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Abstract. Peatlands store very high carbon stocks. Damage to peatland ecosystem will have an impact on increasing greenhouse gas (GHG) emissions and increasing the risk of climate change. Peatlands governance is important to prioritize the principle of conservation over cultivation. The aim of this study is to analyze and elaborate the conflict of interests between the Roundtable on Sustainable Palm Oil (RSPO) and Indonesia Sustainable Palm Oil (ISPO). The methods are normative-legal research to diagnose the difference in the application of law between RSPO and ISPO. The findings show that RSPO as one of the world sustainable palm oil management standards has banned palm oil planting on peatlands based on its 2018 Principles and Criteria for the Production of Sustainable Palm Oil (P&C). Unfortunately, the palm management instrument in Indonesia which is ISPO still provides space for palm oil cultivation on peatlands. Relation of this study with climate change issues is that ISPO ideas are counterproductive to Indonesia's commitment in reducing GHG emissions by 29% in 2030. Indonesia needs to evaluate peatland governance policies to prioritize conservation rather than cultivation.

1. Introduction

Palm oil is one of the most prestigious commodities in Indonesia. According to the Directorate General of Plantations, Ministry of Agriculture of the Republic of Indonesia, the total area of palm oil plantations in Indonesia until 2019 has reached 14,677,560 hectares (ha) spread across 27 provinces with a total production of 51,443,315 tons, including the production of Crude Palm Oil (CPO) and Palm Kernel Oil (PKO) [1]. Indonesia has become the world's largest producer of palm oil since 2006. Massive cultivation of palm oil has expanded various ecosystems for the planting medium, including the peatland ecosystem.

The expansion of palm oil cultivation on peatlands has been causing damage to peatland ecosystem and up at the worst point of causing peatland fires. According to the Yayasan Madani Berkelanjutan report, in 2019, fires in Indonesia burned 1.6 million ha of forest and land, 44% of which occurred in areas categorized as peatland ecosystem. Yayasan Madani Berkelanjutan analysis reveals that the area of fires on peatland ecosystem in 2019 is very significant (44% or 727,972 ha) with fires in palm oil plantation areas as the largest (217.49 thousand ha). The majority (59.66%) of fires in palm oil

plantation concessions occurred in the peatland ecosystem [2]. As a consequence, fires in Indonesia's peatlands are the largest contributor to carbon emissions into the atmosphere. Peatland fires in 2015 accounted the Green House Gas (GHG) emissions by 802, 870 Gg CO2e and is the highest rate of GHG emissions from peatland fires that have ever occurred. In 2015 and 2016, forestry and peatland fires respectively contributed 66% and 43% of Indonesia's total emissions [3].

Regarding palm oil plantations on peatlands in Indonesia, there are 2 (two) standards for sustainable palm oil – namely the Roundtable on Sustainable Palm Oil (RSPO) and the Indonesian Sustainable Palm Oil (ISPO). Therefore, this paper will analyse the conflict of norms between the RSPO and ISPO and how the impact of legalizing palm oil cultivation on peatlands by ISPO results in peatlands destruction which leads to the increase of Indonesia's GHG emissions.

2. Research methods

This research is a normative legal research which uses some approaches such as statute and case study approaches. The data used are primary legal materials obtained from relevant regulations and secondary legal materials obtained from various related literatures. They are then analysed descriptively to reveal both legal issues as mentioned on this paper.

3. Results and discussion

3.1. Conflict of law between RSPO and ISPO on palm oil plantations on peatlands

The cultivation of palm oil is one of the main factors causing deforestation in Malaysia and Indonesia. However, palm oil cultivation has been shown to guarantee that it gives four to ten times better yields than other oil crops and provides 40% of the world's vegetable fat supply. It is the reason why ensuring sustainable palm oil cultivation practices is needed and one of which is by implementing a certification system [4]. At a global level, there are standards for sustainable palm oil cultivation, which is manifested in a certification system by RSPO.

RSPO is a non-profit association that brings together stakeholders in the palm oil industry that was formed in 2004 by adopting the Millennium Sustainable Goals (MDGs) related to people, profit and planet (3P) [5]. RSPO aims for the production of sustainable palm oil which includes management and operations that are legal, economically viable, environmentally friendly and socially beneficial. This can be achieved through the implementation of a series of principles and criteria ("P&C") outlined in various indicators and guidelines compiled in a “P & C” document [6]. RPSO applies 7 principles and 40 criteria for meeting sustainability standards. Until 2020, around 3.1 million ha or nearly 15% of total global palm oil plantations are certified by RSPO [7].

At the national level, Indonesia also has a sustainable palm oil certification system. In March 2011, the Indonesian Government through the Ministry of Agriculture, launched the Guidelines for Indonesian Sustainable Palm Oil (ISPO) with the Regulation of the Minister of Agriculture of the Republic of Indonesia (Permentan RI) No. 19/Permentan/OT/140/3/2011 concerning Indonesia's Sustainable Palm Oil Certification System as the basis for legality. This regulation was later reviewed and updated through Permentan RI No. 11/Permentan/OT.140/3/2015.

Through ISPO, Indonesia encourage sustainable palm oil plantation businesses in accordance with market demands, as well as to support Indonesia's commitment to reduce GHG emissions. ISPO can be said to be a 'rival' to RSPO and represents the spirit of nationalism amidst intense international trade competition [8]. It establishes 7 principles for compliance with sustainable standards. Until January 2020, 5.45 million ha of palm oil land in Indonesia are ISPO certified with 621 certificates issued consisting of 607 companies, 10 independent cooperatives and 4 Village Unit Cooperatives (KUD) Plasma [9].

As two certification systems, RSPO and ISPO have a number of differences and similarities. They make protection of ecosystems and peatlands as part of their principles and criteria. However, RSPO and ISPO has contradictory provisions regarding the allocation of peatlands for palm oil cultivation. Based on the 2018 RSPO “P&C”, the protection of peatland ecosystem is one of the

focuses in RSPO Principle 7 which aims to protect, conserve and enhance ecosystems and the environment. Rules established by Criteria 7.7. of RSPO Principle 7 explicitly states: "There is no new planting on peatlands, regardless of depth after November 15, 2018 and all peatlands are managed responsibly". This prohibition on new planting on peatlands applies to all development areas, both new and existing ones (Indicator 7.7.1) [10].

For peatlands that have been planted with palm oil (before 15 November 2018), a drainability study is carried out for them according to RSPO procedures or other methods as permitted by RSPO, no later than 5 years before replanting. The results of the assessment are then used to set the time frame for future replanting, as well as to stop planting palm oil in stages for at least 40 years, or two cycles before reaching the natural gravity of drainability limit for peatlands. When palm oil was eliminated, planting was replaced with plants that are suitable for a higher water table or rehabilitated with natural vegetation (indicator 7.7.5) [10].

In contrast to RSPO which strictly prohibits the planting of palm oil on peatlands, ISPO as regulated by Permentan RI No. 19/Permentan/OT/140/3/2011 in conjunction with Permentan RI No. 11/Permentan/OT.140/3/2015 concerning Indonesia's Sustainable Palm Oil Certification System, still gives room for the planting. ISPO legalizes the planting of palm oil on peatlands for Plantation Companies Conducting Plantation Cultivation Business (whether integrated with processing and renewable energy businesses or not), Plasma Plantation Businesses and Independent Plantation Businesses. It states that planting is able to be carried out on peatlands in the form of stretches with a depth <3 m and the proportion covers 70% of the cultivated peatlands and the mineral soil layer under the peat is not quartz sand or acid sulphate soils and the planting should be done on peatlands with mature maturity (sapric) [11].

The contradiction in regulating the use of peatlands as a planting medium for palm oil cultivation between RSPO and ISPO shows that there is a conflict of basic norms between the two sertification systems. The norm in RSPO calls to stop the palm oil cultivation on peatlands and switches to plant crops that are suitable for a higher water table or rehabilitation with natural vegetation as an effort to encourage peatlands management with due regard to the carrying capacity of the peatland ecosystem. On the other hand, ISPO has not implemented such shift and restoration of functions. The norm in ISPO still provides space for the use of peatlands for palm oil cultivation by taking into account the characteristics of the peatlands so that they do not cause environmental damage.

Conflict of norms related to planting oil palm on peatlands also occurs between national legal instruments. In this case, between ISPO and the Government Regulation (PP) No. 71 of 2014 in conjunction with Government Regulation (PP) No. 57 of 2016 concerning the Protection and Management of Peatland Ecosystem. ISPO Principles and Criteria, point 2.2.1.4, regulates the water level that must be in the range of 60 - 80 cm [11]. In fact, the PP No. 71 of 2014 in Article 23 paragraph (3) regulates the water level in peatlands which must be less than 0.4 meters below the peat surface at the point of arrangement, otherwise it will be categorized as damaged [12]. The PP No. 71 of 2014 is to reduce emissions by around 60 tons CO2 / ha / year (emission saving). Of course, this Government Regulation must also be followed by a revision of the ISPO principles and criteria governing groundwater for better peat management in palm oil plantations [13].

3.2 Impact of Legalizing Palm Oil Cultivation on Peatland by ISPO

Conversion, deforestation and peat swamp forest degradation can damage the carbon and water balance of peatlands by causing loss of original vegetation cover. Development of peatlands for agriculture or plantations can not be separated from drainage efforts to reduce excess water and provide aeration in the root zone of plants [14]. Drainage that is not properly controlled can result in subsidence because peatlands has the non-re-wet-able or irreversible drying properties. It means that once it experiences excessive drought (over drained), the colloidal nature of the peatlands will become damaged so that the peatlands can not return to hold water [15].

According to Chotimah [16], peatlands will lose its available water after being dried for 4 - 5 weeks.

This causes the peatlands to lose its hydrological function, the value of the bulk density at the surface and causes the peat surface to dry resulting in high sensitivity of the peat surface to fires, especially during the dry season. Furthermore, drainage causes changes in peat conditions from anerobic (oxygen-poor) to aerobic (oxygen-rich) so that the rotting microbes (decomposers) become more active ones resulting in a decline peat functions as a carbon storage and contribute to the increase of concentration of GHG in the atmosphere [17]. GHG generated from peatlands are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). Contribution of CO_2, CH_4 and N_2O to global warming respectively are 55%, 15% and 6% [18].

Peatlands in Indonesia is a highly sensitive and threatened ecosystem. This 22 million ha area saves 132 gigatonnes of carbon dioxide which divided unevenly. The stored carbon behind peatlands which is highly acidic, porous and flooded routinely is possible to be released into the air and heats up the earth when the peatlands that are actually unsuitable for agriculture, forcibly opened and used for palm oil cultivation, pulp and paper industry with disproportionate speed [19].

The main factor of peatland destruction in Indonesia is conversion of land to agriculture or monoculture plantations, residential land and / or other facilities [14]. Plantations of palm oil as one of monoculture crops on peatlands with excessive drainage and planting methods that do not pay attention to the depth of the ground water level has the potential to cause peatlands to be on the verge of drainage / drainability limit which leads to drought and peatland fires, including land clearing.

Legalization of palm oil cultivation on peatlands by ISPO has a huge impact to the increase of GHG emissions. It is because forest fires, especially those occurring on peatlands, are one of the largest contributors to GHG emissions from the forest and land sector in Indonesia. According to the Madani Berkelanjutan report, in 2019, fires in Indonesia scorched 1.6 million ha of forest and land, 44% of which occurred in areas categorized as peatland ecosystem. What becomes a concern is that, based on Madani's analysis, 63% or more than 1 million ha of forest and land fires that occurred in 2019 were new fires. In general, Central Kalimantan and South Sumatra are two provinces with the largest burned area in 2019 [2].

Madani Berkelanjutan analysis revealed that the area of fire in the peatland ecosystem in 2019 was very significant (44% or 727,972 ha), including fires in areas protected by the Indicative Map to stop the Issuance of New Permits (PIPPIB) which reached 31.35% of the total burned area, where 64.41% of them occur in the peatland ecosystem. Among the three types of permits / concessions (palm oil plantations, IUPHHK-HT and IUPHHK-HA), fires in palm oil plantation areas are the largest (217.49 thousand ha). The majority (59.66%) of fires in palm oil plantation concessions occurred in the peatland ecosystem [2]. As a consequence, fires in Indonesia's peatlands are the largest contributor to carbon emissions to the atmosphere and have an alarming social and ecological impact. This has resulted in serious international attention and could have an impact on international political pressure and even an international boycott if Indonesia does not manage the peatlands in a sustainable manner [20].

Throughout 2010 - 2018, based on the GHG Emission Graph released by the Directorate General of Climate Change Control, Ministry of Environment and Forestry of the Republic of Indonesia (DJPPI KLHK RI) 2019, the production of GHG emissions due to peatland fires fluctuated, with the highest emission rate in 2015 which was also the worst period in the history of forest and land fires in Indonesia. In 2015 and 2016, the forestry sector and peatland fires respectively contributed 66% and 43% to Indonesia’s GHG emissions [21]. In 2017, there was a significant reduction in emissions from the forestry and peatland fires sector. However, peatland fires are still the second largest contributor to national GHG emissions, amounting to 25% [3].

4. Conclusion

Conflict of law between RSPO and ISPO takes place because RSPO as the global standard for sustainable palm oil has banned the planting of palm oil on peatlands, meanwhile ISPO as the national standard still legalizes the planting. The legalization of palm oil cultivation on peatlands in Indonesia has an impact to the increase of GHG emissions. It means that it is counter-productive to Indonesia's commitment to reduce GHG emissions.

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