic, social, and environmental links between urban, suburban, and rural areas by strengthening national and regional development planning.

B. Benefit

This indicator is used to see the extent to which local governments in a jurisdiction have pursued inclusive and sustainable development planning of their territories. For this reason, this indicator assesses the compliance of local governments in carrying out the mandate of Law No.32 of 2009 concerning Environmental Protection and Management which requires each region to prepare documents related to the environment such as Environmental Carrying Capacity and Capacity (DDDTLH), Strategic Environmental Studies (KLHS), and Environmental Protection and Management Plans (RPPLH). These three are fundamental steps in planning natural resource management and become indicators of environmental control instruments in the regions. Therefore, the existence of this document is a source of information in making development decisions for mainstreaming sustainable development as stated in Presidential Regulation No. 18 of 2020 concerning RPJMN. KLHS has generally been implemented as a condition for the preparation of the RPJMD, therefore this indicator sees a stronger commitment by assessing the availability of DDDTLH and/or RPPLH documents in the regions. Both documents, which are mandatory, but are not currently widely practiced, can serve as proxies to demonstrate the stronger commitment of governments to jurisdiction in realizing sustainable development-oriented regional development planning. This indicator is in line with the Regulation of the Minister of Agriculture No. 38 of 2020.

C. Methodology and Data

The indicator is a binary variable $SLUP_i$:

Equation 25: $SLUP_i \in \{0,1\}$

$SLUP_i$ is equal to 1 if there is a DDDTLH or RPPLH document in the district/City *i*, and 0 if vice versa.

Based on the tiered supervision model in the concept of decentralization, the RPPLH or DDDTLH document should be accessible through the MoEF. For now, the RPPLH or DDDTLH of each district/City can be obtained through the provincial government of each district/City.

The ideal assessment for this indicator is to see if the environmental analysis has been integrated into the RPJMD. However, it will be difficult to collect and analyze data for each district/ city. The Ministry of Environment and Forestry is currently developing an online platform to conduct online analysis. When the system develops well, it can be used as a data source.

2.2 DATA COLLECTION

2.2.1 Data Collection Options

Indicators in the SJI are selected based on the availability of national databases. However, some indicators that based on the trial process turned out to be unavailable at the national level, are currently still being proposed. The goal is for the government to consider gathering the information that the market needs.

This section lists publicly available and accessible data sources for data collection and information necessary to analyze the indicators discussed in section 2.1. Table 2 illustrates the existence of a national database for SJI indicators. If there is no national database, data collection options are provided.

Table 1. Brief Summary of Data Collection for SJI Indicators

No	Indicator	Date Name	Data Producers	Ministries/ Agencies	Format file
1	Protection for fixed forests	New license moratorium map (PIPPIB) in district/ Cities	Dit. Forest Resource Inventory and Monitoring	Ministry of Environment and Forestry	zip (file .shp dan file .dbf)
		Map of land cover or protected forest areas in district/cities in the Forest Area Closure Decree (PKH)	Dit. Inauguration and Stewardship of Forest Areas	Ministry of Environment and Forestry	zip (file .shp dan file .dbf)
		Commodity Cover Map (Palm Oil, Coffee, Rubber, etc.)	SPOS Kehati directorate general of plantations ministry of agriculture	Ministry of Agriculture or SJI partners	zip (file .shp dan file .dbf)
		District/City Administration Map	Directorate General of Population and Civil Registration	Ministry of Home Affairs	zip (file .shp dan file .dbf)

No	Indicator	Date Name	Data Producers	Ministries/ Agencies	Format file
2	Protection for areas important for ecological services	Map of Essential Ecosystem Areas in district/Cities	Dit. Fostering Ecosystem Management and Recovery	Ministry of Environment and Forestry	zip (file .shp dan file .dbf)
3	Fire prevention	Area of fire in district/cities (https://sipongi.menlhk.go.id/)	Dit. Forest and Land Fire Controll	Ministry of Environment and Forestry	CSV, xls, or dbf
		Fire Prevention Governance Policy or Document	District/City Bappeda	District/City Government	Pdf, CSV, or xls
4.	Protection for peatlands	The land map included in peat hydrology within the protected area/area/area designated by the MoEF	Directorate General of Planology	Ministry of Environment and Forestry	zip (file .shp dan file .dbf)
5	Climate Change Mitigation	Availability of IGRK reports at the District/City level	Dit. Greenhouse Gas Inventory and Monitoring Reporting Verification	Ministry of Environment and Forestry	csv, xls, atau dbf
		Availability of baseline calculation (FREL) in Districts/Cities	Dit. Greenhouse Gas Inventory and Monitoring Reporting Verification	Ministry of Environment and Forestry	csv, xls, atau dbf
		Climate change mitigation action plan document	Dit. Greenhouse Gas Inventory and Monitoring Reporting Verification	Ministry of Environment and Forestry	csv, xls, atau dbf

No	Indicator	Date Name	Data Producers	Ministries/ Agencies	Format file
6	Sustainable Production Forest Management	Total production forest concessions that have obtained sustainability certification (PHPL and FSC) in district/cities	Dit. Forest Utilization Business Development	Ministry of Environment and Forestry	csv, xls, atau dbf
		Total production forest in district/ cities	Dit. Forest Resource Inventory and Monitoring	Ministry of Environment and Forestry	csv, xls, atau dbf
7	Environmental quality control	Environmental quality index (IKLH) in district/ cities	Directorate General of Pollution and Environmental Damage Control	Ministry of Environment and Forestry	csv, xls, atau dbf
8	Prior and informed consent (FPIC) integrated into the process of applying for plantation permits	SOP/regulations in the district/City regarding community approval related to plantation permit applications	Legal Section of District/City Government	District/City Government	csv, xls, or dbf
9	Recognition of Indigenous Peoples	Local policies/ regulations in district/cities regarding the recognition of the rights of local indigenous peoples	Dit. Penanganan Konflik, Tenurial dan Hutan Adat	Kementerian Lingkungan Hidup dan Kehutanan	zip (file. shp dan file .dbf)
10	Land and Agriculture Conflict Resolution	Whether there are SOPs / Regulations in the district / City regarding the handling of land and agricultural conflicts in the district / City	Legal Section of District/City Government	District/City Government	Pdf, csv, xls, or dbf

No	Indicator	Date Name	Data Producers	Ministries/ Agencies	Format file
11	Percentage of Independent Smallholders	Area of plantations managed by independent smallholders in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture	csv, xls, or dbf
		Plantation areas in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture	csv, xls, or dbf
12	Registration of independent smallholders	Number of independent smallholders who have STDB in district/cities	Dit. Processing and Marketing of Plantation Products	Ministry of Agriculture	csv, xls, or dbf
		Number of independent smallholders in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture	csv, xls, or dbf
13	Food Security	Food Security Index (http://app2.badanpangan.go.id/)	National Food Agency	National Food Agency	csv, xls, or dbf
14	Productivity of independent smallholders	Total production of independent smallholder oil palm plantations in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture or Provincial Plantation Office	csv, xls, or dbf
		Area of plantations managed by independent smallholders in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture	csv, xls, or dbf
15	Number of associations/ groups of independent smallholders	Number of farmer groups (plantations) in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture	csv, xls, or dbf
		Number of independent smallholders in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture	csv, xls, or dbf

No	Indicator	Date Name	Data Producers	Ministries/ Agencies	Format file
16	Assistance for independent smallholders	Number of plantation extension workers in district/cities	Agricultural Extension Center	Ministry of Agriculture	csv, xls, or dbf
		Number of independent smallholders in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture	csv, xls, or dbf
17	Certified sustainable plantations	Area of RSPO and/or ISPO-certified oil palm plantations in district/cities	Dit. Processing and Marketing of Plantation Products	Ministry of Agriculture	csv, xls, or dbf
		Area of oil palm plantations in district/cities	Dit. Perennial and Refreshing Plants	Ministry of Agriculture	csv, xls, or dbf
18	Poverty Rate	Percentage of poverty at the District/City level (https://www.bps.go.id/indicator/23/624/1/garis-kemiskinan-menurut-Kabupaten/Kota-kota.html)	BPS Social Resilience	Central Bureau of Statistics	csv, xls, or dbf
19	The proportion of District/City budget allocated for sustainability	LOCAL BUDGET for sustainability/ environment (https://djpk.kemenkeu.go.id/?p=5412)	Dit. General of Financial Balance	Ministry of Finance	csv, xls, or dbf
		District/City Level Budget (https://djpk.kemenkeu.go.id/?p=5412)	Dit. General of Financial Balance	Ministry of Finance	csv, xls, or dbf
20	Access to Public Information	Whether or not there is a Regional Regulation / Decree of the Regent for the appointment of PPID Officials in the District / City	Ministry of Home Affairs Information Center	Ministry of Home Affairs	csv, xls, or dbf

No	Indicator	Date Name	Data Producers	Ministries/ Agencies	Format file
21	Multi-stakeholder participation in District/City planning	Whether or not there are SOPs/ regulations related to community participation in the implementation of Development Planning Deliberations in district/cities	Dit. Regional Development Planning, Evaluation, and Information	Ministry of Home Affairs	csv, xls, or dbf
22	Complaint mechanism	List of district/ Cities operating SP4N-Lapor	Ministry of Home Affairs Information Center	Ministry of Home Affairs	csv, xls, or dbf
23	Sustainable land use planning	List of district/ Cities that have DDDTLH district/ City documents	Dit. Prevention of Environmental Impacts on Regional and Sector Policies	Ministry of Environment and Forestry	csv, xls, or dbf
		List of district/ Cities that have a district/City RPPLH document	Dit. Prevention of Environmental Impacts on Regional and Sector Policies	Ministry of Environment and Forestry	csv, xls, or dbf

NATIONAL GUIDANCE

BOOK 1 :

Data Collection and Analysis of Sustainable Jurisdiction Indicators

Kementerian PPN/ Bappenas

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