

# The development policy regarding to the conservation of natural resources and its problems

## Kebijakan pembangunan dalam pelestarian sumberdaya alam hayati dan permasalahannya

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**Abstrak.** *Ardhana IPG. 2015. Pengembangan kebijakan konservasi sumber daya alam dan masalahnya. Pros Sem Nas Masy Biodiv Indon 1: 1056-1063.* Dalam beberapa tahun belakangan ini hutan tropika Indonesia telah mengalami deforestasi dan degradasi hutan yang sangat pesat akibat pembangunan pertambangan, eksploitasi hutan berlebihan, perladangan berpindah, perkebunan kelapa sawit, perluasan pertanian, pemukiman, eksploitasi kehidupan satwa liar, geothermal, rencana reklamasi kawasan konservasi, pembalakan liar, perambahan hutan dan lain sebagainya. Deforestasi dan degradasi hutan Indonesia dari tahun ketahun tidak dapat dihindarkan akibat tuntutan kebutuhan pertambahan penduduk yang juga semakin meningkat. Jadi dapat dikatakan bahwa laju penyusutan luas hutan seiring dengan laju pertumbuhan penduduk. Luas hutan Indonesia yang semula mencapai 144 juta hektar, sampai saat ini hanya tersisa sekitar 130,68 juta hektar. Kini hutan primer hanya tersisa 43 juta hektar, hutan terlantar sudah mencapai 12 juta hektar, sedangkan laju perambahan hutan saat ini mencapai 1,1 juta hektar/tahun. Faktor pendorong terjadinya deforestasi dan degradasi hutan sangat bervariasi baik dari sisi pemerintah, investor dan masyarakat hingga kepentingan internasional. Semestinya pemerintah harus memikirkan kondisi kawasan hutan yang semakin parah dan segera harus melakukan upaya untuk menemukan cara terbaik dalam melindungi, mengelola dan mengembangkan sumberdaya hutan untuk mewujudkan pembangunan berkelanjutan yang berwawasan lingkungan. Tujuan penelitian ini adalah untuk menggali dan mengkaji informasi tentang pelestarian sumberdaya alam hayati akibat kebijakan pembangunan, dengan metode kepustakaan dari kondisi kawasan hutan di Indonesia saat ini. Hasil penelitian menyimpulkan bahwa luas hutan yang mengalami deforestasi untuk periode 1985-2009 sudah mencapai 45,27 juta hektar akibat kebijakan pembangunan sedangkan degradasi hutan sekitar 41 juta hektar akibat pembalakan liar dan 20 persen dari luas hutan konservasi yaitu sekitar 5,36 juta hektar rawan dari ancaman perambahan hutan. Tekanan faktor pendorong deforestasi dan degradasi hutan memunculkan kekhawatiran pelestarian sumberdaya alam hayati (biodiversitas) dan ekosistemnya yang sudah diambang kehancuran. Disarankan kebijakan pembangunan bagi pengambilan keputusan sudah semestinya perlu mempertimbangkan keberadaan sumberdaya alam hayati dan ekosistemnya untuk dipertahankan dan dikembangkan.

**Kata kunci:** Kebijakan pembangunan, pelestarian keanekaragaman hayati, masalah

**Abstract.** *Ardhana IPG. 2015. The development of policy for conservation of natural resource and its problems. Pros Sem Nas Masy Biodiv Indon 1: 1056-1063.* In recent years Indonesia has been subjected to the tropical deforestation and forest degradation due to the rapid development of mining, excessive forest exploitation, shifting cultivation, oil palm plantation, agricultural expansion, settlements, exploitation of wildlife, geothermal, reclamation of plan conservation areas, illegal logging, forest encroachment, and so forth. This scenario of deforestation and forest degradation in Indonesia year after year cannot be avoided due to the incessant increase of population growth. So it can be said that the decline rate of forest area is proportional to the population growth rate. 144 million ha of Initial total forest area in Indonesia has decreased to 130.68 million hectares today and 43 million hectares of primary forest has reduced to 12 million hectares, while the rate of encroachment has reached to 1.1 million hectares every year. The key factors behind this deforestation and forest degradation are varied greatly government to investor interests, local to international interests. Now the government should have to think about the present condition of forest area that is getting worse day by day and soon should make an effort to find the best way to protect, manage and develop forest resources to achieve sustainable development. The purpose of this study was to explore and assess information about the conservation of natural resources based on recent development policy and the literature review method of forest condition in Indonesia. The study concluded that during the 1985-2009 period the deforested area has reached to 45.27 million hectares as a result of development policy, while the forest degradation area is about to 41 million hectares due to illegal logging, and 20 percent of conserved forest area, around 5.36 million hectares, is vulnerable owing to the threat of encroachment. Pressure driven factors of deforestation and forest degradation create the concern over the preservation of natural resources (biodiversity) and its ecosystem that have already come to the verge of collapse. It is recommended that decision maker of policy development should need to consider the conservation, maintenance, and development of natural resources and ecosystems.

**Keywords:** Development policy, preservation of biodiversity, problems

## INTRODUCTION

As an archipelagic State Indonesia has a land area of  $\pm$  1,860,359.67 km<sup>2</sup> and 3,650,000 km<sup>2</sup> of ocean which are consisted from of 17,508 large and small islands with a coastline of 81,000 km, stretching 5,000 miles along the equator and has a tropical forest about 130.68 million hectares. Besides of this fact Indonesia is one of the seven mega biodiversity countries in the world and placed in second place after Brazil and has the third largest tropical forest after Brazil and Zaire. The richness of biodiversity consists of 10% of flowering plants; 12% of mammals; 16% of reptiles and amphibian; 17% of birds; and 25% of the fish. Under these conditions and with the natural wealth is owned by Indonesia which is also located at the intersection, between two continents and two oceans that are biographical also divided into two Indomalaya region and Australia is limited by the Wallace line, it would certainly be the center of attention of the world (Ministry of Environment 2009).

Various pressures on tropical forests come from inside and outside the country with alarming enough intensity for natural resource wealth including the uniqueness and diversity. The these resources from international communities through the global issues with various of tactics to corner for countries that are developing, including Indonesia itself causes deterioration or destruction of the world (Global environmental degradation), especially tropical forests are still quite broad. This accusation is sufficient under stood because Indonesia has been under pressure to the preservation of biodiversity in the country which comes from fairly serious and as a consequence, so government should immediately develops its policy in the conservation of natural resources and ecosystems.

The problems are that in recent year Indonesia has suffered the tropical forest deforestation and degradation due to rapid development of mining, excessive forest exploitation, shifting cultivation, agriculture and plantation expansion, settlement, exploitation of wildlife, geothermal, reclamation plan conservation areas, illegal logging, encroachment, and so forth. The from year to year depreciation of Indonesian forest area can't be avoided the demands of population growth and increase. It can be said that the rate of depreciation of the forest area is in proportion with the population growth rate. The forest area in Indonesia which originally reached 144 million hectares, to date only about 130.68 million hectares. The classification of forest area according with function has been degraded forests from illegal logging production forest area of 60%, 30% area of protected forests and protected areas 10%. Today the remaining primary forest is only 43 million hectares, and displaced forest has reached 12 million hectares, while the rate of encroachment has reached 1.1 million ha every year (Ministry of Forestry 2011). This shrinkage is caused from deforestation and forest degradation.

Originally Indonesia relies on natural forests to support the national economy and forest concessions (HPH) which become the dominant system in the utilization of natural forests. The execution of concession has been preceded as

the cause of deforestation of natural forests. In 1990 the deforestation was widened the government invited private investors to undertake the construction of industrial timber estates (HTI) to lure a number of stimulation (incentives). High rates of planting oil palm plantations which carried out to convert the forest. Meanwhile degradation also occurs as result of forest management is not implemented in accordance with the rules of preservation with the Utilization License Timber Forest Products (IUPHHK), in addition to these actions the presence of human activities are not responsible, including illegal logging, illegal mining and encroachment to be owned.

Driving factors behind deforestation and forest degradation are highly variable both in terms of government, to the interests of investors and the international communities. Pressure driving factor is what raises concerns preservation of biological resources and ecosystems that are already on the verge of collapse.

## MATERIALS AND METHODS

Legal research methods according to the type can be divided into two normative legal research and empirical legal research (Soerjono 2001). This type of research is classified into normative legal research or literature legal research, the focus of research using legal materials instead of the data, so that the primary data used merely as reinforce, complement and support. Then the secondary data sources are done through a data source library (library research), which consists of primary legal materials and secondary legal materials.

### Methods

The methods which used for this study, is several approaches as with known the normative legal research, namely the approach of case (the case approach), the approach of legislation (the statue approach), the legal concept analysis approach (analytical and conceptual approach). All three approaches are combined with the usual approach which is used in policy approaches. The policy approach includes understanding which interrelated between goal-oriented approach and oriented approach on the value (Arief 1996).

### Source of Material Law

This research is given from normative, then the types of legal materials which are used in this article: (i) 1. The primary legal materials consist of several legislations, regulation government, regulatory environment ministers, local laws, regulations of Governors, regulations of Regents, Spatial Plans, Detailed Spatial Plans, Presidential Instructions. (ii) Secondary law materials that legal materials are closely related to the primary ingredients which can help to analyze and understand the primary law : (a) A case studies on forest concessions (HPH), industrial timber estates (HTI), Right to Use (HGU), another land use (APL), and others. (b) The results of the scientific works of many scholars. (c) Research result. (iii) Tertiary legal materials, it is materials provide information about

the primary legal materials and secondary law includes bibliography (Hamijoyo 1998).

#### *Collection methods of Legal Materials*

Collection method of legal materials in this research uses the combination of snowball method (*snowball method*) with a systematic method (*systematic method*).

#### *Analysis of Legal Materials*

In normative legal research the data is not analyzed the data but the materials are analyzed as descriptive, interpretive, evaluative, argumentative and systematic. The collection of legal materials will be presented in full, and then will be analyzed. The descriptive analysis will present description what is means to a condition or position of the proportions of the law or non-law. The interpretive analysis means that interpreting or explaining the types of interpretation in the science of law, such as systematic and grammatical interpretation. Systematic interpretation means that there is a relationship between this chapter and another chapter. While grammatical interpretation is based on the interpretation of the meaning of the words. The evaluative on will be assessed proper or improper, agree or disagree, right or wrong, legal or otherwise by researchers to a view, proportion, formula statement, norms, good decisions which contained in the primary legal materials and secondary legal materials.

While argumentative nature of analysis cannot be separated from evaluation techniques for the assessment which must be based on legal reasons. The discussions of legal issues increasingly show more and more arguments about legal reasoning. Systematically, this article effort to find the link of formulation in a concept in law and legal proposition between equal or unequal legislation between.

## RESULTS AND DISCUSSION

### **The results**

Based on the analysis of forest cover between 2000 and 2009 were released by FWI (2011) Indonesia has experienced deforestation around 15,158,926.59 and 1,515,892.66 hectares of deforestation hectare/year (Table 1). Based on the function of the forest area, increasing planes for deforested area are visible on total mining plan areas within the protected areas and conservation areas as 11,441,825 hectares as shown in Table 3. The granting of mining licenses in these areas would exacerbate deforestation as deforestation shown in the Table 3. Data was held by Directorate General of Forestry Planning says there are 1,052 units Mining Authority (KP) located area of forest in Sumatra, Borneo, and Papua with an area of 15.3 million hectares (Table 4).

Within 27 provinces of Indonesia there are 18 provinces which have been proposed to release the forest areas, the number of submissions release of forests to other land uses (APL) based on the draft RTRWP 15,667,432.28 acres (Directorate General of Forestry Planning 2010; Ardhana 2014). The development of oil palm plantation area in Indonesia during the period of 2000-2009 increased by 2-

fold from 4.16 million hectares in 2000 to 8.25 million hectares in 2009 (Ministry of Plantation 2009; Database Agricultural Statistics). Until June 2010, no less than 2.8 million hectares of forest land were released for the purpose of oil palm plantations, while the realization of new cropping reached 1.11 million hectares.

Deforestation rate in Indonesia during of 1985-2009 integrated data from FWI/GFI (2001) of 1.8 million per year, from the Department of Forestry (2005) covering an area of 2.84 million ha/year and of the results of the analysis of an area of 1.51 million hectares/year, then the amount of deforestation can be seen in Table 5.

Table 1 also shows that there are changes in forest cover that spread throughout the major islands in Indonesia. From the calculation of the percentage change in forest cover in 2000 compared with an area of forest cover in 2009. The forest has been deforested spread on the island of Sumatra 23.92%; Borneo 16.76%; Sulawesi 15.58%; Maluku 25.09%; Papua 1.81%; Java 60.64%; Bali-Nusa Tenggara and 45.92% (Table 2).

Forest covers change on peat lands during 2000-2009 also have been demonstrated deforested area of 2 million hectares. The percentage of forest cover change on peat lands in 2000 compared with the extent of forest cover in 2009 that has experienced the largest deforestation in Sumatra area of 986,663.27 hectares or approximately 34.98% followed by Kalimantan area of 884,029.86 hectares or 24.09%, while the area of 130,917.62 hectares Papua or 2.08% (Table 6).

Forest covers in the concession peat land of forest concessions (HPH), Industrial Plantation Forest (HTI) and Right (HGU) in Indonesia, until 2009, approximately 2.21 million hectares, comprising 1.41 million hectares in the HPH, 0.46 million hectares are in plantations and 0.3 million hectares in the concession and 0.029 million hectares in the region of overlap between concession rights and/or concession (Table 7).

Based on data 2009, in with logging concessions, HTI and HGU covered forest area of 22.77 million hectares, which logging concessions covered area of 20.42 million hectares, in the HTI concession area of 1.57 million hectares and in concession area of 0.77 million hectares (Table 8).

Also forest cover land found to use overlap area between FMU and concession area of 361,699.72 hectares. Extensive forest cover of the FMU and concession in Kalimantan is an area of 10.04 million hectares, followed by Papua area of 8.97 million hectares of HPH and HTI.

Especially forest data information will be used for Bedugul Bali Geothermal Development Plan which will cover 42.52 acres (Farhaeni and Ardhana 2014), and for the Reclamation Plan Benoa Bay Conservation Area approximately 700 acres (Ardhana and Farhaeni 2014). The flora and fauna of the land and marine life and mangroves will be damage and will be affect the survival lives and reduce biodiversity (biodiversity) in that region.

The Forest degradation occurs from result of forest management which carry out unsustainable the Utilization License Timber Forest Products (IUPHHK) of Natural or result of logging which is acted by the parties who does not

**Table 1.** Forest cover, deforestation and rate of deforestation year 2000-2009

Island	Land area (hectare)	Forest cover 2000 (hectare)	Forest cover 2009 (hectare)	Deforestation 2000-2009 (hectare)	Deforestation rate 2000-2009 (hectare)
Sumatera	46,449,970.82	15,516,958.84	11,805,161.39	3,711,797.45	371,179.75
Kalimantan	53,262,378.46	32,856,107.16	27,350,243.23	5,505,863.93	550,586.39
Sulawesi	19,375,054.75	10,707,185.76	9,039,345.18	1,667,840.59	166,784.06
Maluku	7,972,596.62	5,015,206.85	3,757,115.13	1,258,091.72	125,809.17
Papua	42,877,146.20	34,767,891.15	34,138,992.70	628,898.44	62,889.84
Jawa	13,008,124.79	2,281,183.78	897,978.82	1,383,204.96	138,320.50
Bali Nusa Tenggara	7,365,736.32	2,184,833.28	1,181,603.75	1,003,229.49	100,322.95
Total	190,311,007.96	103,329,366.78	88,170,440.19	15,158,926.59	1,515,892.66

Source: FWI (2011), data is modified

**Table 2.** Deforestation in Indonesia period 2000-2009 (hectares)

Island	Sumatera	Kalimantan	Sulawesi	Maluku	Papua	Java	Bali-Nusa Tenggara
Deforestation 2000-2009	3,711,797.45	5,505,863.93	1,667,840.59	1,258,091.72	628,898.44	1,383,204.96	1,003,229.49
Forest cover 2000	15,516,958.84	32,856,107.16	10,707,185.76	5,015,206.85	34,767,891.15	2,281,183.78	2,184,833.28
Forest cover 2009	11,805,161.39	27,350,243.23	9,039,345.18	3,757,115.13	34,138,992.70	897,978.82	1,181,603.75
Percent (%)	23,92	16,76	15,58	25,09	1,81	60,64	45,92

Source: FWI (2011) data is modified

**Table 3.** Area of mining plan area protected forest and conservation forest

Island	Protected forest (hectare)		Conservation forest (hectare)	
	Total	Mining conversion	Total	Mining conversion
Sumatera	7,391,502	2,141,950	4,878,520	689,120
Java	728,651	-	468,233	273,300
Sulawesi	4,821,237	996,445	4,821,237	184,617
Nusa Tenggara	651,257	44,200	567,714	-
Maluku	1,809,634	359,640	443,345	159,000
Kalimantan	6,858,792	1,767,580	4,458,887	-
Papua	11,452,990	3,319,000	7,539,300	1,507,000
Total	33,938,350	8,628,815	20,579,347	2,813,037

Source: Department of Forestry (2000)

**Table 4.** Mining in forest areas

Location	Units mining authority (KP)	Land area (hectare)
Sumatera	778	13,000,000
Kalimantan	74	2,100,000
Papua	200	205,000
Total	1.052	15,305,000

Source: Silvagama (2010), FWI (2011)

**Table 5.** Rate of deforestation Indonesia period 1985-2009

Period	Interval year	Deforestation rate	Total (million hectare)
1985-1997*	12	1,80	21,60
1997-2000**	3	2,84	8,52
2000-2009*	10	1,51	15,15
Total			45,27

Source: \*FWI/GFW (2001). \*\*Department of Forestry (2005).

**Table 6.** Deforestation in peatlands period 2000-2009 (hectares)

Island	Sumatera	Kalimantan	Papua	Total
Deforestation 2000-2009	986,663.27	884,029.68	130,917.62	2,001,610.57
Forest cover 2000	2,820,771.15	3,669,451.41	6,287,160.81	12,777,383.37
Forest cover 2009	1,834,107.88	2,785,421.72	6,156,243.19	10,775,772.80
Percent (%)	34,98	24,09	2,08	-

Source: FWI (2011) data is modified

**Table 7.** Area of forest cover in peatlands in concessions, HTI and HGU Year 2009 (hectares)

Island	HPH	HTI	HGU	Overlap between HPH, HTI, HGU	Other HPH, HTI and HGU	Total
Sumatera	322,422.37	336,860.81	11,327.93	5,632.73	1,157,864.04	1,834,107.88
Kalimantan	192,515.10	70,985.81	291,120.93	23,966.48	2,206,833.40	2,785,421.72
Papua	897,212.75	58,671.10	-	-	5,200,359.34	6,156,243.19
Total	1,412,150.22	466,517.72	302,448.87	29,599.21	8,565,056.79	10,775,772.80

Source: FWI (2011) data is modified

**Table 8.** Area of forest cover in the concession year 2009 (hectares)

Island	HPH	HTI	HGU	Total	Overlap between HPH, HTI, HGU	Other HPH, HTI, HGU	All Total
Sumatera	1,070,678.80	682,732.65	19,437.92	1,772,849.37	56,561.76	9,975,752.27	11,805,161.39
Java	-	-	-	-	-	897,978.82	897,978.82
Bali Nusra	-	2,108	-	2,108	-	1,179,495.53	1,181,603.75
Kalimantan	8,854,978.79	426,007.68	759,781.11	10,040,767.58	299,854.01	17,009,621.63	27,350,243.23
Sulawesi	1,077,089.06	35,792.89	-	1,112,881.95	-	7,929,463.23	9,039,345.18
Maluku	852,380.67	19,949.03	-	872,329.7	5,283.95	2,879,501.48	3,757,115.13
Papua	8,566,145.35	411,804.56	-	8,977,949.91	-	25,161,042.79	34,138,992.70
Total	20,421,270.66	1,578,395.03	779,219.03	22,778,886.51	361,699.72	65,029,855.76	88,170,440.19

Source: FWI (2011) data is modified

have permission. Natural Forest IUPHHK number is still active today for 324 units with an area of 28,271,043 hectares (Director General of Forestry Production Development 2010). It is estimated that approximately 15 million hectares are implemented sustainable forest management system. The remaining 13 million hectares are not implemented sustainable forest management. In production forest area approximately 20 million hectares does not have permission and 13 million hectares are still in good condition, mean while 7 million hectares are already experienced severe degradation (Directorate General of Forestry Planning 2010).

Illegal logging are carried out in 60% production forest and the production remains limited 57.06 million hectares in the amount of 34.236 million hectares, then in 30% of protected areas 28.86 million hectares, and approximately 8.658 million hectares forest conservation and 10% of the 26.82 million hectares is 2.682 million hectares. So the total area of illegal logging in the forest area is 34.236 million acres + 8.658 + 2.682 million hectares million hectares = 45.576 million acres. The level of illegal logging are estimated as very serious in the production forest area where license holder manages that forest. The classification of these forests is used to determine the extended of

degradation due to illegal logging and damages third function as described earlier.

The Strategic Plan from Association of Indonesian Forest Concessionaires very dependences on the supply of timbers from natural forests which are expected to still increase in the future, and necessity of raw materials from natural forests were increased since 2009 and reached to 6.68 million m<sup>3</sup> to 15.23 million m<sup>3</sup> in 2020. This data is drawn from projection of wood supply from natural forests (APHI 2009). This plan will increase the amount of degraded forest area.

Information or data about forest degradation which submitted by the Governor were occurred in several provinces in Indonesia such as Aceh, North Sumatra, Bangka Belitung, Lampung, East Kalimantan, Central Kalimantan, Sulawesi, West Papua, Papua, and Bali, also forest degradation activities add long broad approximate amount of and very unfortunately acreage of each case has been no accurate (Ardhana 2014). Until now, total 41 million hectares of natural forest were bare (Harian Rakyat Merdeka 24/11/2012) and 20 percent from forest conservation area namely 5.36 million hectares of forest are threaded prone.

Depending on monitoring data information in Indonesia (Ministry of Forestry 2011), Indonesian forest degradation

during 2006-2009 period reached to 446,900 hectares per year, especially were occurred out in the forest area reached to 433,493 hectares per year (97%) degradation outside forest area is reached 13,100 hectares per year (3%), thus the total number of 1.3407 million hectares, located in the area of 1.3011 million hectares of forest and outside the forest area 39,300 hectares.

### Discussion

Common problems of forestry which still running are the problems of deforestation and forest degradation that threatens the sustainability of natural resources and ecosystems. From the results of this study we will discuss deforestation that arise from conversion of forest to various designations whether planned or unplanned. The unplanned deforestation, which caused by forest management is unsustainable implementation by the licensee (IUPHHK) natural forest. While forest degradation is defined as the destruction of forests in all forest areas from illegal logging, illegal mining and encroachment to have. So definition of forest degradation is occurred by unplanned deforestation because it is done on purpose and the human intent conduct.

From recapitulation of data, changes in forest during 2000-2009 coupled with the deforested forest area of 15.15 million hectares, and this changing forest spread across to major islands in Indonesia with a deforestation rate of 1.51 million ha/year (Table 1). This means that deforestation is still running steadily from year to year. This condition is shown in percentage ratio of changing in forest at 2000, and the forest cover in 2009 was showed the in island of Java, Bali-Nusa Tenggara, Maluku and Sumatra, high percentage was followed by Kalimantan, Sulawesi and Papua. On Papua island, the percentage of forest changing is relatively small due to the activities of deforestation is still very small compared to other islands as shown in Table 2.

Deforestation due to the mining plan in the protected areas and conservation area also were showed a very large with a total area of 11.4 million hectares. Granting permission mining expansion plans in these areas would also exacerbate deforestation deforested (Table 3).

These deforestation was occurred by government because government has issued a moratorium on new permits delaying the primary natural forests and peat lands are located in forest conservation, forest protection, forest production, and other uses as contained in the Indicative Map Delays New License (PIPIB) which contained in the Presidential Instruction number 10 in 2011. But in fact the forest utilization both on land and on water is still running regardless from conscience of the community, so the government apparently very uncaring and overrides aspirations of people who are instrumented in all forms of development and sometimes policy developments without going through outreach to the local community! The government compromises the pretexts for the public welfare, but ultimately it is disappointed because natural resources and ecosystems are spread across the Indonesian archipelago which have limited on the verge of collapse. Such this event is also being experienced by the people of

Bali and until now they are trying to reject Benoa Bay Reclamation Development Plan, Geothermal, the National Tourism Strategic Area (KSPN) and others planes that will destroy and torment the people of Bali. The public participation will not be ignored, already and becomes which is contained in by Law No. 32 In 2009, Article 70 paragraph (1) this article states that the public has same broadest rights and opportunities to play an active role in the protection and management of the environment. Article 26 of paragraph 2 also states that public involvement should be based on the principle of transparent and complete information before the project will be implemented, and this statement is also confirmed by Article 68 paragraph (1) that every person who conduct business and/or activity must provide to information which related to the environmental protection and management of true, accurate, transparent and timely.

Experiencing increasing deforestation were forest seen with the release of the proposal about areas where 18 provinces used for other uses (APL) which reached 15.67 million hectares and then the development of oil palm plantation area during 2000-2009 periods to reach 8.25 million hectares. Information was also obtained from that the latest data until June 2010 which approximately 2.8 million hectares of forest land released for the purposes of oil palm plantations although new realization reached 1.11 million hectares. Expanding palm plantations adversely affect the dynamics of forest and despite of increasing economic potential even though expense of forests has a wealth of biodiversity which asset incalculable value. So the development of release of forest area still goes hand in hand with the progress of development policies that reflect to activities of the planned forest. Data obtained information from Ministry of Forestry, on 2010 identified at least eight thousand plantation and mining company located within the forest. This information clarified how the depletion region due to expanding forest plantation and mining activities that the more extensive deforestation activities dwindled area of forest and at the same time declined biodiversity will be affect the genetic diversity and if this condition will occur spread, various ecosystems also will be damaged the ecosystem diversity in Indonesia will be disrupted there natural processes to achieve balance.

When the rate of deforestation until 1985-2009 was examined that were integrated from three data FWI/GFI (2001), the Department of Forestry (2005), and FWI (2011) it in was clear that the rate of deforestation in the different intervals are always higher year after year. This condition indicates that the government's development policy since the 1985-2009 just want to pursue economic growth regardless of the environmental conditions and they always brushed and searched truth the reason any Indonesia was in a state of crisis, so does not have its own funds and ultimately wealth of natural resources owned managed by investors who sooner or later they brought the wealth of natural resources for destruction. When we saw SKB Minister of Mines and Energy and Minister of Forestry No. 969 K/050/M.PE/1989 and 429/Kpts-II/ 1989 on Guidelines for Implementation Arrangements Mining and

Energy in the Forest Region, dated August 23 1989, Article 7, paragraph (1) states that the Mining Company's obligates to perform acts measures to ensure the Conservation of Natural Resources and Environmental Protection in accordance with legislation in force and in paragraph (2) states that upon termination of mining exploitation by open pit mining system implemented in forest areas, the company shall conduct exploitation in the region returns to its original state (reclamation) in addition to fulfilling the provisions which referred to in paragraph (1). But in fact not a few mining companies were unable to or unwilling to reforest an excavated mine, and they leave holes that resemble mine lake at the end of their mining operations. In this case the government should take immediate action to mining rights violations against the legislation in force (Ardhana 2010).

Changes in peat land area of forest during 2000-2009 also added information of deforestation to 2 million hectares. Percentage changes in area of forest were greatest in Kalimantan and Sumatra otherwise smallest in Papua (Table 6). Data was derived from information of distribution in Indonesian peat lands of identified that in Sumatra, Kalimantan and Papua area of 20.80 million hectares by 2009. Peat land forest cover is 10.77 million hectares and 61.5% of the total peat lands in Indonesia have experienced deforestation (FWI 2011). The reason is different from the data obtained from Wahyunto (2005) which states that the area of peat lands in Indonesia around 20.6 million hectares in Sumatra, Kalimantan, Sulawesi and Papua. It seems FWI has not identified peat lands located in Sulawesi, consequently accuracy of the displayed data is not optimal that will affect the amount of forest cover and deforested peat lands that are scattered throughout the peat lands in Indonesia. Peat land is one area that must be protected because it has hydrological and life support functions in a natural process that ensures the continuity of the life of beings in accordance with Article 6 UUKH No. 5 of 1990.

Peat lands area already clearly has been deforested because of conversion of forests managed by logging concessions, HTI and concession occurred in total area of 2.21 million hectares until 2009. In addition it was also found that the area of overlap between three concessions were lead to data which obtained optimal not enough to determine the extent of forest cover in each concession, but these data are also aggravated the condition of area of forest deforest in peatlands coupled with extensive forest cover in addition to FMU and HGU for other uses which shown in Table 7. Besides of this, the investor who has obtained a concession license, HTI and HGU throughout islands in Indonesia has occupied a total area of forest in the respective concession, but still showed remnants of activities throughout the concession stand area of 22.77 million hectares. In seven islands forest were occupied by the concession which was showed extensive area of forest overlapped area of 0.36 million hectares in the concession area and the widest contained in the concession in Kalimantan, followed by Papua as shown in Table 8.

The phenomenon of forest areas overlap in the work area with plantation or mining which concession has been

long forest conflict and raises many issues in forestry administration, especially after the release of the Regional Autonomy Act of 1999 by Governmental Decree (PP) 25 of 2000 on the authority of government and the provinces as autonomous regions which are not matched by a clear division of powers between the center and the regions at that time as well as the provision of settlement of disputes between them, and often get stuck and there is no legal certainty that ultimately overlapped authority and designation was common phenomenon in the forestry sector. For example: in the work area concession of PT. Austral Byna IUPHHKHA holder in Central Kalimantan precisely controlled by dozens of plantation and mining companies (FWI 2011).

From the results of these data collection due to degradation which found unsustainable forest management, illegal logging, illegal logging and forest encroachment. Illegal logging also occurs in various functions in forest area of 45.576 million hectares, while the data information from Hariyan Rakyat Merdeka (24/11/2012) showed the total area of 41 million hectares of national forest become bald while about 5.36 million hectares of forest area prone conservation of threat encroachment. This deforestation spacious quite large compared to since 2006-2009, adding degradation occurs outside the function of forest area of 1.34 million hectares. Besides, of this it was also found that data of forest degradation information from the governor in several provinces in Indonesia, although the overall area is unknown.

Illegal logging is already quite clearly and unequivocally stated in the Law 41 Year 1999 on Forestry, which is contained in Article 50 paragraph (2); Article 50 paragraph (3) letter a-f; UU no. 5 of 1990 on the Conservation of Natural Resources and Ecosystems, Article 21 paragraph (1); UU no. 32 of 2009 on the Protection and Management of the Environment Article 69 paragraph (1) letter a; Governmental Decree (PP) 45 of 2004 on the Protection of Forests Article 12 paragraph (1) and (2); and as set out in Presidential Decree No. 4 of 2005 which clarified the Minister of the Interior Instruction No. 3 of 2005 on the basis of Illegal Logging in the forest and its circulation in all parts of Indonesia.

From this information the case of illegal forest clearance has been addressed by the government through law enforcement. But the ground reality shows illegal logging, illegal logging and forest encroachment continues. The existence of a growing perception that the people in community are looking to cut down the life of the community must be protected so that the government is dealing with issues that are not profitable. Besides, the minimal number of forest guards/ rangers is available in every area of forest management, another reason is the inability of local governments to provide replacement jobs, in addition to the content of regulations governing mining community activities and cutting cannot be implemented. Factor in the field stated that the management of natural resources is still far from expectations and grayish government to enforce the law strictly to the mining and illegal logging and local police officers/officials. This condition is the scene of persons for profit. Both forest

damages which are by deforestation and forest degradation will impact on natural resources and damage to ecosystems.

From the results of data collection and discussions this article can be summarized as follows: (i) Preservation of natural resources and ecosystems are already on the verge of destruction limit along with the visible development policy of the national forest cover from year to year decrease caused by deforestation and forest degradation are spread throughout Indonesia. (ii) The rate of shrinkage of area of forest along with the number of people who stimulate the development of all sectors of development policy, especially the mining sector, plantations and forest concessions such as FMU, HGU, APL as well as illegal logging, illegal mining and forest encroachment both located in the forest and outside the forest area has continued since 1985 up to 2012. From 1985 until 2014 the rest of the national forest is 130.68 million hectares -49.87 million hectares is 80.81 million hectares.

Suggestion: (i) Need for decisive action from government to deforestation and forest degradation, these actions can be minimized by revitalizing the legislation in force at the time of designing and development policies which should plan must take into consideration not only the environmental aspects of the pursuit of economic growth. (ii) It should be monitored that periodically and integrated number of national area of forest as the basis for determining the balance of natural resources and formulate a plan of development policies in making natural resource management program that is sustainable and environmentally friendly.

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## REFERENCES

- Ardhana IPG, Farhaeni M. 2014. Assessment Procedures and Implications Reclamation Development Plan Bali Benoa Bay. National Seminar on the Role of Science and Environmental Technology in Improving the Welfare of Mankind. Research Institutions and Community Service University of Udayana, Denpasar. September 18 to 19, 2014.
- Ardhana IPG. 2010. Biodiversity conservation in mining activities in the area of forest in Indonesia. *J Agric Sci Indonesia* 15 (2): 71-77
- Ardhana IPG. 2014. Study of REDD+ activities in Perspectives on Climate Change. Proceedings of the National Seminar on Climate Change Mitigation and Adaptation Toward Forest Governance and Sustainable Land. APIK Indonesia, Jakarta, November 18 to 19, 2014.
- Arief BN. 1996. Legislative Policy 1996. In Crime Prevention Criminal Prison. Diponegoro University, Semarang
- Association of Indonesian Forest Concessionaires (APHI). 2009. Wood Supply Projections of the Forest. Association of Indonesian Forest Concessionaires. Jakarta
- By Law No. 32 of 2009 on the Protection and Management of the Environment. Jakarta
- By Law No. 41 Year 1999 on Forestry. Jakarta
- By Law No. 5 of 1990 on the Conservation of Natural Resources and Ecosystems. Jakarta
- Decree of the Minister of Internal Affairs No. 3 of 2005 on the basis of Illegal Logging in Forest Area and Its Distribution in the whole territory of Indonesia
- Decree of the Minister of Mining and Energy and the Minister of Forestry No. 969 K/050/M.PE/1989 and 429/Kpts-II/1989 on Guidelines for Implementation Arrangements Mining and Energy in the Forest Region, dated August 23, 1989
- Department of Forestry. 2005. Forest Policy of 2005 set of Press Release Ministry of Forestry, Jakarta
- Directorate General of Forestry Planning. 2010. Forest Management Unit (Programme, Law and Implementation). The Directorate General of Forestry Planning. Jakarta
- Farhaeni M, Ardhana IPG. 2014. Development of Forest Resources and Conservation Area Around Bedugul Bali (Case Study Bedugul geothermal power development plan (Geothermal). Proceedings of the National Seminar on the Role of Science and Environmental Technology to Improve Welfare of Mankind. Research Institutions and Community Service Udayana University, Denpasar, September 18 to 19 2014
- FWI [Forest Watch Indonesia]. 2011. Images of Indonesian Forest Circumstances Period 2000-2009. Forest Watch Indonesia, Jakarta.
- FWI/GFW [Forest Watch Indonesia/Global Forest Watch]. 2001. Images of Indonesian forest situation. Forest Watch Indonesia, Bogor and Global Forest Watch, Washington DC.
- Governmental Decree (PP) No. 45 of 2004 on the Protection of Forests. Jakarta
- Hamijoyo SR. 1998. Methods of Legal Research and Jurimetri. Ghalia Indonesia. Jakarta
- Ministry of Agriculture, 2009. Agricultural Statistics Database. Downloaded from <http://aplikasi.deptan.go.id/bdsp/newlok.asp>
- Ministry of Environment, 2009. Fourth National Report of The Convention on Biological Biodiversity. Biodiversity Conservation Unit, Ministry of Environment, Jakarta.
- Ministry of Forestry. 2011. Indonesian Forestry (Forestry Brochure). Public Relations Ministry of Forestry, Jakarta.
- Presidential Decree No. 10 of 2011 on New Permit Moratorium on Primary Natural Forests and Peatlands are Located in the Forest Conservation, Protection Forest, Forest Production and other land use
- Presidential Decree No. 4 of 2005 on Combating Illegal Logging in Forest Areas and Circulation in the whole territory of the Republic of Indonesia
- Rakyat Merdeka daily, 24.11.2012. 41 Million Hectares National Forest Damaged Logging; Inviting Disaster Environmental Damage. <http://www.rmol.co/read/2012/1/24/86712/41-Juta-Hektar-Hutan-Nasional-Rusak-Akibat-Pembalakan-liar> (10 February 2015)
- Regulation of the Director General of Forest Production Development number sk.79 / vi-BPHA- / 2010 on changes in the director general's decision Forest Production Development numbers sk.235 / vi-BPHA- / 2009 on the establishment of national roundwood production quota period in 2010 were derived from the IUPHHKHA valid in every province
- Silvagama. 2010. Joint Press Statement Unloading Forestry Practices Mafia. Jakarta, February 3, 2010. Monitoring Coalition Mafia Forestry
- Soerjono S. 2001. Normative Legal Research A Brief Overview. PT. Raja Grafindo Persada, Jakarta
- Wahyunto, S. Ritung, soeparto, H., and Subagjo. 2005. Distribution of Peat and Carbon Content in Sumatera and Kalimantan. Project Climate Change, Forests and Peatlands in Indonesia. Bogor: Wetlands International-Indonesia Programme and Wildlife Habitat Canada.