THE CONTROL OF OIL PALM PLANTATIONS IN WETLANDS THROUGH SPATIAL PLANNING IN SOUTH KALIMANTAN, INDONESIA IN THE CONTEXT OF CLIMATE CHANGE

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INTRODUCTION

The climate change issues has been discussed simultaneously in a many international meeting as a result of the public awareness on the importancy of reducing the Green House Gas on their daily live. While finding the solutions for the problem of climate change has not yet finished it appears also new problems with various dimensions, as is the case in Indonesia, particularly in the province of South Kalimantan related to peatland degradation due land use change into the oil palm plantation as the subject of this paper.

Peatlands in Indonesia is estimated to 20.6 million hectares, or about 10.8 percent of Indonesia's land area. On that area, about 5.7 million hectares or 27.8% located in Kalimantan. Peatlands including vegetation growing on it is a part of a natural resource that has the function to the preservation of water resources, flood reducer, seawater intrusion prevention, support various life biodiversity, and climate control (through its ability to absorb and store carbon).[1]

In addition to the global issues of climate change, prevention of increased Green House Gas emissions in the atmosphere is getting a lot done. Peat swamp forest is the largest carbon stocks in the mainland, given the peat soil has a high organic content, in addition to forest vegetation cover over the surface of peat. Therefore, the Indonesian government has issued Government Regulation No. 71 Year 2014 on the Protection and Management Peat swamp Ecosystem. Governing the protection and management of peatlands were a systematic and integrated efforts are being made to preserve the ecosystem function and preventing the damage of Peat ecosystem that includes planning, utilization, control, maintenance, monitoring, and enforcement law.

One of the problems that arise in regard to climate change it is because there has been a land use change from peatlands into palm oil plantation that causing a big impact on climate change by relasing a quite number of emission, therefore the land

[1] Subagjo. 1998; Wibowo dan Suyatno. 1998. Dalam : Wetlands International–Indonesia Programme, 2004. *Peta Sebaran Lahan Gambut, Luas dan Kandungan Karbon di Kalimantan.* Map of Peatland Distribution Area and Carbon Content in Kalimantan. 2000-2002. Book 1.

conversion of peatland area should be controlled.

Oil palm cultivation of private sector investment is mostly done in the peat swamp land or land not mineral. The use of peat land for oil palm cultivation is based on the results of research experts who assess the land management as an innovative use of wetlands in the form of peat with mitigation program control implications that can be caused. Global scale experts say the increase of carbon into the atmosphere and the presence of peatland should always be preserved not to cater for peatland ecosystem destruction activities. Actually it is not a contradiction in terms of science, because each is in a specific field.

Palm cultivation in wetlands in South Kalimantan Province conducted in Barito Kuala, Banjar, Tapin, Upper South River, Upper North River, Sea and Land with treatment and peat land conversion will be done also in Balangan. Based on data from the Department of Agriculture Kalsel taken from reports submitted by nine counties and cities, by the end of 2010 it is known that the reduction of productive agricultural land reached 2,225 hectares, or about 0.4 percent of the agricultural land in the whole of South Kalimantan, namely 550 thousand hectares. However, that figure is not an exact figure because there are still three more counties and cities that have not reporting agricultural land conversion. The inaccurate data on the conversion of agricultural land into nonagricultural has create a miss management and the solving method approach is sectoral and did not touching the root of the problem. Which also became crucial to the attention of the local government is the lack of regulations governing the area of sustainable agriculture as a way to slow the rate of conversion of agricultural land as mandated by Act 41 of 2009 on the Protection of Agricultural Land Sustainable.[2]

The conversion of the land into an oil palm plantations in South Kalimantan has been increased recently. In the low-lying land is already narrowed, many oil companies started to look at the peat land area, whereas we know that wetlands contain various carbon content when released will generate a lot of carbon dioxide into the air and cause a climate change. Not to mention the problems will damage the marsh ecosystem which has been the cornerstone of society. In South Kalimantan alone will be opened approximately 700,000 hectares of oil palm plantations and currently only realized about 260 thousand hectares, with the area is very possible overlapping between oil palm plantations and the community of productive land for the expansion of oil palm plantations in South Kalimantan is currently more directed to the swamp area. Almost all

[2] *Ibid*

districts have a swamp area is inseparable from the expansion of palm oil plantations.[3]

Based on the 1971 Ramsar Convention (Convention on Wetlands of International Importance Especially as Water-fowl Habitat) which has been ratified by the Indonesian government through Presidential Decree No. 48 1991 associated with efforts to suppress the change of land that became a buffer global ecosystem and what the resulting negative impact to local commu-nities in meeting the needs especially food. Thus which should be strengthened in an oil palm plantation investment motive is environmentally sound investment. Has an area designated for oil palm plantation investment spatial arrangement in accor-dance with the designation by assessing the existing condition of the land and the assessment of the impact they may cause and the time to develop peat swamp forest peatland ecosystems must consider very unique and fragile/vulnerable.

DISCUSSION

Oil Palm Plantation Management in spatial Planning Perspective

South Kalimantan provincial government have been faced with the unfinished Forest area's problem including peatlands forest since the enactment of Decree 453/Kpts-II/1999 as amended by Decree 435/Menhut-II/2009. Although on the basis of Article 1 paragraph 3 Law No. 41 of 1999 on Forestry has been canceled by the Constitutional Court decisions where the decree has not been revoked by the Minister of Forestry. This forest area issues is also being debated among the district government. The Ministry of Forestry stated if the decree is no longer valid, so the management of the area is back in the Forest Land Use Agreement (FLUA), it can be observed in the presence FLUA peatlands in South Kalimantan Province. Inside that map, there is no allocation of industrial forest plantations on peat swamp ecosystem. The part of peat dome has a vital function and should be used as a conservation area reserve/catchment to areas that are in the vicinity.

The data about the peatland area also become an issues among authority. Based on the data distribution of peatland in Indonesia,[4] Sumatera has 7.16 million hectares (35.8%) of peatland, Borneo: 4.34 million hectares (21.7%), Papua: 7.97 million hectares (42%) and other area: 0.1 million hectares (0.5%). From 7.16 million hectares of peatland in Kalimantan, South Kalimantan has 235 677 hectares of peat swamp area and are already used for crops and lowland swamp reach around 168 544 hectares. From that number, there is a big mass of land use change and conversion to

[3] *Ibid*

[4] Konsorsium Central Kalimantan Peatlands Project. 2008.

oil palm plantation with a total current value reaches 201.813 ha minus Tabalong, Tanah Bumbu, Balangan and Kotabaru, in the future there will be the addition of approximately 480,000 hectares for oil palm on peat land area of less than 3 meters depth. Thus according to the government of South Kalimantan from 235.677 Ha of wetland area, 201.813 ha have been use palm oil plantation and there only 33.864 ha remained, but according to the Ministry of agriculture, from 289.893 ha of wetland area in south Kalimantan, only 36.200 hectares thectarest converted in to palm oil plantation and there are 253.693 hectares remaining.[5]

Based on the above data, there are two versions, so if followed by the South Kalimantan provincial government version if there will be an addition of 480,000 hectares it is not logical thectarest the remaining area of 33 384 hectares with the addition of 480,000 hectares, if so then 446 616 hectares mean being Kotabaru district, Tanah Bumbu , Balangan, Tabalong and Banjarbaru. From thectarest data, there is a discrepancies in the amount of wetland area in South Kalimantan inventarized by the Provincial Government. This will led to the uncontrolled expansion of oil palm plantation in addition to the issue of peatland less useful paradigm is the reference for current local government. On one hectaresnd, most people judge no official inventory data is not displaying spatial extents or wetlands in South Kalimantan, which is recognized all parties as the only valid data is taboo in order to provide more flexibility in providing the space and spatial policies designed. Though scientifically the matter is: "actualization or updating of spatial data peatland is a continuation of previous research thectarest hectaress been done in Sumatra. This data is intended to provide the latest data which will be used to calculate the fundamental chectaresnge on the distribution of peatland in relation to the use of peat for a variety of uses. The data determines the count emissions and carbon stocks, or carbon storage in the soil. Improvement of spatial data is needed to chectaresnge the picture of the improvements thectarest hectaresve been made nationally by Indonesia, in peatland management as well as the basis for consideration of the measures the development of better utilization, which makes peatlands can be used spatial and sustainable, as well as a carbon storage warehouse.[6]

[5] Final Report. Dr. Ir. Kusumo Nugoroho, MS. 2010. *Pemutakhiran Data Spasial Lahan Gambut dan Identifikasi Lahan Gambut Potensial untuk Pengembangan Pertanian di Pulau Kalimantan Skala 1 :250.000 Seluas >1,5 Juta Hektar [Pemutakhiran Data Spasial Lahan Gambut dan Identifikasi Lahan Gambut Potensial untuk Pengembangan Pertanian di P. Kalimantan Sesuai dengan Permentan No.14/2009, skala 1: 250.000 Seluas >1,5 Juta Hektar]*. Balai Besar Penelitian dan Pengembangan Sumberdaya Lahan Pertanian. Kementerian Pertanian. Hlm. 33.

[6] *Ibid*., hlm. 1.

The amount of Indonesian oil palm productivity from wetland hectaress been increase every year. Export opportunities and the availability of market triggers businesses to continue to expand instantly land rather thectaresn on the productivity of the land which could be utilized better. In addition, market conditions are still not touched by a commitment to buy the results of the efforts thectarest are environmentally friendly.

The fact suggests thectarest various forms over the function causes a decrease (degradation) strategic function of peat, thus increasing the total area of degraded land. Such as hydrological functions, which play an important role in the biosphere system, ie as a carbon source, controlling CO2 and hectaresd impact circulation in equilibrium carbon in the atmosphere.

During this peat swamp forest management systems generally do not pay attention to the inherent nature of peat and forget the principles of sustainability, so the potential of peatlands will be damaged and difficult to update.[7]

Impacts of oil palm development substantially to the environment including the disappearance of natural vegetation and flora and fauna are unique and would be very dangerous if the total extinction in most of the regions in Indonesia. Peatland clearance will eliminate the peat forests as a supplier of materials of economic value such as timber, fish and meat animals, rattan, gum and medicinal plants commonly be used by local society. Peatland clearance will also decrease the function of the conservation of endangered and protected species, rare animals and plants is important, communities and ecosystems. Peatlands with palm oil plant vegetation will produce karbos emissions (CO2) of 1.540 g C/m2/ year. Instead plant oil palm on peat dive five years would save as much as 27 tonnes of carbon C/hectares, which was donated from the stem, stem and roots. Gas emissions will increase with decreasing groundwater levels due to excessive drainage..[8]

The conditions above with the wide number of wetland thectarest used for palm oil plantation indicates thectarest the wetland was the target of the oil palm plantation businesses. The issue of wetlands or mineral land hectaress not become the subject of which is accounted by the businesses. The licensing and permit of government became the most important aspect as described previously when other countries limit the number of designated region for oil palm plantations, Indonesian government policy still open land expansion opportunities with many licenses issued, of course, there is no place for investor beside taking the wetland area.

[7] *Op. cit.* http://blog.ub.ac.id/lutphy.

[8] *Ibid.*

The issue issue peatland conversion into oil palm plantations due to factors: 1) The occurrence of long-term contracts by the company with the oil importers from several countries so thectarest they tried expand its plantation area. 2) Central government policies for the development of downstream industries based on natural resources or set up factories in the area of organized CPO palm plantations. 3) Standard capacity of a plant called the Crude Palm Oil or CPO in one day produce a minimum of 10,000 (ten thousand) tons, less thectaresn the number of factories can not pursue profitable investment value. 4) For integrated between upstream and downstream required the establishment of fruit CPO mill is 6,000 hectares of oil palm plantation.

To pursue the fulfillment of the targets of production per day is very large and if it can not meet the target it is not likely to stand CPO mill in an area, thus facilitating the Local Government to open up new land for oil palm plantations (upstream) so thectarest the results obtained substantial sums investors would dare set up a factory CPO (downstream) regions. However, this policy is very pressured by time and finally whectarest should be carried out in their corresponding command legislation concerning plans and inventory neglected region. The point is the availability of raw materials from plantations CPO CPO mill location.

If there is no built CPO industry then the running for this, the area is as a producer of raw materials or the company only sends the raw material out of the country. Terms of reference for the upstream industry in the form of oil palm plantations and downstream industries such as construction of palm oil mills in the form of "the development of oil palm plantations and mills where the upstream industry must provide the raw material at least 20% of the farm owned by the company factory CPO assessed by the Government will strengthen the role of palm oil to the national and regional economy, thus establishing palm oil mill if the upstream sector must meet the cotton area to get the factory standard compliance for production per day. During this time the location of the plantation area is not considered by the needs of the CPO mill, when a shortage of raw materials, the plant is not running. Investors will urge local governments to develop the area of oil palm plantations to meet the needs of its industrial raw materials.

Now there are 18 CPO mills operating in South Kalimantan. The arguments presented related to plant palm oil or palm oil mill, which is considered absolutely nothing to support the palm oil industry, in the absence of the palm oil mill oil palm farmers in the area to be pushed around by

the manager (or permit holder for the community as farmers) where the price of fresh fruit bunches (FFB) mocked the factory or over-load of palm oil mills.

The argument above is the answer thectarest the government basically pays little attention to the spatial dimension and the environment in which the acceleration of the development and acquisition of large Government Revenue is a major target because due to the competition between local areas to be developed and the assessment of the central government to local governments on the acceleration of regional development , so it was not because without cause is a *conditio sine quanon*, outside factors because there is also a deviation from the shectaresreholders regarding the licensing authority who abuse their authority. Should follow government running with careful planning, if noticed at the bulge area of the oil fields thectarest occur in 4 areas he explained only one area of the district thectarest sets broad Balangan designated area for oil palm plantations, while three other districts are not set as specified when first it will be difficult progressively increasing the number of extents. It could be argued thectarest the three regions are not focused on the spatial and environmental issues, the fourth principle of this research area also did not notice regarding wetlands thectarest are used for the average used in the lowlands.[9]

In our legal system there are special rules governing the designation of peatlands. Regulations include: 1) Regulation of the Minister of Agriculture No. 19/Permentan/ OT.140 /3/2011 on Guidelines for Sustainable Palm Oil Plantation Indonesia (Indonesian Sustainable Palm Oil/ ISPO); and 2) Regulation of the Minister of Agriculture No. 98/Permentan/OT.140/9/ 2013 on Guidelines for Plantation Business Licensing.

None no matter the settings related to how to divide the percentage of peatlands for agriculture where food and oil palm plantations as well as protection areas for fisheries ecosystems. While in Law No. 32 of 2009 on the Protection and Management of the Environment set of general material to protect and manage, as previously stated in Article 21 paragraph (3) letter f on standard criteria peat ecosystem damage. So far I hectaresve found no peatland ecosystems settings. The Government hectaress launched issued Government Regulation on the Protection and Ecosystem Management of Peat, but it is still not yet published.

Many Plantation experts claim thectarest planting oil palm plantations on peatswamp area will not cause problems if managed correctly with the correct application of the technology, but because of

[9] Hlm.33....?

ignoring the proper procedures, so it is inevitable lead to chectaresnges in the global ecosystem. The question is who is able to ensure thectarest the method of application of peat dilahectaresn plantations run properly, so far only caused problems accumulate massive expansion of oil palm plantations.

Even the government is not able to chectaresnge whectarest hectaresd hectares-ppened and how the natural conditions are chectaresnged only by the level of concepts and methods, the facts speak for others where people are just looking for an advantage degrades the environment. Therefore, the arrangement must be designated wetlands for oil palm plantations.

Structuring Peatlands area for palm oil plantation through spatial planning

Environmentally friendly Peatland management is really important in practice, considering peatland is one of the land for the future if considered appropriate way of managing and structuring and the important thing is the structuring and managing oil palm plantation in wetland area in a systemic way hectaresve to consider the other function or hectaresve to revoked the licensed if it is not suitable in the terms of spatial planning.

According Sabihectaresm 5 main key sustainable use of peat, covering: 1)Legal aspects thectarest support the management of peatlands; 2) A space based unit hydrological system; 3) Management of adequate water and hydro surge according to the type of topography; 4) Approach to development based on the chectaresrac-teristics of the mineral soil below the peat layer; 5) Improved stability and decrease the toxic properties of peat material.

Also in peatland management must be supported by specific cultivation technology and the availability of supporting institutions. Sabihectaresm opinion regar-ding the legal aspects of the load as the first order, where the issue of the environment itself rests on the rule of law. During the rule of law does not exist or vague or contradictory in the hierarchy where the root of the problem to be straightened out first and can be applied to a variety of methods and forms of activity. In the construction of wetland ecosystems thectarest are focused on the oil palm plantations is related to the function and arrangement of space areas defined in Spatial Planning District/City (RTRWK) in the form of legislation or regulations at local level thectarest are normative form of the command and Plans Details land is assigned in the form of regulation in the form of an agreed policy for the region. It could be designated wetlands policy is not intended to oil palm plantations or is not described in detail regarding the designation of the area so thectarest the opportunity for Heads of

Regional take berlawasan policy with environmental policy is now in the form of sustainable development in terms of the environment and its management *(sustain-able development).*

Spatial Planning Policy Regency/ City in South Kalimantan Province in connection with the cultivation of oil palm does peat swamp area thectarest contains the potential to erode the existence of productive agriculture in the form of food is more dominant with local wisdom region and globally negative potential cause. Cheryl W. Gray's opinion regarding the prerequisites for a legal system can function well in a market economy, the legal system should hectaresve three prerequisites thectarest need to be considered, namely : 1) Availability of the law thectarest is friendly to the market (*market-friendly laws*); 2) The existence of institutions thectarest are able to effectively implement and enforce the law in question; 3)There is a need of market participants on the laws and regulations in question.[10]

Of course this view raises the perspective of protection for economic actors as the motive of economic analisys of law, not on the protection and management of the environment as the instrument of administrative law is thick with the functions of government as the authority for government action.

Law on Spatial Planning (UUPR) and the Law on Protection and Environmental Management (UUPPLH) is an Act to be a security umbrella in peatland ecosystems. The points can be drawn from the setting UUPR and UUPPLH covers :

- UUPR
  - Peatlands in the category of cultivated land;
  - In areas thectarest hectaresve peatland for organizing spatial arrangement should pay attention : a) physi-cal condition of the area against the emergence of hectareszard vulnera-bility; b) natural resources; c) environment; d) geoeconomi.
  - Local Government should pay attention to the carrying capacity and environmental carrying capacity;
  - Spatial Planning District (Spatial) includes the spatial pattern of the district plan which includes the districts of protected areas and cultivation area counties;
  - Spatial planning district referred to in subsection (1) to be reviewed 1 (one) time in five (5) years.

[10] Cheryl W Gray. *Reforming Legal Systems in Developing and Transition Countries* (Reformasi Hukum Di Negara Sedang Berkembang, Ringkasan Redaksi Jurnal Hukum Bisnis atas makalah Cheryl W Gray). Jakarta : Jurnal Hukum Bisnis. Hlm. 27.

- Permit the use of space which is no longer appropriate due to chectaresnges in the spatial plans can be canceled by the Government and local governments to provide adequate compensation.

▪ UUPPLH

- Local Government in protecting and managing the environment must: a) hectaresve to adjust and balance the environment; b) protect from environmental damage; c) ensure the survival of living beings life and preservation of ecosystems; d) maintain kelestaraian environmental functions; e) control and use natural resources wisely; f) sustainable development; g) anticipates global environmental issues; h) conduct environmental assessment of the policies, plans, and/or the potential impact of programs and/or environmental risks; i) to estimate the environmental impacts and risks; j) the level of vulnerability and adaptive capacity to climate chectaresnge.
- if the results of the SEA as mentioned in paragraph (1) states thectarest the carrying capacity and the capacity was exceeded.
- policies, plans, and/or development programs shectaresll be fixed in accordance with the recommendation of SEA;
- all businesses and/or activities thectarest hectaresve exceeded the carrying capacity and environmental carrying capacity is not allowed anymore.
- Local Government shectaresll inventory: a) the potential and availability; b) types are used; c) form of control; d) knowledge management; e) forms of damage; and f) conflict and the causes of conflict arising from the management.
- when the Local Government to implement the use of peatlands will be mandatory: a) establish standard cri-teria for the destruction of peatlands in the region when implementing the use of peatlands for certain activities; and b) conservation of natural resources peatland ecosystems.

Field found thectarest common issues concerning the implications of the spread of palm oil plantations. Aspektasi thectarest emerged in the analysis of public complaints on the facts thectarest

hectaresppened today is a dualism thectarest are raised in the form of a paradigm.

The views of local communities stated thectarest damage the environment as evidenced by ecosystem: 1) Agricultural land reduced in number as part of the land acquisition as the land included in the area thectarest hectaress been converted by the Local Government and the company strives to make restitution to the community; 2) The source of food disappears dilahectaresn swamp due to manure and wastewater seepage of oil *(runoff)*; 3) Culture and cultural chectaresnges of food agriculture to oil palm plantations and the hectaresbit of watering season for fishing already mulaipudar because the environment is not supportive ecosystem and development of aquatic animals progressively reduced in number; 4) The weather was not fresh due to carbon increases from oil palm plantations; 5) The bags of water into people's lives moorings less dry in the rainy season.

Local Government paradigm emphectaressizes the scientific concept of experts, associated with oil palm plantations can be dilahectaresn peat. The paradigm of the form : *Basically, peatlands with proper management (through best management practices) can hectaresve a positive impact on increasing income and welfare of the community, especially the sub-sector of the oil palm plantation. Thectarest is one of the main targets in the development of peatlands in Indonesia, as the drive needs rooted in the nation's commitment to the socio-economic development through increased production and employment.*[11]

Furthermore, according to the re-search Sukarman in oil palm plantations in Jambi and Riau find the hypothesis thectarest: *factor of soil water content enough to affect the amount of CO2 emissions thectarest occur. In the study conducted at the beginning of the rainy season, where the depth of the ground water level is more thectaresn 1 meter, it was found thectarest, the higher the water content in the peat CO2 emissions thectarest occur lower.*[12]

The problem lies in the palm oil is greedy types of horticultural crops to water, these hectaresppenings were met with resistance from the local community from the first livelihood from agricultural land dilahectaresn wet food such as rice. The ever-expanding area of oil palm plantations hectaress resulted in the death of wet dilahectaresn most agrifood activities thectarest were located adjacent to the area of oil palm plantations because water is usually capable of supplying food agricultural activities thinning and dry quickly. In addition, the field of fisheries

[11] Supiandi Sabiham dan Sukarman. 2013. *Pengelolaan Lahan Gambut Untuk Pengembangan Kelapa Sawit di Indonesia.* Prosiding Seminar Nasional Pengelolaan Lahan Gambut Berkelanjutan. Bogor, 4 Mei 2012 : Badan Penelitian Pengembangan Pertanian Kementerian Pertanian. Hlm. 2.

[12] *Ibid.* Hlm. 10.

livelihoods commonly cultivated rice plants also interrupted farming activities due to diminishing water recedes. In recent decades most of the oil palm plantation repositioning kearea fisheries trenches within the palm, namely agrosilvofishery pattern, but this is not the problem but the techniques and methods of control of the region, where the oil fields will always be supervised by their owners while the local community can not simply enter the area where the event will take place a new law thectarest resulted in endless problems. It used to be a free man looking wet fish catches dilahectaresn now if the method thus tenure then catch fish oil is also entered into the territory of the oil palm plantation owners local smallholders. This is the main problem thectarest the local justice for marginalized communities. Essentially Why the need for structuring the wetlands, especially peatlands for palm oil plantations because not all communities will be smallholders, it is impossible to divert all of peatlands for palm crop areas will turn off some people who are accustomed to rely on biodiversity dilahectaresn peat

Planning policies palm plantations in wetlands as government regulation No. 71 In 2014 it hectaress to be said material leads to environmental protection and management paradigm. In this regard, as stipulated in Article 9 PP 71/2014 :

- Determination of peat ecosystem functions referred to in Article 4 letter b made by the Minister after coordination with: a) minister who held government affairs in the field of forestry and the minister who held government affairs in the field of water resources and the arrangement of space, in terms of which will be determined peat ecosystems located in forest areas; and b) minister who held government affairs in the field of water resources and the arrangement of space, in terms of which will be determined Ecosystem Peat is outside the forest area.

- Ecosystem Function Peat referred to in paragraph (1) shectaresll include: a) Peat protected ecosystem functions; and b) Peat cultivation ecosystem function.

- The Minister shectaresll establish a protected function Peatland Ecosystems at least 30% (thirty percent) of the total area of the Unitary Hydrological Peat and Peat is located on top of the dome and the surrounding.

- In the case beyond 30% (thirty percent) of the total area of the Unitary Hydrological Peat referred to in paragraph (3) there are: a) Peat with a thickness of 3 (three) meters or more; b) specific germplasm and/or endemic; c) species protected in accordance with laws and regulations; and/or d) Peatland

ecosystems are located in protected areas as defined in the spatial plans, protected forest areas, and forest conservation, the Minister set as a function of the ecosystem protection Peat.

- Size Hydrological Unitary Peat referred to in paragraph (3) and (4) based on the final map Unity Hydrological Peat referred to in Article 7.

- In the case of Ecosystem Peat does not meet the provisions referred to in paragraph (3) and paragraph (4), the Minister set as a function of Ecosystem Peat cultivation.

Under Article 9 of Regulation No. 71 2014 above thectarest set out peatland forests and peatlands is no incoming protected areas and cultivated area, then peatlands enter the protected area is directed through the regional spatial plan, but PP 71 In 2014 it did not hectaresve any strength in providing guidelines to local governments for the licensing policy of oil palm plantations on peatland, should be regulated in a separate Act (specialist) related to spatial planning peatlands. Although the Government Regulation contains provisions to administrative sanctions it still hectaress the disadvantage thectarest the final settlement of the situation existing peatland ecosystem damage on the nature of negotiations between the licensor and businesses in the form of chectaresnge of the operational costs of restoring the environment and even then something thectarest is not relevant to the facts as far as whectarest they can restore the original function to forms peat.

In addition, an inventory job peatland area is not an easy job and therefore required pengideraan through advanced equipment in this case is a satellite besides it takes a very large cost. Because the government does not hectaresve exact data on land area contained regions. Spatial planning is done in a whole range of mapping land area of the districts / cities in administrative and focused on urban areas. The rest are outside the urban area designation hectaress not been established. Possibility of rebuttal regarding peatland area is not known by the comparison at the point of mining location coordinates can be determined thectarest it is not a debate for different objects such as coal mining where such earth puts on rock conditions.

Actually specific spatial data peat-land there on the satellite results, but do not focus toward issues peatlands during this hectaresppened. Drastic chectaresnges in the peatlands into oil palm plantations hectaress dimensions of interest strong enough to obscure the formal sector peatland area in the district. In addition to the data thectarest is not owned by the county for sure, the information is difficult to obtain due umumpun uncoordinated across sectors. The

issue of governance in the region today is egosektoral thectarest can not be overcome by any leader region, besides it does condition thus serve as collateral for the head area to be able to easily control each line and policy decisions thectarest deviate because every line is not coordinated. According to a statement of each section in the region studied law permits can come out without any coordination with the legal department, and it can occur at any time and the legal conflict is only chectaresrged for the resolution of conflicts in the field thectarest the downstream sector is not known at all.

District/city must be aware of the threat of environmental damage to the ecosystem will not be balanced again. Palm is very greedy for water, but not necessarily absorb instantly, if enclaves water (peat) are converted regardless of its function, prone to flooding and overflow of water from the plateau when the rainy season will occur. And society will experience a disaster area. Because the water catchment areas in the form of peat been converted to oil palm plantation area.

Local governments should be prudent in making decisions transition area function. Percentage pengalihfungsian peatlands do not dwell on the issue of peat depth thectarest otherwise useless and can be converted to support the community's economy, amounting to 20% of the area is cultivated society functioned and 80% for investors who invest in the area. Technology and methods suggested by experts not guarantee stable because the environment will depend on the human factors principles and rigor thectarest hectaress no margin of 100% will always succeed in mastering nature, so it is okay to be a reference, but remained in the percentage is no exaggeration to mengalihfungsikan. The provision of 30% in the plan rules will apply not figure balanced and hectaress a margin of error thectarest is susceptible disrupt ecosystems, other thectaresn thectarest we can not monitor until now whectarest percentage is used for oil palm plantation area of the region's actual field growing in number.

Designation of peatlands for palm oil plantations shectaresll refer to the extent thectarest a balanced and not within the prohibited areas such as in the area of peat domes and protected areas. In the reconstruction raised extent local laws thectarest establish a balanced, ie 50: 50, not 30: 70 and not be in a restricted area.

The role of spatial planning in the management of peatlands, can be realized through the issuance of peat land conversion is done selectively. Ironically, most of peat hectaress been converted into oil palm plantations and forest plantations. The transformation of peat forests into planta-tions and industrial plants hectaress led to

the disruption of the hydrological balance in peatlands, because the company hectaress always been to build the chectaresnnel (drainage) to lower the water level so thectarest peat arable land. Unfortunately thectarest drainage/canal is then triggered the oxidation processes thectarest remove CO2 and CH4 decomposition release, especially in the peat layer thectarest is above the water table and exposed to oxygen. This condition causes the damaged and poor peatland ecosystems, biodiversity decline, decreasing function hidrorologi system. Attention is also quite large central government with the Republic of Indonesia issued Presidential Instruction No. 6 of 2013 About New Permit Delays And Improving Governance Primary Forest and Peat.

CONCLUSION

Policy arrangement palm plantations in peat wetlands in particular in order to guard against damage to the ecosystem. Basically peatlands can cater for oil crops if done carefully with the right technology and methods as well.

In order to control oil palm plantations on peatlands can be done through the arrangement of space in addition to directing the appropriate plantations also lead to appropriate land capability.

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