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IMPLEMENTATION OF POLICIES SUSTAINABLE DEVELOPMENT IN INDONESIA

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Abstract: Development is a process of change planned to improve various aspects of people's lives. Sustainable development in this research is defined as development that balances economic, social and environmental sectors. The purpose of this study is to examine the extent to which the implementation of sustainable development policies in Indonesia. The method used is descriptive analysis using literature study data. The results of the analysis show that from several development indicators that have been carried out in Indonesia that are connected with the concept of sustainable development, it can be stated that there is no balance between social, economic and environmental development. Indonesia must reduce the amount of pressure on the environment as a result of economic development.

Keywords : *Policy, Sustainable Development*

INTRODUCTION

At the beginning of the emergence of the paradigm of development often found the existence of thoughts that identify development with development, development with modernization and industrialization, even development with westernization. All of these thoughts are based on aspects of change, where development, development, and modernization and industrialization, as a whole contain elements of change.

Development (*development*) is a process of change planned to improve various aspects of people's lives. These changes cover the entire social system, such as politics, economy, infrastructure, defense, education and technology, institutions, and culture, whose main purpose is of course to achieve prosperity.

In the late 19th century, countries in the world began to ramp up the pace of development. Economic improvement is the main barometer of the success of a country's development. Almost all countries implement conventional development patterns that are in line with economic theory by focusing on output growth as a factor of production consisting of natural resources, capital, labor and technology. This method proved successful with the increase in world production which in 2000 increased almost seven times from the production of the 1950s.

Success in increasing production is accompanied by an increase in the need for uncontrolled raw materials. The result is a large-scale hunting of raw materials. The exploitation of natural resources that exceed the carrying capacity of the environment causes the environment to be damaged. The forest area is shrinking due to illegal logging. Agricultural, mining, road and urban development encourages forest conversion for the sake of income. Water resources such as rivers, lakes and seas are over-exploited. Increasing the number of industries as contributors to greenhouse gases released freely into the air.

Achievements in the industrial and economic fields gradually turned out to create a gap in the social field. Millions of people in other parts of the world experience hunger and live under poverty. Access to education, health and a decent standard of living makes them trapped in poverty throughout their lifetime.

The pattern of conventional development also proved to have a tremendous impact on the environment. The 2013 IPPC report, an increase in global temperatures since 1901 reached 0.89˚C. In the Southeast Asia region, there was a rise in temperature in the range of 0.4-1˚C. Deforestation and industry are the main causes of climate change that have a very bad impact on the world. Therefore a strong commitment is needed to change the pattern of conventional development towards sustainable development.

RESEARCH METHODS

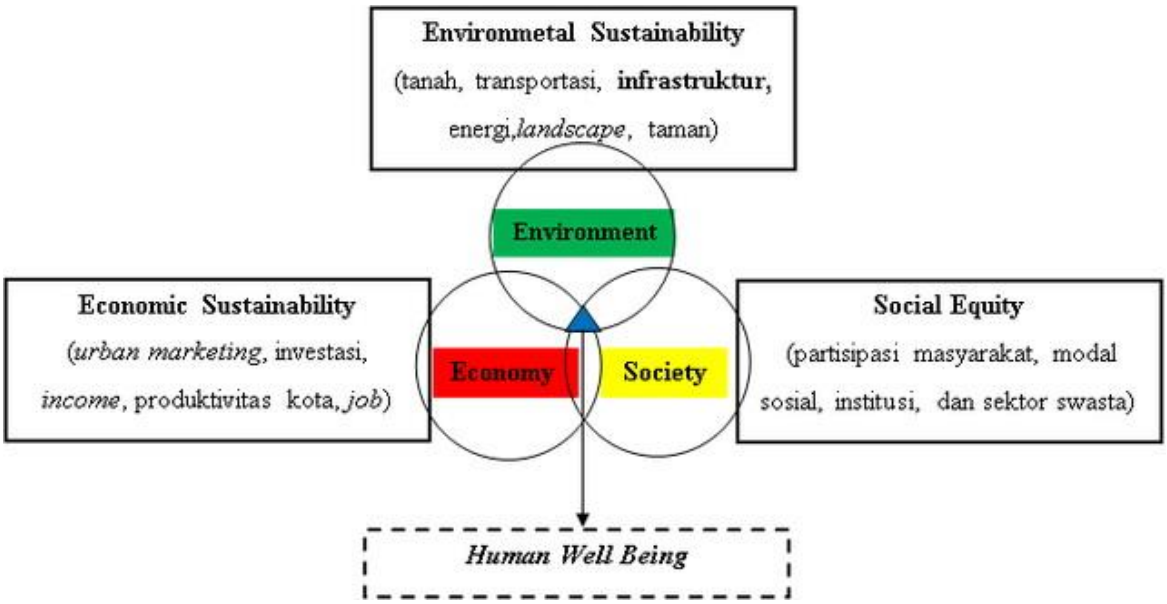
method used in this study is descriptive analysis through a literature review approach. Literature and information related to the development activities that have been carried out are collected and then analyzed descriptively. Data relating to development in the economic, socio-cultural, educational, natural resource and environmental management sectors in Indonesia are generalized and linked to the concept of sustainable development based on both the theory and agreement of countries in the world in international forums.

RESULTS AND DISCUSSION

I. The concept of Sustainable Development*(Sustainable* Development)

As a concept, sustainable development *(sustainable development)* implies as development that "attention" and "consider" the environmental dimension in its implementation has become a topic of discussion in the Stockholm Conference*(UNConference on the Human Environment*) in 1972 which recommended that development be carried out with due regard to environmental factors.

Sustainable development is agreed upon as development that meets the needs of the present without compromising the right to meet future generations' needs (Brutland Report, UN 1987). In it there are two important ideas: (a) the notion of "need" namely the essential need to continue human life, and (b) the idea of limitations that comes from technological conditions and social organization to the ability of the environment to meet present and future needs.



Picture. 1
Model Concept of Sustainable Development (Setiawan, 2000)

According to Heal in Fauzi (2004), the concept of sustainability, at least contains two dimensions, namely *first*, the dimension of time because sustainability must be related to what happens in the future. *Second*, is the dimension of interaction between economic systems and natural and environmental resource systems.

Pezzey (1992) sees sustainability from a different side, which is seen from static and dynamic terms. Static sustainability is defined as the use of renewable natural resources at a constant rate of technology, while dynamic sustainability is defined as the use of non-renewable resources with changing technological levels.

Because of the existence of multi-dimensional, and multi-interpretations, there are two things that are implicitly of concern, *first*, concerning the importance of paying attention to the constraints of natural and environmental resources on patterns of development and consumption. *Second*, it concerns attention to the *well being* of future generations.

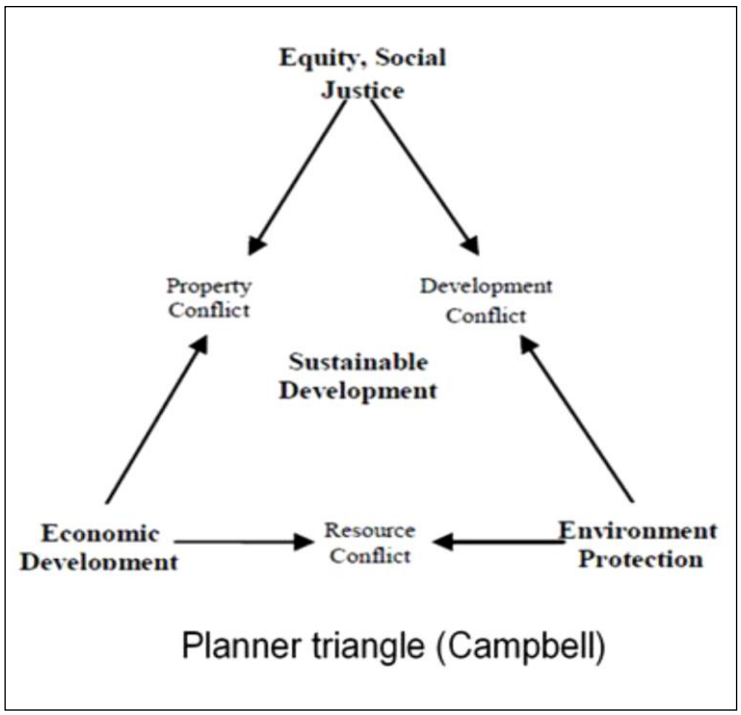


Figure 2. Campbell's Sustainable Development Concept Model Sustainable

development is also often described by improving quality of life which is adjusted to *carrying capacity*. In general, sustainability is defined as *continuing without lessening* which means continuing activities without reducing.

II. The Concept of Climate Change (*Climate Change*)

Climate change is an event where there is a significant change in climate such as air temperature or rainfall within 10 years or more. If the climate changes then on average for 10 years the air temperature, rainfall, or number of sunny days will also change.

Simply put, climate is what we expect (we expect a cold winter) and the weather is what we get (after hoping for winter, we get snow or rain). In fact, the earth's climate has heated up since 1900 due to increased human activities in various fields, especially industries that require fossil energy sources causing global warming to have an impact on climate change.

According to the IPCC, the increase in global temperature since 1901 reached 0.89˚C. In the Southeast Asia region, there was a rise in temperature in the range of 0.4–1˚C. It is estimated that the temperature rise in the Southeast Asia region for the medium term in the coming years (2046 - 2065) will occur in the range of 1.5-2˚C. In these times, the highest temperature rise will be concentrated in the northwestern regions of countries such as Thailand,

Myanmar, Laos, Cambodia and Vietnam. For the long term (2081-2100), the temperature rise will be in the range of 2-4˚C which will spread throughout the land evenly. The highest temperature in the daytime will reach 3-4˚C higher than the average temperature currently that spreads evenly across the land in the Southeast Asia region.

Rainfall is expected to increase in countries such as Indonesia and Papua New Guinea. Whereas in countries such as Thailand, Laos, Myanmar, Cambodia and Vietnam, rainfall is expected to decline by 10% -20% in March to May. Overall, annual rainfall is expected to increase, except in the Southwest of Indonesia. Soil moisture will increase to 1 mm in the Southwest part of this region (Papua New Guinea) and decrease by about 0.6 mm in the western part of the region, namely in Laos, Vietnam, Cambodia, Thailand, Malaysia, parts of Indonesia, and some are Myamar.

The IPCC data and findings also reinforce the World Bank report entitled "*Turn Down the Heat - Climate Extremes, Regional Impacts and the Case for Resilience*" which was released in June 2013. The report states that coastal areas throughout Southeast Asia will experience an increase sea level 10-15% higher than the global average sea level rise. Sea level rise in 2050 will reach up to 50 cm and 100 cm in 2090, where major cities in Southeast Asia such as Jakarta, Bangkok, Ho Chi Minh, Manila and Yangon will be affected the most.

The occurrence of climate change has been scientifically proven. The longer dry season and the rainy season, which is relatively short with high rainfall intensity, is evidence of climate change. This has an impact on various aspects of human life such as prolonged dryness, crop failure, food crisis, clean water crisis, sea level rise and floods and landslides. The impact of climate change will be felt by developing countries because they are unable to build infrastructure to adapt.

Discussion of the concept of climate change began to emerge at the world level at the Earth Summit in Rio De Jeneiro in 1992. At the beginning the Rio De Jeneiro Earth Summit was still discussing environmental issues as a follow-up meeting in Stockholm. However, because environmental problems have also been affected by the issue of climate change, the Earth Summit meeting also formed a commission or Framework for the United Nations Framework Convention on Climate Change (Siswono, 2015)

through the Rio de Jeneiro Summit an agreement was made to reduce greenhouse gas (GHG) emissions which are the cause of climate change. The meeting also agreed on the classification of countries based on how much the country contributed to greenhouse gas emissions. It was agreed that there were two groups, namely:

Anex 1: namely developed countries that contribute to greenhouse gas (GHG) emissions through industrial activities and transportation and have high economic growth.

Non-Anex 1: Namely developing countries that contribute to GHG emissions naturally and have a much lower economic growth than Anex countries 1.

Countries classified as Anex 1 are required to reduce GHG emissions by an average of 5.2% of the emission level in 1990. A discussion of the concept of climate change was again carried out in Kyoto, Japan, in December 1997 known as the Kyoto Protocol. The aim of the Kyoto protocol agreement is to reduce the average emissions of 6 (six) greenhouse gases, namely CO_2, CH_4, N_2O, SF_6, HFC, and PFC which are calculated on average for five years from 2008 to 2012 The national targets range from an 8% reduction for Europe, 7% for the United States, 6% for Japan.

In 2015, countries in the world held a meeting in Paris to discuss climate change. After negotiating for two weeks, as many as 195 countries participating in the UN Climate Change Summit (COP) in Paris, France finally issued the Paris Agreement (Paris Agreement). The Paris Agreement is an international agreement as a joint world commitment to combat climate change.

Under the agreed agreement, all countries agreed to reduce greenhouse gas emissions as quickly as possible. There are five agreed points together, namely: *First*, mitigation efforts need to be done by reducing carbon emissions quickly, to maintain an increase in the earth's temperature threshold below 2 degrees Celsius (2˚C) and try to suppress up to 1.5 ˚C.*Second*, the carbon accounting system and emission reduction must be carried out transparently. *Third*, adaptation efforts must be made by strengthening the capabilities of countries in the world to overcome the effects of climate change. *Fourth*, strengthen recovery efforts due to climate change, from damage. *Fifth*, assistance, including funding for countries to build a green and sustainable economy.

III. Sustainable Development Policy and Climate Change in Indonesia

Within the last 10 years of development in Indonesia, it has been recognized that there have been many advances in terms of economic, social and environmental aspects. Data from BPS shows in terms of economic growth, during the period 2005-2011, Indonesia was able to maintain positive economic growth in the range of 5 to 6.5% per year.

From the achievement of economic growth that is above 5%, the per capita income of the Indonesian population also almost doubled from Rp14,991.1 thousand in 2006 to Rp30,813.0 thousand in 2011. Simultaneously, the unemployment rate also decreased from 11.2% in 2005 to 6.5% in 2011. Likewise with the percentage of poor people who experienced a decline from 15.9% in 2005 to 12.4% in 2011.

Progress in education, Social and economic achievements have also been achieved, among others, the Pure Participation Rate of Primary Schools which has reached 91% in 2011, while the SMP NER reaches 68%. Likewise with the Literacy Rate (AMH) where there has been a significant increase since 2005. AMH in 2011 has reached 92.81 nationally. The description of economic and social development may not be enough to assess Indonesia's development. To achieve sustainable development, economic development cannot be separated from the development of other fields, one of which is the environment.

Table 1. Comparison of GRDP Growth in 2006-2010

Pulau	PDRB Harga Konstan (Triliun Rp)			Lahan Kritis (000 Ha)		
	2006	2010	Rata-rata Pertumbuhan per tahun	2006	2010	Rata-rata Pertumbuhan per tahun
Sumatera	389,07	468,06	4.73	25898.97	24771.47	-1.11
Jawa dan Bali	1093,32	1385,13	6.09	3663.70	4317.00	4.19
Kalimantan	160,69	190,34	4.32	27918.05	28012.61	0.08
Sulawesi	79,15	106,89	7.80	6218.21	7610.81	5.18
Nusa Tenggara, Maluku & Papua	55,72	71,18	6.31	14107.95	17464.55	5.48
Indonesia	**1777,95**	**2221,60**	**5.73**	**77806.88**	**82176.44**	**1.38**

Sumber : BPS dan Kementrian Kehutanan

that from 2006-2010 every island in Indonesia experienced a GRDP growth of 4-8% and nationally at 5.73%. However, in line with GDP growth, Indonesia also experienced a growth of critical land of 1.38%, with the largest growth of critical land in the islands of Nusa Tenggara, Maluku and Papua.

Table 2. Comparison of HDI and IKLH in 2009-2011

Provinsi	IPM						IKLH					
	2009		2010		2011		2009		2010		2011	
	IPM	Rank	IPM	Rank	IPM	Rank	IKLH[1)]	Rank	IKLH[2)]	Rank	IKLH[2)]	Rank
NAD	71,31	17	71,70	17	72,16	18	72,47	12	77,30	11	66,74	16
Sumatera Utara	73,80	8	74,19	8	74,65	8	62,48	19	87,17	6	72,21	12
Sumatera Barat	73,44	9	73,78	9	74,28	9	87,04	2	81,46	9	77,00	9
Riau	75,60	3	76,07	3	76,53	3	51,65	25	54,86	22	56,23	24
Jambi	72,45	13	72,74	13	73,30	13	75,04	9	62,82	17	64,92	18
Sumatera Selatan	72,61	10	72,95	10	73,42	10	69,30	14	75,70	13	77,50	8
Bengkulu	72,55	12	72,92	11	73,40	11	79,58	4	96,89	4	96,77	3
Lampung	70,93	21	71,42	21	71,94	20	73,64	11	86,95	7	86,57	4
Kep. Bangka Belitung	72,55	11	72,86	12	73,37	12	52,15	24	64,92	15	64,99	17
Kepulauan Riau	74,54	6	75,07	6	75,78	6	51,65	25	54,86	22	56,23	24
DKI Jakarta	77,36	1	77,60	1	77,97	1	41,73	30	41,81	29	41,31	30
Jawa Barat	71,64	15	72,29	15	72,73	16	49,69	27	53,44	23	50,90	27
Jawa Tengah	72,10	14	72,49	14	72,94	14	55,40	22	50,48	25	49,82	28
DI Yogyakarta	75,23	4	75,77	4	76,32	4	53,52	23	71,91	14	68,89	14
Jawa Timur	71,06	18	71,62	18	72,18	17	59,01	21	49,49	27	54,49	25
Banten	70,06	23	70,48	23	70,95	23	50,86	26	48,98	28	48,98	29
Bali	71,52	16	72,28	16	72,84	15	85,50	3	99,65	1	85,30	5
Nusa Tenggara Barat	64,66	32	65,20	32	66,23	32	73,69	10	90,15	5	84,30	7
Nusa Tenggara Timur	66,60	31	67,26	31	67,75	31	66,61	18	50,72	24	59,01	23
Kalimantan Barat	68,79	28	69,15	28	69,66	28	71,92	13	76,39	12	74,27	10
Kalimantan Tengah	74,36	7	74,64	7	75,06	7	45,70	29	50,38	26	63,98	19
Kalimantan Selatan	69,30	26	69,92	26	70,44	26	48,25	28	58,24	21	60,29	21
Kalimantan Timur	75,11	5	75,56	5	76,22	5	68,63	15	62,22	19	70,75	13
Sulawesi Utara	75,68	2	76,09	2	76,54	2	88,21	1	84,18	8	84,59	6
Sulawesi Tengah	70,70	22	71,14	22	71,62	22	68,51	16	97,58	3	98,53	2
Sulawesi Selatan	70,94	20	71,62	19	72,14	19	67,62	17	62,89	16	62,64	20
Sulawesi Tenggara	69,52	25	70,00	25	70,55	25	60,53	20	62,23	18	52,79	26
Gorontalo	69,79	24	70,28	24	70,82	24	-	-	97,93	2	98,89	1
Sulawesi Barat	69,18	27	69,64	27	70,11	27	67,62	17	62,89	16	67,85	15
Maluku	70,96	19	71,42	20	71,87	21	78,80	6	79,72	10	73,09	11
Maluku Utara	68,63	29	69,03	30	69,47	30	78,80	5	79,72	10	73,09	11
Papua Barat	68,58	30	69,15	29	69,65	29	75,30	8	59,56	20	68,51	22
Papua	64,53	33	64,94	33	65,36	33	75,30	7	59,56	20	68,51	22
Indonesia	**71,76**		**72,27**		**72,77**		**59,79**		**61,07**		**60,25**	

Sumber : BPS dan Kementrian Lingkungan Hidup

Comparison of HDI and IKLH data was analyzed through conditions per province. Provinces that have the highest HDI such as DKI Jakarta have the lowest IKLH and from 2009 to 2011 the Jakarta IKLH has decreased. North Sulawesi with HDI increasing and constant at rank 2 in 2009-2011 shows that IKLH deteriorated from 2009 to 2011, from rank 1 down to rank 6. Papua also showed a decrease in environmental quality along with the increase in HDI. The HDI that increased from 2009 to 2011, caused a decrease in IKLH from 75.3 to 68.51.

Provinces with constant growth in HDI, such as Bengkulu and Central Kalimantan, showed improvements in environmental quality (IKLH increased from 2009 to 2011. Nationally, HDI increased from 2009-2011 and IKLH also increased from 2009 to 2011, but in 2011 a decline of 2010. from these explanations, the conditions in Indonesia shows that there is a negative relationship between development and environmental quality of life. Therefore, Indonesia needs to think about the concept of sustainable development, in which economic development accompanied with improvement of environmental quality.

to achieve sustainable development, Indonesia must increase the use of renewable resources and use energy more efficiently Indonesia Environmental Statistics data in 2013, fossil energy use, such as coal, fuel, and natural gas showed an increase from 2006 - 2011, while biomass energy use increased which not too significant from 2006-2011 ..

Related to the issue of climate change, the Intergovernmental Panel on Climate Change (IPCC), an institution under the United Nations (UN) through the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP) mentions that

climate change is caused by various things which are interrelated. The energy sector is a carbon emitter producing 12,628 Mt CO_2 into the atmosphere.

In addition, deforestation and forest degradation are blamed as the second largest contributor to carbon emissions that cause global climate change. Countries such as Brazil are thought to contribute to high emissions, amounting to 2,563 and 1,372 Mt $CO_{2,\text{ respectively}}$. The third rank of emitters is in the agricultural sector, with total emissions of 2,912 Mt CO_2 dominated by China, followed by Brazil and India. Whereas carbon emissions from waste are estimated at 635 Mt CO_2 , mostly from the United States, China and India. The total carbon emissions produced by the four sectors reached approximately 20,645 t CO_2 (IPCC, 2000).

Based on data from the *Human Development Report* released by the United Nations Development Program (UNDP) in 2008, Indonesia was placed as the 14th ranked country for producing carbon emissions in the world, far below developed countries that poured carbon into the atmosphere from industrial activities. The GHG emissions that occur in the Indonesian forestry sector mostly come from deforestation (forest conversion for other uses such as agriculture, plantations, settlements, mining, regional infrastructure) and degradation (decreasing forest quality) due to *illegal logging*, fire, *over cutting*, shifting cultivation and encroachment.

In efforts to mitigate climate change, the government has set a National Action Plan for Reducing Greenhouse Gas Emissions (RAN - GRK) and *Indonesia Climate Change Sectoral Roadmap* (ICCSR). RAN-GRK is a medium and long-term design made by the government in the plan to reduce greenhouse gas emissions. Greenhouse gas emissions that are derived are those which are from the forestry and peatland sectors, agriculture, energy and transportation, industry, and waste. In the draft, the government detailed the emission reduction program from these sectors and also detailed the value and sources of funding used. This RAN-GRK was prepared to direct the government in implementing its commitment to reduce greenhouse gas emissions by 26%. In addition to nationally, this design is also prepared for each region, namely through RAD-GRK.

Based on a study of the *Mitigation Fiscal Framework* (MFF) conducted by the Ministry of Finance in collaboration with the *United Nation Development Program* (UNDP) in 2012, if assumed the allocation of expenditure for the environment (especially for climate change mitigation) is constant during 2010 to 2020, reducing emissions produced is 116 million tons of $COemissions_2$ or by 15%. Furthermore, if the expenditure allocation is increased according to RAN-GRK with a proportional increase in 2020, the resulting emission reduction is 147 million tons of $COemissions_2$ or 20%. This shows a negative gap of 6% to achieve a commitment to reduce emissions to 26% (lukasbn.wordpress.com, 2016).

The condition of the fiscal policy above shows that the government is less consistent with the goals of sustainable development and its commitment in reducing emissions. The policy is also not in accordance with the RAN-GRK that the government has compiled. This is indicated by the percentage of the budget for environmental allocation which is decreasing every year. If funding is constant since 2012, the funds are not enough to achieve the emission reduction goals, but the government in the 2015 RAPBN, the government actually reduces the allocation of funds for the environment.

This fact shows that supervision of the use of funds has not been done well because the use of funds is still used for things that have not had a direct impact on improving environmental quality. In addition, the realization of funding is also still limited. This might occur because of the difficulty in applying existing funding to environmental quality improvement programs.

CONCLUSIONS AND RECOMMENDATIONS

When viewed from several indicators of development in Indonesia that are associated with the concept of sustainable development, it shows that there is no balance between social, economic and environmental development. Indonesia must reduce the amount of pressure on the environment as a result of economic development.

Budgeting policies in the environmental management sector must be paid more attention and improved. The central government can include environmental components through implicit regional transfers to the DAU (so far environmental funds have only been included in the DAK. The government must be careful in paying attention to the conditions of the regions that produce the largest emissions and have the most critical land to be given greater regional transfer funds. This is done to provide incentives for local governments to implement RAD-GRK and land conservation.

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