CLIMATE_CHANGE_AND_REDD

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CLIMATE CHANGE MITIGATION ON FORESTRY BASED ON REED+ IN INTERNATIONAL LAW AND INDONESIA

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Abstract

The Climate Change Convention and the Kyoto Protocol are designated to restrict and reduce the emissions of GHG through three mechanisms, i.e., carbon sinks, bubbling schemes and flexibility mechanisms. All mechanisms are designed for developed countries Parties. The developing countries Parties do not have such obligations. However, the developing countries are given chance to participate in achieving the Protocol's objectives through REDD+, especially to reduce emissions of carbon dioxide in forestry sector. Indonesia has enacted several regulations for implementing REDD+ Program. To this date, Indonesia has had carbon project mechanisms and succeeded to realize 40 projects in the period of 2008-2012.
***Keywords**: climate change, mitigation, REDD+.*

Intisari

Konvensi Perubahan Iklim dan Protokol Kyoto dirancang untuk membatasi dan mengurangi emisi GRK melalui 3 (tiga) mekanisme, yaitu *carbon sinks*, *bubbling schemes* dan *flexibility mechanisms*. Semua mekanisme tersebut ditujukan untuk Pihak negara maju. Negara berkembang tidak dibebani kewajiban seperti itu. Tapi negara berkembang diberi kesempatan untuk berpartisipasi mencapai tujuan Protokol melalui REDD+, yang secara khusus dibuat untuk mengurangi emisi karbon dioksida di sektor kehutanan. Indonesia telah membuat beberapa peraturan untuk menerapkan Program REDD+. Sampai saat ini, Indonesia telah membuat mekanisme proyek karbon dan berhasil mendapatkan 40 proyek dalam kurun waktu 2008-2012.
Kata Kunci: perubahan iklim, mitigasi, REDD+.

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A. Introduction

Climate is defined as the result of energy movement between the earth, ocean, soil and air.[1] The term of Climate has been used for referring to a weather condition in long term applied in general. The parameter applied in determining the weather condition is the temperature of atmosphere surface and ocean, radiation, precipitation, soil humidity and an extraordinary frequency and intensity of meteorological phenomena such as storm, melting snow, dry season and so on.[2]

The important factor which influences the climate is a coming radiation on the earth surface, determined by short wave ultraviolet. The Greenhouse Effect (CO2, CH4, N2O, CFC, and O3),[3] absorb and trap ultraviolet radiation emitted to the earth, as a result, the heat of ultraviolet is trapped and cannot release from the earth, thus, the earth becomes hotter comparing to the normal condition.[4] This circumstance is exacerbated by the condition of ozone layer[5] which has perforated; the ingoing ultraviolet light has not been filtered flawlessly anymore by the ozone layer, so it leads to global warming. Meanwhile, such heat is trapped on earth by the greenhouse effect. This circumstance triggers to the world climate change and it is known as Global Climate Change. The Greenhouse effect derives from all the spectrums of human activities involving the use of energy, deforestation, and the change of land use, agricultural activities, and chemical industry.[6]

The climate change brings negative effects against the life on earth, such as the rising of sea levels from 0,5 up to 2 meters in the beginning of 2010.[7] Recently, there are some scientists who predict that the climate change leads to the changer of season pattern and rain. One of the impact from the greenhouse effect is the change of weather pattern, such as the tropical areas are getting hotter and the polar area is getting colder. The increasing of global temperature brings a consequence that the evaporation becomes more intensive and it makes the precipitation is automatically getting higher and unpredictable. Flood occurs a lot in Sudan and Bangladesh, in which referred as the example for the consequence of the change of rain pattern.[8] A study regarding the impact of climate change shows that there is high a risk of flora and fauna extinction.[9]

For overcoming the impact of climate change, the United Nations adopts the Convention on Climate Change 9 Mei 1992.[10] The main purpose of this Convention on Climate Change is for stabilizing

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1 Melinda L. Cain, "Carbon Dioxide and the Climate: Monitoring and A Search for Understanding", in David A. Kay and Harold K. Jacobson, (Eds.), 1983, *Environmental Protection: The International Dimensions*, Allanheld, Osmund & Co. Publishers, Inc., Totowa, New Jersey, p. 76.

2 Enquete Commission, 1992, *Climate Change – A Threat to Global Development: Acting Now to Safeguard the Future*, Economica Verlag, Verlag CF Muller, Bonn, p. 31. See also Daniel A. Lashof and Dennis A. Tirpak, (Eds.), 1990, *Policy Options for Stabilizing Global Climate*, Hemisphere Publishing Corporation, New York, p. 6. See also Olav Hohmeyer dan Klaus Rennings, (Eds.), 1999, *Man-Made Climate Change: Economic Aspects and Policy Options*, Physica-Verlag, Mennheim, Germany, p. 7.

3 *Ibid.* Naturally, the atmosphere consists of greenhouse gases such as N_2, O_2, Ar, H_2O, CO_2 CH_4, N_2O and O_3. From all these greenhouse gases, the largest number of component is N2 which is 78,1% and O_2 which is 20,9%. The residual is divided among other substances. See Frances Drake, 2000, *Global Warming: The Science of Climate Change*, Arnold, London, p. 31.

4 Philippe Sands, 1995, *Principles of International Environmental Law: Frameworks, Standards and Implementation*, Manchester University Press, Manchester, p. 271. See also J. Christoper Bernabo, "Relationships Between Global Climate Change and Other Quality Issues", in James C. White (Ed.), 1989, *Global Climate Change Linkages: Acid Rain, Air Quality, and Stratospheric Ozone*, Elsevier Science Publishing Company, Inc., New York, p. 6. See also Frances Drake, *Ibid.*, p. 1.

5 The ozone layer has a great influence on the climate change, therefore the reduction of the ozone layer will give an impact to the climate change process in the world. Due to a little number of ozone layer in the atmosphere, so that even though from a very small reduction of the ozone layer will significantly increase the destructive ultraviolet rays reaching the earth's surface. The increasing amount of ultraviolet radiation as that will be impacted to the global warming, which eventually alter the climate pattern in general. See Margaret E. Somerset, "An Attempt to Stop the Sky from Falling: The Montreal Protocol to Protect Against Atmosphere Ozone Reduction", 15 *Syracuse Journal of International Law & Commerce* 391, 1989, pp. 395-396.

6 L. D. Danny Harvey, 2000, *Global Warming: The Hard Science*, Pearson Education Limited, Harlow, Essex, p. 57.

7 Daniel B. Botkin, "Global Warming: What It Is, What is Controversial about it, and What We Might Do in Response to It", 9 *UCLA Journal of Environmental Law & Policy* 119, 1991, p. 134.

8 The World Commission on Environment and Development, 1987, *Our Common Future*, Oxford University Press, London, p. 33.

9 Robert T. Watson, *et al.*, (Eds.), 1996, *Impacts, Adaptations and Mitigation of Climate Change: Scientific-Technical Analyses*, Cambridge University Press, Cambridge, p. 97.

10 United Nations Conference on Environment and Development (UNCED), "Framework Convention on Climate Change", *Legal Material*, republished in 31 *International Legal Materials* 849, 1992. This convention held in order to be signature on 4 June 1992 and entry into force on 21 March 1994.

the concentration of the Greenhouse Effect in atmosphere up until in the level in which there is a possibility to prevent any conduct or interference of human that can be harmful to the climate system. The convention on Climate Change requires the formation of protocol for invoking regulatory measures such as how much the greenhouse gas should be reduced; when the reduction shall be applied, and so on.

In the 3rd meeting on 11 December 1997, COP has invoked the Kyoto Protocol.[11] According to common but differentiated responsibilities principle, Kyoto Protocol does not impose any obligation to developing countries. The develop countries and the countries whose the economic sector is still in the transition process,[12] is obliged to limit or reduce the Greenhouse gas emission in an assigned amounts. Kyoto Protocol requires the developed countries conducting the reduction of greenhouse gas emission by way of: carbon sinks, bubbling scheme, and flexibility mechanism. Moreover, by way of flexibility mechanism, the cooperation between the developed countries can invite the developing countries to be involved, namely Clean Development Mechanism (CDM). In this context, one of the mechanism that has been imposed for the reduction of the greenhouse gas emission is Reducing Emission from Deforestation and Forest Degradation (REDD), which has been upheld in Bali Action Plan 2007 and then has been changed into REDD+ with Copenhagen Accord 2009.

Indonesia has been ratified the Convention on Climate Change with Act number 6 of 1994[13] and Kyoto Protocol with the Act number 17 of 2004.[14] Hence, the Convention on Climate Change and Kyoto Protocol have become the laws of the land in Indonesia. For implementing the Convention on Climate Change and Kyoto Protocol, Indonesia has produced some regulations for the purpose of enforcement from Act number 32 of 2009 and Act number 41 of 1999.[15]

Regarding the role of Indonesia to empower the international efforts for combating the greenhouse through the REDD+ program under the CDM, the questions would be on how to mitigate the climate change effect in forestry sector by REDD Program based on Convention on Climate Change and Kyoto Protocol and what are the legal measures conducted by Indonesia for mitigating the climate change effect in forestry sector by REDD+ Program. This paper is intended to answer the aforementioned questions.

B. Discussion

1. The Mitigation of Climate Change Effect in Forestry Sector based on International Law

There are two documents of International Environmental law which specifically designed by United Nations for mitigating the climate change effect. Both documents are The Convention on Climate Change and Kyoto Protocol. For implementing the Kyoto Protocol, COP formed REDD+.

a. The Convention on Climate Change

The main purpose of this convention is to stabilize the concentration of greenhouse gas in atmosphere in the level in which can prevent the conduct or interference

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[11] Conference of the Parties to the Framework Convention on Climate Change, "Kyoto Protocol", *Legal Material*, republished in 37 *International Legal Materials* 22, Kyoto, 1997.

[12] Annex I of the Convention on Climate Change lists 10 countries which are classified as countries with economy in transition. But, Annex B of Kyoto Protocol states differently, there are 13 countries.

[13] Law No. 6 of 1994 on Ratification of the United Nations Framework Convention On Climate Change (Kyoto Protocol To The United Nations Framework Convention on Climate Change) (State Gazette of 1994 No. 42, Supplement to State Gazette No. 3557).

[14] Law No. 17 of 2004 on Ratification of Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto Protocol of Framework Convention on Climate Change) (State Gazette of 2004 No. 72, Supplement to State Gazette of the Republic of Indonesia No. 4403).

[15] Law No. 19 of 2004 on Stipulation of Government Regulation in Lieu of Law No. 1 of 2004 on Amendments to Law No. 41 of 1999 on Forestry becoming Law (State Gazette of the Republic of Indonesia of 2004 No. 86, Supplement to State Gazette of the Republic of Indonesia No. 4412).

of humans which can be harmful for the climate system.[16] Due to the different point of view between the developed countries and developing countries with regards to who is liable towards the climate change and it is exacerbated by the scientific uncertainty regarding the climate change. The contracting parties do not decide the regulatory measures which should be conducted by the member states.

Nonetheless, the Convention on Climate Change is obviously phenomenal since it successfully imposed at least two principles for leading the parties to achieve the aims of the Convention and in implementing its articles. Some of them are common but differentiated responsibilities principle and precautionary principle. The principle of common but differentiated responsibilities[17] was determined in order to be included into the Convention for the purpose of responding the whole-heartedness of the developing countries during the process of negotiation. The developing countries assume that the damage on climate system is caused by the previous acts of developed countries, therefore, it is the responsibility of the developed countries to restore the condition. The developing countries agree to participate if there are no substantial commitments that should be performed.[18] This is the basis of Article 3 (1) the Convention on Climate Change which states that:

> The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.

The precautionary principle is laid down in the Convention on Climate Change due to the global warming problem and the climate change is still controversial scientifically; scientific uncertainty regarding greenhouse gas and the impact towards the climate system is still high. This principle requires the member states do not consider scientific uncertainties as a reason to breach the laws.[19]

2. Kyoto Protocol

Convention on Climate Change determined that COP is allowed to impose protocol to implement the provisions of Convention on Climate Change[20] and make an amendment towards the parties' obligation.[21] In the first meeting in Berlin 1995, COP has not succeeded to determine the regulatory measures yet. Yet, this meeting succeeded to achieve consensus that the developed country agree to negotiate the protocol which impose the numbers to mitigate the emission and its schedule. This result called Berlin Mandate that requires the member states negotiate technically on what they called Quantifiable Limitation and Reduction Objectives in the COP III Meeting in Kyoto, Japan in 1997. At last on 11 December 1997, the COP III Meeting succeeded to enact the Kyoto Protocol.[22]

Based on principle of Common but

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16 UNCED, *Op.cit*, Article 2.

17 Practically, common but differentiated responsibilities principle has a meaning that every member accept that the climate change is a common responsibility. It put a consequence to all members participating to avoid the problem in accordance with the principle of common responsibility. But, participation of the member shall be differentiated based on the differences of financial ability and technology (differentiated responsibilities). See Philippe Sands, *Op.cit.*, p. 217. See also Christine Batruch, "Hot Air"

18 Paul G. Harris, "Common but Differentiated Responsibility: The Kyoto Protocol and United States Policy", 7 *N. Y. U. Environmental Law Journal* 27, 1999, p. 31.

19 Philippe Sands, *Op.cit.*, pp. 208-209.

20 UNCED, *Op.cit.*, Article 17.

21 *Ibid.*, Article 2 (4) (d).

22 Conference of the Parties to the Framework Convention on Climate Change, "Kyoto Protocol", *Legal Material*, republished in 37 *International Legal Materials* 22, Kyoto, 1997.

Differentiated Responsibilities, Kyoto Protocol does not burden any obligation towards the developing countries. Whereas the developed countries and countries that the economic sector is still in transition[23] are obliged for limiting or reducing the greenhouse gas emission up until an assigned amounts. Article 3 of Kyoto Protocol requires that all the developed countries which stipulates in Annex B of Kyoto Protocol[24] conduct the reduction differently towards a basket of six gases between 2008 and 2012. The reduction of emission is based on the certain year or it is called as base year that is in 1990 or 1995. 1990 is a base year for carbon dioxide, methane, and nitrogen dioxide.[25] 1995 is a base year for hydrofluorocarbons, perfluorocarbons and hexafluoride.[26]

The different types of reduction are intended that the target of reduction in developed countries is not equal. For example, in European countries are required to reduce the emission 8%, The United States of America 7%, Japan 7% and Canada 6%. While some other developed countries is allowed to increase a quantity of an emission from the base year. Iceland is permitted to increase 10%, Australia 8% and Norway 1%.[27] Kyoto Protocol determined the reduction system of greenhouse gas emission with 3 (three) ways: carbon sinks, bubbling scheme, and flexibility mechanism: **Firstly**, carbon sinks. Kyoto Protocol provides permission to all countries in Annex B for entering the activities of afforestation and reforestation as carbon sinks. The term of carbon sinks means the area or region which naturally absorbs the greenhouse gas, such as the forest area in which absorbs the carbon dioxide from atmosphere, as set forth in article 3 as follow, "The net changes in greenhouse gas emissions from sources and removals by sinks resulting from direct human-induced land use change and forestry activities, limited to afforestation, reforestation, and deforestation since 1990, measured as verifiable changes in carbon [....]". Based on the interpretation of article 3 (3), afforestation of reforestation can be considered as one of step to reduce the amount of greenhouse gas emission since the forest can naturally absorb the carbon dioxide. However, the absorption of carbon sink might meet some obstacles if it is applied retroactive since it used sinks, the member states reduces only a half of the actual emission.[28]

Secondly, bubbling scheme. Article 4 of Kyoto Protocol governs regarding the bubbling scheme which allows group of countries altogether fulfilling group obligation as what has been stipulated under the article 3 of Kyoto Protocol. By way of bubbling scheme, the European countries are able to share the obligation to reduce the EU emission 8%. Thus, certain countries conduct high enough reduction while the other countries are allowed to increase their emission. The obedience towards the regulatory measures which have been imposed by the Protocol is measured by way of the standard of collective responsibility.[29] **Thirdly**, flexibility mechanism. May be the most unique and controversial from Kyoto Protocol is the involvement of market-based mechanisms for achieving the obedience towards the emission reduction[30] by way of trading or exchanging emission reduction target between the member states with the cheaper expense.[31] There are 3 (three) ways for conducting the market-based mechanism:

Firstly, emission trading. The emission reduction measures are solely domestic actions which

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[23] Annex I of Convention on Climate Change listed 10 countries which are classified as countries with economy in transition. But, Annex B of Kyoto Protocol states differently, there are 13 countries.
[24] Countries listed in Annex B is countries which are listed by the Annex I of Convention on Climate Change, except Turkey and Belarus.
[25] Conference of the Parties, *Op.cit.*, Article 3 (7).
[26] *Ibid.* Article 3 (8).
[27] *Ibid.* See Annex B.
[28] Anastasia Telesetsky, "The Kyoto Protocol", 26 *Ecology Law Quarterly* 797, 1999, p. 803.
[29] *Ibid.*, pp. 803-804.
[30] *Ibid.*
[31] Fanny Missfeld, "The Flexibility Mechanism: Which Path to Take After Kyoto?", 7 *RECIEL*, 1998, p. 128.

influence towards the investments, technology, infrastructure and behaviour patterns in reducing the emission in which at the end requires high expenses. As a result, certain countries experience difficulties in performing their obligations. The purpose of imposing the emission trading provision into Kyoto Protocol is to minimize the expenses in reducing the emission and for distributing efficiently the measures of emission reduction between states in Annex I.[32] The emission trading can be defined as a condition in which a state faces the problem of high expenses and difficulties in achieving its starting assigned amount. Therefore, the states aforementioned are able to commercialize it with other states who are willing and capable to conduct reduction measures and exactly with the cheaper expense if it is conducted by themselves.[33] In order the emission trading to be effective in reducing the real emission, it has to be conducted in a principle that such trading does not lead to a condition in which the collective emission is higher than without emission trading. It can be said that, the trade cannot be tools for degrading the level of emission reduction in general if it is compared to the condition in which there are no such trading.[34]

Secondly, joint implementation (JI). The original concept of JI is coming from McKinsey & Co on the Ministerial Conference on Atmospheric Pollution on Climate Change held in Noordwijk, The Netherlands in November 1989.[35] Based on such concept, JI has to be enforced with two approaches: effectiveness and efficiency. In the first phase, JI primarily is a domestic action for reducing the emission. The keyword here is effectiveness. Thus, the domestic action of member states is evaluated for determining the expenses of the next reduction. In the second phase, the emphasis is on the measures to implement JI and the keyword is efficiency.[36] The Netherlands has showed the biggest support towards JI and has revealed the possibilities to perform JI project with Poland and Belgium.[37] The Netherlands has even observed the possibilities for implementing JI with Kenya (non member states of Annex I).[38]

Thirdly, clean development mechanism (CDM). CDM is included in Protocol as the request of United States of America[39] and this constitutes Kyoto's biggest surprise.[40] CDM is designed for 3 (three) interests: (1) CDM helps the developing countries for achieving a sustainable development; (2) CDM donates for accomplishing the main purpose of the Convention; and (3) CDM helps the developed countries for attaining the implementation of obligation to limit and reduce the emission quantitatively. CDM program has possibility for the government and the private party to implement the emission reduction activity in developing countries for obtaining Certified Emission Reduction Units (CERUs) as a return.[41] CERUs can be used for helping the obedience towards some obligations of developed countries in limiting and reducing their emission as set forth by COP.[42] Even the CDM is still controversial, some countries has started to adopt CDM. For instance, Canada by way of Trans Alta has concluded agreement of multi million dollars with Global Livestock Group for producing

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32 Michael Grubb, "International Emissions Trading Under the Kyoto Protocol", 7 *RECIEL*, 1998, p. 140.
33 *Ibid*., p. 141.
34 *Ibid.*
35 Onno Kuik, Paul Peters and Nico Schrijver (Eds.), 1999, *Joint Implementation to Curb Climate Change: Legal and Economic Aspects*, Kluer Academic Publishers, Dordrecht, the Netherlands, p. 5.
36 *Ibid.*
37 *Ibid*., pp. 28-30. Polandia is registered in Annex I as a country with economy in transition. Belgia is also registered as one of country member based on Annex I.
38 *Ibid*., pp. 30-31.
39 Fanny Missfeld, *Op. cit*., p. 134.
40 Provision of CDM in Article 12 is called as Kyoto's surprise due to this concept by the Brazil's delegation in the latest days of Kyoto Meeting. Even though this concept was successfully got a big support from the member of developing countries, including developing countries which is informally classified in contacts group, delegations didn't see the text of Article 12 to the plenary session. See also Farhana Yamin, "The Kyoto Protocol: Origins, Assessment and Future Challenges", 7 *RECIEL*, 1998, p. 122.
41 *Ibid*., Article 12 (3).
42 *Ibid*

additional foods for cows in Uganda in which the additional food supply for the cows will reduce methane gas that was emitted by the cows. If this project is succeed, the reduction of methane gas in cattle breeding in Uganda will be as huge as the reduction 30 million ton of carbon gas.[43]

3. Reduction of Emission from Deforestation and Forest Degradation (REDD+)

As what has been known that Kyoto Protocol does not oblige the developing countries like Indonesia to reduce the greenhouse emission gas. Based on Kyoto Protocol, the developing countries are only obliged to report it. Yet, the developing countries are able to participate in reducing the greenhouse emission gas through CDM. CDM makes possible for the developed countries to obtain the carbon credit for the projects in developing countries. Regarding on will deforestation be included onto CDM is a controversial topic since there are so many problems related to project basis approach: uncertainty in baseline, the movement out of the project location, the ability to achieve biodiversity if there is a leakage, and there is a concern that the measures will be underestimated for reducing the fossil fuel emission if a credit is in a huge amount with a cheap price. Thus, a credit due to "deforestation avoidance" is not included in Kyoto Protocol.

In COP 11 UNFCCC in December 2005, Papua New Guinea, Costa Rica and some states which has tropical forests (States Coalition for rainforest or CFRN) submitted a proposal concerning the emission reduction from deforestation (RED) in developing countries with national emission approach. This proposal had a great respond from the states, in particular there is a new focus that resolves some problems within the discussion of "deforestation avoidance" in which previously more focus on project level or sub-national approach. COP refers to that issue to Subsidiary Body for Scientific and Technical Advice (SBSTA), that received many proposals and held two seminars (FCCC/SBSTA/2006/10 and FCCC/SBSTA/2007/3). The chairman of SBSTA has submitted a draft of conclusion and prepare a draft of decision regarding RED to be discussed in COP 13 in Bali (FCCC/SBSTA/2007/L.10).

CDM program provides the possibility for the government and private party in the developed countries for conducting the reduction emission in developing countries in order to obtain Certified Emission Reduction Units (CERUs) as a return.[44] In this context, there is a program called Reducing Emissions from Deforestation and Forest Degradation (REDD). The mechanism of REDD was imposed in Bali Action Plan that was decided on COP XII in Bali in 2007. In Bali Action Plan, COP decided that the member states perform the REDD discretionary by way of the enhancement of national or international actions to mitigate the climate change including, *inter alia*, these considerations as follows:

1. Commitments or actions of national mitigations properly that can be measured, reported, and verified, including the purpose of emission reduction and limitation that can be counted, by the developed countries, while ensuring the comparative measures among them, with considering the different national conditions in every state.
2. The proper mitigation actions by the developing countries in the context of sustainable development, which is fuelled and empowered by technology, the funding and the improvement of capacity in the form that can be measured, reported, and verified.
3. The policy approaches and positive incentive towards problems with regards to the reduction emission from deforestation and forest degradation in developing countries; the role of conservation, the sustainable forestry development and the improvement carbon stock in developing countries.

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[43] Editor of The Sunday Time, "Global Warming: Cutting Cow Flatulence is not Gas", *The Sunday Times*, March 26, 2000, p. 4.
[44] Article 12 (3) Provision of CDM.

REDD is one of the mechanism that is designed for compensating the poor countries which can provide the protection to their forest and reducing the greenhouse emission gas, specifically CO2. The developed countries are able to purchase the carbon credit, or conducting "offsets", (providing compensation) for the developing countries who can manage their forest very well, so that the clean emission in the global scale can be reduced. As an alternative, REDD+ can be separated from carbon credit market, thus the developed countries have to be able to fulfil the REDD+ commitment and reduce their own emission.

4. The Mitigation of Climate Change Effect in Forestry Sector by way of REDD Program based on Indonesian Law

The Act number 41 of 1999 regarding Forestry as amended to Act number 19 of 2004 has a crucial role in the protection of climate change since this Act governs forestry management and forestry land use for restraining the rate of deforestation level and forest degradation. It aims to conserve the forest which can absorb the carbon emission in order to protect the climate system. This text will discuss regarding the regulation to enforce the REDD+ program under the Act Number 41 of 1999.

a. The Procedure of Afforestation and Reforestation in the Framework of MPB

Forestry Minister Regulation number P.14/Menhut-II/2004 regarding the Procedure of Afforestation and Reforestation in the framework of Clean Development Mechanism (*Kerangka Mekanisme Pembangunan Bersih* (*MPB*)) that is designed for answering the demand of Convention on Climate Change and Kyoto Protocol that it is for reducing the greenhouse emission gas effect through Clean Development Mechanism (CDM). The afforestation and reforestation contribute towards the absorption of carbon dioxide as one of the source of dominant greenhouse gas in Indonesia.

Based on this Forestry Minister Regulation, afforestation can be defined as a step for restoring the forest becomes a real forest in which has been abandoned within 50 years. Whereas reforestation can be defined as a step to restore the forest as well which has been abandoned since 31 December 1989. The size of land that can be used for afforestation and reforestation in the process of CDM is 0,25 ha and such land is planted by trees in the percentage of minimum closure plans in 30% which at the end of the growth has reached the minimum height 5 meters.[45]

Afforestation project or reforestation in the framework of MPB can be conducted by developers, who are the combination between the investor coming from the developed countries stipulated in Annex I of Convention on Climate Change with the state-owned entity (*Badan Usaha Milik Negara* (*BUMN*)) or region-owned entity (*Badan Usaha Milik Daerah* (*BUMD*)) or private-owned entity (*badan usaha milik swasta*), or Cooperation, or individual.[46] As an entity which responsible for the implementation of afforestation and reforestation project, the Indonesian government established a National Commission of MPB and the Executive Board of MPB in which is under the Conference of Parties or COP or the Meeting of Parties or MOP) that oblige to control the implementation of MPB projects.[47]

Later, the Executive Board of MPB appoints the operational entity, an independent body which conducts the assessment of Project Draft Document (*Dokumen Rancangan Proyek* (*DRP*)), a verification and certification of greenhouse emission gas reduction in compliance with the standard which has been

[45] See consideration of Regulation of the Minister of Forestry No. P.14/Menhut-II/2004 on Procedure of Afforestation and Reforestation in the Framework of the Clean Development Mechanism.
[46] *Ibid.*
[47] *Ibid.*

implied in the COP or MOP.[48] Afforestation or reforestation within the framework of MPB can be performed in forest, adat forest, or state land or land ownership rights.[49] If afforestation or reforestation is performed in forestry area so that the developers must have: (1) business permit of utilization of logs forest on forest plants; and (2) business permit of utilization on carbon trading environmental service. In order to obtain the business permit for the utilization of logs on forest plants or the business permit on carbon trading environmental service, the developers can submit the application to Forestry Minister. In the process of rendering the permission, the Minister establishes a teamwork which provides advices and considerations. Moreover, the Minister gives information to National Commission of MPB saying that the proposed projects contribute to the sustainable development in Forestry sector. In addition, the developers provide the Project Draft Document (Dokumen Rancangan Proyek (DRP)) to the National Commission of MPB. If the Executive Board of MPB confirmed the proposed projects, the Developers can perform its projects. The developers conduct the monitoring activity and report it to the Operational Entity who conduct the verification. If it passed in verification, the operational entity proposes to the Executive Board of MPB for enacting the Certificate of Emission Reduction or CER) for developers.

b. The Implementation of Demonstration Activities of Carbon Emission Reduction from Deforestation and Forest Degradation

For following up the decision of the member states of Convention on Climate Change on Bali, Indonesia has imposed policy to reduce the carbon emission from deforestation and forest degradation. In the beginning, the government enacted the Forestry Minister Regulation number P.68/Menhut-II/2008 regarding the Implementation of Demonstration Activities of Carbon Emission Reduction from Deforestation and Forest Degradation.[50] Demonstration activities is a measure to reduce carbon emission from deforestation and forest degradation through the assessment and development of methodology, technology and forest management institution sustainably which eager to reduce the carbon emission. The purposes of Demonstration activities are: (1) to assess and developing the methodology, technology and forest management institution sustainably which eager to reduce the carbon emission through the control of deforestation and forest degradation; and (2) to obtain forest management design with regards to the reduction of carbon emission form deforestation and forest degradation.[51] Demonstrated Activities can be conducted by the initiator either in state forestry area or ownership rights forest area. The initiators can work with partners. For being able to conduct this demonstrated activities, the initiators have to submit the application to the Forestry Minister. Demonstrated Activities can be conducted by the initiator either in state forestry area or ownership rights forest area. The initiators can work with partners. For being able to conduct this demonstrated activities, the initiators have to submit the application to the Forestry Minister.

c. The Procedure of Obtaining the Business Permit of Absorption Utilization and/or Carbon Storage to the Forest Products and Conservation Forest

The Forestry Minister Regulation number P.36/Menhut-II/2009 regarding

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48 *Ibid.*

49 *Ibid.*, Article 2.

50 Article 1 point 1 Regulation of the Minister of Forestry Number P.68/Menhut-II/2008 on the Implementation of Demonstration Activities of Reducing Carbon Emission from Deforestation and Forest Degradation (Official Gazette of the Republic of Indonesia No. 94 of 2008).

51 *Ibid.*, Article 2.

The Procedure of Obtaining the Business Permit of Absorption Utilization and/or Carbon Storage to the Forest Products and Conservation Forest[52] is one of the laws designed for fulfilling the demand of Convention on Climate Change and Kyoto Protocol with its REDD+ program, particularly related to Verified Emission Reduction (VER). One of the business utilization of environmental service in the production forest and conservation forest are utilization measure of carbon absorption and/or carbon storage (UP RAP-KARBON and/or UP PAN-KARBON)[53] either conducted in production forest area or conservation forest.

The utilization of absorption and storage of carbon in forestry areas can be rendered to the holders of IUPHHK-HA,[54] IUPHHK-RE,[55] IUPHHK-HTI,[56] or IUPHHK-HTR,[57] the business permit on conservation forest utilization, business permit on societal forest utilization, and management of village forest.[58] The application of IUP RAP-KARBON and/or IUP PAN-KARBON are submitted to the Forestry Minister[59] through the General Director of Production Development. Within 10 days, the General Director has to examine whether the applicant's requirements are complete.[60]

d. National Commission of Clean Development

The National Commission of Clean Development Mechanism (National Commission of MPB) was established by the Decree of Environment Minister number 206 of 2005. The structure of National Commission of MPB derived from Official of Echelon I of related Minister such as: (1) Environment Minister, (2) Natural and Energy Resources Minister, (3) Forestry Minister, (4) Industry Minister, (5) Minister of Foreign Affair, (6) Minister of Domestic Affair, (7) Minister of Transportation, (8) Minister of Agriculture, and (9) BAPPENAS which has a chairman Deputy III Minister of Environment.

This commission has a function giving an approval to the projects of emission reduction in which will be funded by the developed countries. In general, the duty of MPB National Commission based on the Minister of Environment Decree number 206 of 2005. National Commission of MPB is part from Kyoto Protocol in which the developed countries fund the project of emission reduction in developing countries. The developed countries who cannot reduce the carbon emission in their own countries shall give compensation to the developing countries which helps the reduction of carbon emission. Based on Kyoto Protocol, the developed countries can give the carbon emission reduction from the developing countries through the MPB Scheme and Carbon Trading.

e. National Action Plan

In enforcing the REDD Program,

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52 Regulation of the Minister of Forestry Number P.36/Menhut-II/2009 on The Procedure of Obtaining the Business Permit of Absorption Utilization and/or Carbon Storage to the Forest Products and Conservation Forest Official Gazette of the Republic of Indonesia Number 128 of 2009).

53 Regulation of the Minister of Forestry No. P.36/Menhut-II/2009., *Loc.cit*., Article 2.

54 IUPHHK-HA stands for License For Utilization of Timber in Natural Forest (Izin Usaha Pemanfaatan Hasil Hutan Kayu dalam Hutan Alam).

55 IUPHHK-RE stands for Licence for Utilization of Timber on Restoration Ecosystem within Natural Forest (IUPHHK Restorasi Ekosistem dalam Hutan Alam).

56 IUPHHK-HTI stands for License for Utilization of Timber from Industrial Plantation Forest (Izin Usaha Pemanfaatan Hasil Hutan Kayu dalam Hutan Tanaman Industri).

57 IUPHHK-HTR stands for License for Utilization of Timber from Community Plantation Forest (Izin Usaha Pemanfaatan Hasil Hutan Kayu dalam Hutan Tanaman Rakyat).

58 *Ibid*., Article 5 paragraph (1).

59 *Ibid*., Article 5 paragraph (2).

60 *Ibid*., Article 6.

the government enacted the Presidential Regulation number 61 of 2011 regarding the National Action Plan of the Greenhouse Gas Emission Reduction. National Action Plan in facing the climate change, aims to be a guidance for institutions in implementing coordinated and integrated measures for mitigation and adaptation towards the climate change. The management of climate change cannot be conducted by only a few sectors. Therefore, the coordination between the institutions is obviously needed to ensure the accomplishment of Indonesia in performing the mitigation measures and adaptation towards the climate change. The climate change and its effect is complicated problems and dynamic. Thus, the document of National Action Plan needs to be evaluated and completed periodically by stake holders.

National strategy with National Action Plan for mitigation and adaptation of climate change is a guidance for that big project. National Action Plan is a dynamic instrument which periodically be examined the utilization and its performance also updated for repairing its effectiveness. This guidance has to be evident for leading the parties and any institutions that has to be involved fully in its implementation, as well as on how to enforce the implementation in the management of production sectors and consumption with the ecology social change. The action plan, its implementation, and its supervision, and its performance control must be able to overcome the coordination among the stake holders together with the obstacles of institution and its social nowadays.

5. The Implementation of Forest Carbon Activity

Forest carbon is a carbon from forest management which implements activities of carbon stocks, carbon absorption and reduction of forest carbon emission.[61] The implementation of forest carbon activity is an activity that is conducted for reducing the forest carbon emission, the increasing of carbon stock, and sequestration. There are two activities which can be performed for implementing forest carbon. Such activities are: (a) demonstration activities, and (b) implementation of forest carbon.[62] The implementation of forest carbon can be conducted in state forest and ownership rights forest. State forest is a forest with functions of: production forest; conservation forest; and preservation forest.[63] The party who can be an organizer of forest carbon is: government, the institution of state-owned, regional-owned, private-owned, cooperation and society.[64] State forest is a forest with functions of: production forest; conservation forest; and preservation forest.[65] The party who can be an organizer of forest carbon is: government, the institution of state-owned, regional-owned, private-owned, cooperation and society.[66]

The Indonesian government actively prepares measures for preparing the program or REDD+ project for the first commitment from 2009 to 2010.[67] Since 2008, the Indonesian government has developed amount of project DA REDD+ in 24 places in Sumatera, Kalimantan, Sulawesi, and Papua. These projects were held by the organizations of national and international conservation; the carbon enterprises and donor states.[68]

(a) The government of Nangroe Aceh Darussalam concluded an agreement with Flora Fauna International (FFI) regarding the sale and trading the

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[61] Article 1 point 1 Regulation of the Minister of Forestry Number P.68/Menhut-II/2008 on the Implementation of Demonstration Activities of Reducing Carbon Emission from Deforestation and Forest Degradation (Official Gazette of the Republic of Indonesia of 2008 No. 94).
[62] *Ibid.*, Article 3 paragraph (1).
[63] *Ibid.*, Article 3 paragraph (3).
[64] *Ibid.*, Article 3 paragraph (4).
[65] *Ibid.*, Article 3 paragraph (3).
[66] *Ibid.*, Article 3 paragraph (4).
[67] Dewan Kehutanan Nasional (DKN), "Sendirian Menghadapi Iklim yang Berubah", *Paper*, Position Paper of the Chamber of Masyarakat Dewan Kehutanan Nasional (DKN) towards Mitigation Policy and Climate Change Adaptation, Huma, Jakarta, p. 19.
[68] *Ibid.*

restoration project of Ulumasen ecosystem 750,000 ha in 2008. Within the agreement, Merrly Lynch as the buyer of carbon between 2008-2011 with the price of 4 USD per credit Ulumasen.[69]

(b) The government of Kapuas Hulu region signed Memorandum of Understanding (MoU) with Macquarie Capital Group Limited and FFI concerning DA REDD+ project in peatland 170.000 ha around Danau Sentarum in 2008.

(c) In 2008, the government of Mimika and Memberamo-Papua made DA REDD+ program with New Forest Asset Mgt, PT. Emerald Planet with 265, 000 ha in 2008. Meanwhile, World Wild Fund for Nature (WWF) offered the similar project in Jayapura and Merauke-Mappi-Asmat to the local government with 217,634 ha.

(d) UN REDD+, Directory General of Forestry Urban Design, The Minister of Forestry, and the government of Central Sulawesi Province signed the agreement on DA REDD+ project in 2008.

(e) In the beginning of 2009, some governors, such as Papua governor and Aceh governor who were involved in Governors' Climate and Forest (GCF) that was initiated by California governor, Arnold Schwarzenegger for making tropical forests as a main target in implementing global mitigation by way of sale-purchase certificate mechanism in carbon trading.

For funding the carbon reduction project per 2010, the Indonesian government receives grants from Australia (*Australia forest carbon partnership*) amounts 70 million Australian dollars, Germany in project pilot REDD+ as much as 32,4 million euros, the United Nations for UN-REDD+ program 5,6 million US dollars, the Japan (ITTO) as much as 60,15 US dollars. The Indonesian Government received some grants from Korea (KIPCCF) 5 million US dollars, then JICA (Japan) 720 thousand US dollars, World Bank 3,6 million US dollars, Australia by way of Social Institution for program ACIAR 1,4 million US dollars and ICRAF 1,123 million euros and Norway 1 billion US dollars. REDD+ program in Indonesia amounts 40 projects within 2008-2012. This amount has been fulfilled the target proclaimed by Indonesia, there are 10 projects per year. Most of the projects are conducted in Kalimantan and Sumatera, there are 25 projects. Another 15 projects are 10 projects in Papua, 3 projects in Sulawesi and 2 projects in Java.

6. The Institution of Emission Reduction Management

The Presidential Regulation of Republic of Indonesia number 62 of 2013 regarding the Institution of Greenhouse Emission Gas Reduction from Deforestation, Degradation of Forest and Peatland (31 Agustus 2013). The implementation of Greenhouse Emission Gas Reduction from deforestation, degradation of forest and peatland aimed for: (a) reducing the emission from deforestation; (b) reducing the emission from peatland degradation; (c) conserving and enhancing the carbon reservation; and (d) providing the advantage towards the improvement of environmental service, biodiversity, and social welfare in adat law society.

The Management Institution of REDD+ has a duty to help President conducting the coordination, synchronization, planning, facilitations, management, monitoring, supervising, and controlling the REDD+ in Indonesia. In performing the duties as mentioned in article 4, the Management Institution of REDD+ in general has a duty to implement the arrangement function and national strategy development of REDD+ for conducting REDD+ in Indonesia and preparation and development of REDD+ safety outline in social, environment, and funding.

C. Conclusion

Under the CDM from Convention on Climate Change and Kyoto Protocol, the implementation

[69] *Ibid.*, pp. 19-20.

to mitigate the effect of climate change in forestry sector has been regulated completely by way of enforcing the principle of Common But Differentiated Responsibility. Based on this principle, the developed countries is the main actor to reduce the effect of climate change, including the measures to reduce the carbon dioxide gas in forestry sector. One of the program that was created for reducing the carbon dioxide gas is REDD+. By this program, the developed countries can provide funds to the developing countries such as Indonesia for planting the forest and preventing deforestation for reducing the carbon dioxide gas. As a consequence, the developed countries obtain the credit called ERU.

Indonesia has harmonized national laws with the international laws in mitigation process for the effect of climate change in forestry sector by way of REDD+ program. But, the applicable acts are in the level of infant. From all of the secondary laws, seems there is still no efforts to accommodate the implementation of REDD+ program in genuine definition, that is the state fund utilization from the foreign country or foreign legal institution for providing the forest protection and reduction of forest degradation. Most of the regulations only govern regarding the preparation measures and demonstration measures which all those measures are funded by APBD and APBN, thus, it is not the funds from the developed countries and legal entities of developed countries. Even once there is a measure to reduce the carbon dioxide gas by way of planting the forests and creation of carbon sink, the operational costs are still using personal expense. So that the principle of common but differentiated responsibilities is not applied yet.

Speaking of the nature of REDD+ regime in international environmental law regarding the prevention of climate change is supplemental and voluntary, the result is still far from the expectation. For overcoming this condition, COP has to make the REDD+ program as an obligation for the developed countries by way of creating the mechanism that is much clearer and enforceable. The secondary regulations are still using the state fund and regional fund, the Indonesian government struggles hard in COP for collecting funds from the developed countries and legal entities of developed countries for performing the REDD+ program. Moreover, the Indonesian government has to change the secondary regulations that minimalize the utilization of APBN and APBD for implementing the REDD+ program and enforcing the principle of common but differentiated responsibilities as set forth in Convention on Climate Change.

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