

10-6-2018

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Erwan Agus Purwanto

Faculty of Social and Political Sciences, Universitas Gadjah Mada; Indonesia

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Purwanto, Erwan Agus (2018) "Coping with Policy Paradoxes and Actor Interests in Peatland and Oil Palm Management in Indonesia," *BISNIS & BIROKRASI: Jurnal Ilmu Administrasi dan Organisasi*: Vol. 25 : No. 3 , Article 2.

DOI: 10.20476/jbb.v25i3.9966

Available at: <https://scholarhub.ui.ac.id/jbb/vol25/iss3/2>

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Coping with Policy Paradoxes and Actor Interests in Peatland and Oil Palm Management in Indonesia

Erwan Agus Purwanto

Faculty of Social and Political Sciences, Universitas Gadjah Mada, Indonesia
erwan@ugm.ac.id

Abstract. The utilization of peatland is one of the important issues in Indonesian political economy. One of the pros and cons regarding the argument of peatland management is the problem of ecology, which refers to the involvement of actors in its policy formulation and implementation. Research found that extensive degradation of Indonesia peatlands by deforestation, drainage and recurrent fires causes the release of huge amounts of peat soil carbon into the atmosphere. This article aims to answer two research questions. First is related to problems arise from the management of peatland based on ecological, economic, and social-cultural perspective. Second is related to the interests of actors in the management of peatland in Indonesia. As a result, there are several numbers of problems that appeared, due to the lack of understanding peatland management, such as environmental damage, labor exploitation, policy ambiguity. There are paradoxes in government policies pertaining to peatland management, as its implementation bears massive impact on the industry which consequently influences the production process. Furthermore, numerous actors also involved in this issue and policy accommodating the interests of each actor is a necessity.

Keywords: environmental policy, peatland management, oil palm management, actor interest.

Abstrak. Pemanfaatan lahan gambut adalah salah satu isu penting dalam ekonomi politik Indonesia. Salah satu pro dan kontra mengenai argumen pengelolaan lahan gambut adalah masalah ekologi, yang mengacu pada keterlibatan aktor dalam perumusan kebijakan dan implementasinya. Penelitian menemukan bahwa degradasi lahan gambut Indonesia yang luas oleh deforestasi, drainase dan kebakaran berulang menyebabkan pelepasan sejumlah besar karbon tanah gambut ke atmosfer. Artikel ini bertujuan untuk menjawab dua pertanyaan penelitian. Pertama terkait dengan masalah yang timbul dari pengelolaan lahan gambut berdasarkan perspektif ekologi, ekonomi, dan sosial budaya. Kedua terkait dengan kepentingan aktor dalam pengelolaan lahan gambut di Indonesia. Akibatnya, ada beberapa masalah yang muncul, karena kurangnya pemahaman pengelolaan lahan gambut, seperti kerusakan lingkungan, eksploitasi tenaga kerja, ambiguitas kebijakan. Terdapat paradoks dalam kebijakan pemerintah yang berkaitan dengan pengelolaan lahan gambut, karena pelaksanaannya berdampak besar pada industri yang akibatnya mempengaruhi proses produksi. Selain itu, banyak aktor yang juga terlibat dalam masalah ini dan kebijakan yang mengakomodasi kepentingan masing-masing aktor adalah suatu keharusan.

Kata kunci: kebijakan lingkungan, pengelolaan lahan gambut, pengelolaan kelapa sawit, kepentingan aktor.

INTRODUCTION

There is a growing international recognition of the important of ecosystem services played by peatland environments, such as potable water supply ((Rosli, N. et al., 2010 ; Silvius & Suryadiputra, 2010), biodiversity (Page, S et.al., 2012) and carbon storage (Billett et a.l, 2013) this increased recognition reflected in a surge of policies and initiatives to maintain the integrity of peat across temperate and tropical peat zones. The maintenance and sustainable use of peatlands are of priority importance, as peatlands deliver a range of ecosystem services that contribute to human well-being, including climate regulation, water purification, recreational and educational opportunities, and increasingly tourism. In the last twenty years, large areas of Indonesian peatland have been converted, mainly into agricultural lands for estate crop production, and plantation forest areas for pulp production. It was started with the emergence of several cases during the New Order administration, particularly through the policy of the Peatland Project (Proyek Lahan Gambut - PLG) implemented in areas of Central Kalimantan in 1995. One

of the debates which should be highlighted is the issuance of Governmental Regulation (Peraturan Pemerintah - PP) No. 57 Year 2016 which is a revision of PP No. 71 Year 2014 (PP No. 57 Year 2016; PP No. 71 Year 2014).

Differences in regulation perspectives regarding the conversion of peatlands were found upon examination of the new PP. Despite the government's attempt in creating a new policy that is regarded positively as an effort to restructure the management of peatland and to protect the environment, the new policy is also considered to threaten the stability of businesses and industries; an example is the stipulation regarding 0.4 meters of water surface threshold in peatland areas. This condition is deemed to have the potential to hamper vegetation of plantation and Industrial Plantation Forest (Hutan Tanaman Industri - HTI), and this further indicates existing differences of interests among actors present in and around the issue. Despite approximately two million people annually entering the job market in Indonesia, the number of employment available remains incapable of absorbing these new batches of labor. Concurrently, employments that are readily available tend to bear negative implications upon the environment and

lack long-term continuity. This condition is exacerbated with the increasing price of food commodities, a prolonged dry season, reduced food security, drastic drop in fisheries and widespread degradation of the coastal ecosystem (International Labour Organization, 2010). As of current, focus on environmental friendly or green employment remains at a minimum in Indonesia. For that reason, this can be a great opportunity for policy makers at the national and local level, to create adequate green jobs with high labor productivity which also have low emission and high-efficiency levels.

This shortage of eco-friendly careers or green jobs is correlated to the expansion of the Industrial Plantation Forest (HTI) and conversion of peatlands. The prevalence of HTI which has been implemented in several areas in Indonesia for hundreds of years can actually be observed as a way of contributing to the sustainable economy, restoring the capacity of carbon absorption, stabilizing land to refrain loss of soil layer and restoring water cycles which have been lost to deforestation and other forest exploits. However, in practice, HTI is in fact, a disadvantage to (environment based) green economy because natural forests are deliberately destroyed to be replaced and made into HTI. Based on data from 1980 to 2000, there was approximately 50% of 1.4 million hectares of oil palm and timber plantation established on lands that were previously natural forests or dried-up peatlands in Indonesia (Forbil Institute, 2017). Along with the expansion of peatland being converted to palm plantation and the booming of palm oil commodities in Indonesia, the economic impacts have begun to be felt particularly in regards to the exploitation of labor carried out by corporations. These corporations are accused of exploiting labor with their long working hours, lack of job security, meager salary, and unclearly written work contract. They are also considered to have minimized the number of permanent labor (employees) made available only for the company's management level and optimized the number of contractual and casual day labor (Assalam and Parsaoran, 2018). On the other hand, poverty and the need for employment experienced by the community living around the areas of the palm plantations force these workers with no other options of seeking adequate employment. In addition, the palm oil industry also has profoundly changed the production pattern undertaken by the community. The conversion of land to palm plantation is not only conducted by big corporations, but also by the local communities as well. As an example, the conversion of land area from rubber plantation or food crops (corn, rice, peanut, soybean) fields into palm plantations consequently bears impact on changing the relations of the community's life and production, particularly when there is an increase or decrease in the price of palm oil. This article aims to answer a number of issues, first: what problems arise from the management of peatland, as observed from ecological, economic, and social-cultural perspectives? Second, what are the interests of actors in the management of peatland?

Development as a paradigm and social change theory to the third world has undergone crises and failures in recent years (Fakih, 2001: 97). Development has been actively promoted and realized upon the fall of Soekarno and the rise of Soeharto into power as the President of Indonesia. The term "development" since then became

widely discussed and almost constantly appeared in mass media news (Lane, 2015). Based on Soeharto's efforts in driving development, he was bequeathed the title of Indonesia's Father of Development. Soeharto implemented the main trilogy of development, stability and equity during his leadership.

The efforts in legitimizing development were not merely conducted in actual practice, but also through discursive power by the use of discourses. The Soeharto driven "development" obtained its discursive power in social sciences that leaned towards modernity/cultural schools of thought. It was this school of modernity which became the scientific basis for the regime in implementing the various "development" projects it supported and it also became the antithesis to left-winged social science from Marxist, Anarchist, and Communist schools of thoughts (Farid, in Hadiz & Dhakidae, 2004: 190). The two main pillars of development and modernity had brought social science in Indonesia to becoming historical. This meant that it merely imported western theories and subsequently swallowing them as they were without considering differences in factors of history, economy, politics, and socio-culture. Fakih (2001) strongly criticized the development as a capitalistic ideology shackling Indonesia within the interests of the few while progressively creating inequity in the process.

Development as a paradigm and social change theory also received many criticisms from the western scholars. They assessed that development has failed in fulfilling its noble goal to alleviate poverty and unemployment, as well as to create prosperity and justice. Development also had a role in increasing global inequity, widespread environmental crisis, spreading of new diseases and transplantation of market logic and ideology throughout almost all the sectors of life (Graeber, 2002). The ongoing criticisms conveyed regarding the impacts and failures of the development had forced governments of developed countries along with international donor institutions to reconstruct "development" by supplementing it into "sustainable development." The concept of "sustainable development" initially emerged in academic seminars two decades ago, due to a report which garnered a lot of discussions titled *Our Common Future*. The report was then unified by the World Commission on Environment and Development with the statement that efforts in enhancing the economy, protecting natural resources, and ensuring the fulfilment of social justice are not mutually opposing issues (Victor, 2006).

As it further developed, sustainable development also transformed into "corporate sustainability" and some even developed it into green development. "Corporate sustainability" emphasizes that one of the means in achieving "sustainable development" is for corporations to not only be concerned solely about their economic activities, but to also consider the ensuing social and environmental impacts as well. At this point, "corporate sustainability" employed CSR (Corporate Social Responsibility) programs to address prevailing issues (Kleine & von Hauff, 2009). The rise of discourse on the danger of climate change also encouraged the advent of the "green development" idea, wherein previously the issues of the environment and "development" had been discussed during the meeting of the United Nations Conference on Environment

and Development (UNCED) in Rio de Janeiro in 1992 and The World Summit on Sustainable Development in Johannesburg in 2002 (Adams, 2009).

The transformation of the development concept into sustainable development, corporate sustainability, and green development still receive strong criticisms. The main criticism observes that transformation of the development concept did not occur due to the kind-hearted goodwill of those in power, but it was more influenced by the tremendous pressure of the civil society. Thus, the transformational change in the development concept is seen as an effort to counter this criticism while corporations carry out their core economic business as usual, which is the continual process of capital accumulation, and they concurrently minimize conflicts or disturbances to the production process (De Angelis, 2014). The concept of accumulation and acquisition of as much profit as possible remains to be the core life of corporations; although they in one condition have to undertake political charity (such as CSR). The study by Nooteboom and de Jong (2010) shows the fantasy of what is considered as “green development”- stresses the importance of considering the natural environment throughout every development process. With the locus of research in the Mahakam River, East Kalimantan, they showed how ecological degradation in the river area was observed in the form of decreasing water quality, flooding, decline of fish catch, and an increase in sedimentation and aquatic weed. The destruction of the ecological order was caused by existing oil palm and mining companies operating around the river. Although in their objectives, the concept of “green development” has always been prioritized, it is merely a fantasy which is a far cry from the apparent reality.

Public space is always limited. Meanwhile, technology and knowledge develops progressively, demand various rationalizations that are fully engineered to facilitate human work in a variety of matters. Among those that will be highlighted in this discussion topic is the bargaining position of the business sector, which notably has much more access over production technology; thus leading to a diametrical or asymmetrical position against the nonbusiness sector. These diametrical and asymmetrical aspects consequently render the control of public space to be more inclined towards the business sector, and frequently disregard the rights prevalent outside of the business sector circle. An example would be the neglect of the environmental aspect and the community’s social rights included within. As observed through the perspective of Stiglitz (2000: 94), there is often a trade-off among the interests of the business sector and the environment along with the communities residing in it. Particularly in developing countries. This is bound to happen, bearing in mind that the profitability represented in the parameter of the GDP becomes a benchmark in a country’s level of development. Particularly in the global political economy arena, which demands economic stability for investment purposes.

Historically, the shift in perspective happened in the context when there was a peak of mass production, which disregarded the existences of the community and the environment, thereby leading to exploitative impacts in the mid-70s. Momentarily, after activists in the 80s demanded resolution, which was subsequently followed by two

mediations. It first occurred in Rio de Janeiro, Brazil in 1992. It was then followed up eight years later in the UN Global Compact forum. After undergoing various considerations, it was ultimately agreed that the paradigm of modern business activity should not merely focus on profit, but on the environment and society ‘as a form of compensation for negative externalities or impacts caused by business activities’ (Yuda, 2016: 201 - 202). This approach is in theory widely known as the Triple Bottom Line: Profit, Planet, People (see: Elkington, 1999). TBL became an ethical standard for business actors to produce and distribute all types of goods and services to the consumers.

Slapper and Hall (2011), try to provide minimum indicators regarding which ideals should be fulfilled by business institutions in implementing the TBL model. First, profit. Wherein the company must consider: private income, churn rate system (this term refers to the context of customers cutting ties with the supplier in a given period of time), rate of growth or creation of employment, company sectorization, company percentage in each sector, contribution of each sector to the PDB. Second, planet. The corporation in its production and distribution system must pay attention to the environment variable, which represents natural resource potentiality and its influence on the ecosystem. Among the variables are: concentration of sulfur dioxide, prioritization of pollutants, electricity consumption, use of fossil fuel, waste management, hazardous waste management, and lastly, consideration of impact on soil structure. These measurements, ideally, should have projections regarding trends and periods when each of the media/material utilized in production activities decomposes. This projection measure will help corporations in identifying and assessing externality risks and impacts of production activities. Third, people. It is undeniable that a company’s existence often has an impact on social change, the economy, and community welfare in its broadest sense. Thus, a good company should be able to guarantee, or even, increase the welfare of those that have the potential to be impacted by its activities. Or it should not, at the very least, cause the quality of community welfare to decrease. The following are variables which should be considered: unemployment rate, participation of women labor in the productive sector, measure of average household income, percentage of education level, rate of violence, and health.

RESEARCH METHOD

The research methodology employed to answer the research questions is a qualitative method with a case study. Research methods mainly involved the semi-structured interview techniques and Focus Group Discussion with stakeholders to elicit perceptions of factors influencing human interest in peatlands, problems arising from peatlands management, and the relative importance of potential benefits of peatlands. Stakeholders, that are individuals, groups, and organizations with interest in and have significant role over peatlands, were identified at three scales of enquiry. First, the inquisition focused on two major firms operating in the field of peatland utilization industry, specifically the industrial cultivation of Acacia, Eucalyptus and oil palm in Riau, namely, Riau Andalan Pulp and Paper Inc. and Asian Agri. Then,

the interview continues to the local community, such as plasma farmers and ordinary palm oil farmers, customary figure, and local cultural observer. The third scale of data collection was organized FGD with the local government institution for regional development planning (Badan Perencanaan Pembangunan Daerah - Bappeda) to address the issues of peatland management system in Riau.

Additionally, secondary data support was also acquired through analysis of media content and previous relevant researches on actors' interests in the ecology of peatland management. This issue is considerably relevant in setting up a government policy agenda, bearing in mind that the increasingly varying utilization of peatland in Indonesia demands the proactive involvement of various stakeholders, such as the government, corporations, labor union, non-government organizations (NGOs), and the community. Ultimately, an accommodating and soluble policy formulation is necessary in bridging the interests of the respective stakeholder by considering the shift of development paradigm towards sustainable development.

RESULTS AND DISCUSSION

Problems Emerging from Ecological Issues, along with the importance of peatlands in the micro and meso business scale - used for plantation and HTI by the local people and corporation, there are several problems related to ecological issues caused by the 'green development' principles were not adopted: 1) waste management and environmental pollution, the utilization of peatland often causes problems in waste management which could result in environmental pollution when handled improperly. Based on research results, it was found that a limited liability company had been disposing its waste in the Kampar River, which led to hundreds of kilos of dead river fish and causing surrounding communities to suffer skin diseases, particularly in the area of Sering Village, Pelalawan Regency (Potretnews, 2016; Riaudetil, 2016); 2) peatland fire, environmental degradation which is commonly caused by peatland fire has brought about damage to the ecosystem on land, in water and air. Based on Forbil Institute data in 2017, the peat restoration program is expected to restore the conditions of the peat forest ecosystem which had experienced total destruction, this means a moratorium of new permit in the opening of land which may reduce the productivity of HTI and palm industries mostly maintained on the peat areas (Forbil Institute, 2017). On the other hand, the degradation of peatlands which has not reached a level of 100% can still be saved through conservation measures; 3) flood, which occurs almost every year, in the areas of Pangkalan Kerinci, Pelalawan Regency for instance, not only hinders residents' activities, but also the corporation's production process due to severed access to production facilities (Goriau, 2016; Faktapost, 2016; Riauterkini, 2014). Flood happens because many lands were converted to HTI and intensive logging took place, wherein a lot of corporations take cover under the HTI umbrella (Metroterkini, 2016); 4) opening of new land, another problem regarding peatland ecological conservation is connected to the opening of land in Pedang Island, Meranti Islands, Pelalawan Regency, particularly regarding drainage construction

in the form of a 3 kilometers long canal (The Guardian, 2016). The canal construction is considered to be dangerous, as it leads to a desertification phenomenon which is often observed in the peatland drying process.

Economic Issues and Exploitation of Labor in Peat Plantation: 1) low wages, in regards to the relation of production in palm plantation, such as in the Riau region, every two hectares of oil palm plantation commonly employs a worker. The wage mechanism is based on the count per day or per kilogram of palm trees harvested. Data from Sawit Watch shows that as much as 65% of labor working in palm plantation assumes the status of casual day labor (Buruh Harian Lepas - BHL) with a salary of IDR 24,500 - IDR 27,000/day for 7 hours of work, with a maximum of 15 working days within a month. With such wages, Sawit Watch assessed that there is exploitation of permanent workers and caretakers of the palm oil plantation. Despite contractual and permanent labor being directly under company management, their wages are not too high. The wage issue is a central one among the economic issues found in palm oil plantations. Issues regarding wages would trigger workers to engage in protests demanding a wage increase. These workers who are assembled in the Federation of Indonesian Paper and Pulp Worker Union (Federasi Serikat Pekerja Pulp dan Kertas Indonesia - FSP2KI), protested demanding an increase in Regional Minimum Wage (UMK) to the Manpower and Transmigration Office of Pelalawan Regency. so that the corporation would increase their salary by 20% higher than the previous year; 2) low priority for worker safety, a local media analysis conducted by Forbil Institute found that a corporation in Riau let its workers be transported to their work location using trucks in a crowded standing position (Metroterkini, 2016). This can be seen as a legal violation committed by the corporation, as stipulated in Law No. 22/2009 on Road Traffic and Transportation Article 137 Verse 4, wherein vehicle for transporting goods is prohibited from transporting passengers unless geographical conditions and road facilities are not feasible, it is for use of military training, or pertaining to state or government interests; 3) a collaboration model which disadvantages plasma farmers, plasma farmers also called as contract farmers (Perkebunan Inti Rakyat - PIR) are farmers that work in corporation field to produce plantation to improve their economy. It also considered as CSR program that held by the corporation to encourage the local people prosperity. Keeping in mind that oil palm plantation is different to rubber plantation or other plantations, and that the fruit it produces rapidly decays, the managing companies implement a partnership mechanism with external parties using a 10:2 distribution ratio. This means that if a person were to provide 10 hectares of land, then he or she would obtain 2 hectares of palm oil plots partnership in the form of loan, which interests are paid based on the yield of fresh fruit bunch (FFB) from those plots. This leads to issues regarding conversion agreement in the handover of land which was initially only 4 years, but in reality, it took an average of 6 - 7 years (Saragih, 2011). Additionally, there are also issues regarding the quality of plasma plot fruit which is deemed inadequate and not according to size; the amount of debt and credit interest

burdened being too high and lacking transparency; one-sided price determination of FFB by the main company; the provision of seedlings, fertilizers, pesticides, and other work tools are monopolized by the main company; farmers' lack of special skills in cultivating land and making it become more productive. On the other hand, the Special Nucleus Smallholder Scheme (PIR-Khusus) and the Transmigrant Nucleus Smallholder Scheme (PIR-Trans) partnership models involving transmigrating residents was initially carried out in the 1980s. This transmigration program mostly targeted residents in the island of Java to become plasma farmers in the Sumatra and Kalimantan regions. As a result of this transmigration program, there are plasma farmers who failed and succeeded. Nevertheless, the field conditions were at times disadvantageous. The Indonesian Commission for the Supervision of Business Competition (KPPU) stated that the PIR collaboration model has been disadvantageous to plasma farmers, particularly in terms of scaling, yield, and/or pricing (Moidady, 2014). If this practice were to be proven to have taken place in the field, then the company would have violated Law No.5/1999 concerning the Ban on Monopolistic Practices and Unfair Business Competition; 4) conversion of status from land owner to labor, this is one of the significant issues encountered at the provincial level, because in Riau, there has been a transformation of cultivators who were previously landowners into becoming plantation labor with wages between IDR 35,000 - IDR 45,000 (Dewi, 2016). Along with the shift in status, residents who became plantation workers only depend on the corporation's wages without any future guarantee. Additionally, some people who have lost the rights to land ownership have changed profession to illegal mining in other regencies (Sawit Watch, 2014); 5) high demand for palm oil, the huge expansion undertaken by palm plantation is an effort to meet global market demand. This can be observed from the data of crude palm oil (CPO) production in 2013, which was 25.5 million tons of which 21 million tons of CPO were for export purposes. This means that the world demand for palm oil continues to rise because palm oil was regarded as a future commodity. Indonesia along with Malaysia are the biggest palm oil exporting countries in the world. Based on data from Indonesia-Investments, both countries produce a total of 85-90% of world palm oil production, wherein Indonesia specifically produced more palm oil than Malaysia, placing it as the world's biggest palm oil producer (Indonesia-Investments, 2016). Therefore, the oil palm industry has a high substantial contribution to Indonesia's economy, not only in providing employment and assisting the community through its community development programs, but also in helping to increase Indonesia's entire Gross Domestic Product. With reference to the constant population growth which increases the demand for oil palm, it is subsequently assumed that world palm oil production will increase by 32% into 60 million tons in the year 2020 (Dahono, 2014). As seen in the Statistics Indonesia 2017 data, most palm oil importing countries will continue to increase their demand as signified with the rise in the net weight quantity of palm oil exported by Indonesia to China, India, Pakistan, Bangladesh, Sri Lanka, Egypt,

and other countries (Badan Pusat Statistik, 2017). Based on the conducted research, there are a number of good practices undertaken by the corporations, first, Labor Welfare. Corporation employees have been receiving wages above the Regional Minimum Wage which is IDR 87,000 per day with a work period of 8 hours (Monday-Friday) and 5 hours on Saturdays. Second, Work Safety. The principle of work safety is strictly upheld by the corporation examined in this study. The company has a health clinic for its workers if they are in need of first aid. In addition, the company is responsible for paying the employees' BPJS (Indonesian Social Security Program) fees without reducing their salaries. Third, Welfare of Plasma Farmers. The company succeeded in establishing partnership with the government and plasma farmers in the form of 2.5 hectares of land handovers from the government (2 hectares for plantation land and 0.5 hectares for housing and garden area) with the company providing funding, seedlings, and fertilizers as well as plantation maintenance.

Social-cultural issues in peatland plantation, the utilization of peatlands for plantation and agricultural purposes always generates pros and cons among various parties. Experts argue that leaving peatlands for flora/fauna habitat is one of the wise utilization of peat. However, in reality, the opening of peat swamp forests for such purposes is in fact more dominant in causing environmental issues, changing the ecosystem and impeding the lives of surrounding communities. The largest proportion of peatland conversion is found in Sumatera (3.5 million hectares) and Kalimantan (1.7 million hectares), and the rest in Papua. Out of the 7.23 million hectares of mapped areas in Sumatera (93 percent of assumed spread of peatlands in the region) approximately 1.03 million hectares have been converted into palm plantation lands. Out of the 5.77 million hectares of mapped areas in Kalimantan (about 71 percent of the total spread of peatlands in the region), approximately 258.3 thousand hectares have been converted to palm plantations (Miettinen et.al., 2016).

Aside from being converted into palm plantation land, other forms of peatland conversion are industrial plantation land (acacia), rubber plantation, pineapple, and horticulture/food crops. Different from oil palm which most of its production is undertaken by corporations, most rubber plantations and food crop cultivations are undertaken through activities of agricultural community. The dominance of oil palm in the conversion of peatlands into areas of cultivation is caused by the superiority of financial profitability gained from oil palm farming venture in comparison to other agricultural commodities. The utilization of peatlands for agriculture including plantation and industrial cultivation are categorized as extremely susceptible, particularly if it were employed in isolated areas of thick peat. Why so? This is because when peatland is utilized to cultivate plantation and agricultural commodities, efforts in adapting the water condition of the area or drying up the land by creating canals or drainage channels are a necessity. This drainage construction subsequently results in the drop of soil water by 1-3 cm per year, and change in temperature and humidity of peat layer near the surface. Additionally, oversights in

peatland management such as overexploitation without any consideration to the ecofriendly local wisdom have caused changes in the ecosystem and the loss of traditional livelihoods of the local communities which served as their economic support. The opening of peatland to transmigrants have also created its own problems, due to difficulties in developing agricultural activities on those lands, which eventually led them to switch profession and become urban laborers or engage in timber and illegal logging activities.

Policy issues which surfaced from the social political aspect: 1) difference of perception between customary law and formal jurisdictional law, expansion from the industrial sector often does not provide space for the local communities to land use. This is understandable as there is a different perception between unwritten customary law and formal jurisdictional law. The social-cultural factor has caused problems regarding claims of customary rights, which consequently triggers conflict with the traditional community (Wahid and Babel, 2007). There are many cases found pertaining to differences between the national agrarian law (formal) and the customary law adhered to by the local community. Jurisdictional boundary, rules of representation, and ownership issues found in social institution in the field of land control adhered to by the local communities in the relevant regions cannot be easily integrated into the formal regulation which refers to the National Agrarian Law. In a number of cases, solutions to those conflicts have yet to be formulated into a legal mechanism which applies generally given that the paradigm followed by the traditional communities varies and is at times diametrical to the perspective adhered to in formal law. Another example is in the case wherein a corporation has obtained a Plantation Permit (IUP) or a Land Cultivation Rights Title (HGU) which is different to what the traditional community considers as the guide in land control. The implementation of customary rights to land, as well as other similar rights of communities following customary laws have been stipulated in Law No. 5/1960 concerning Basic Regulations on Agrarian Principles. On the basis of this law, land rights founded on customary laws is basically prohibited to obstruct/delay the provision of business rights provided by the government. This condition becomes one of the sources of social conflicts in the utilization of land resources; 2) indications of nontransparent KUD practices, the background in the formation of the Village Unit Cooperative (Koperasi Unit Desa - KUD) in the peatland area is that it was initially a trade channel between plasma farmers and the corporations. In practice, KUD provided opportunities for its organizers to engage in deviant activities particularly in terms of profit sharing agreement in the community plantation forest (Hutan Tanaman Rakyat - HTR) system. The HTR system is a land lease system in which farmers receive salaries from each of the plots leased to the corporation. The forms of deviant activities found were the inflation in the amount of KUD members and the sale of customary lands for personal interest; 3) the change from customary to industrial community, the phenomenon of reduced local tradition practices and changing customary land which influenced the local community's pattern of life was also observed. Upon the

industrialization of oil palm, cultural disorientation in the community became more pronounced. As an example, local communities who were given palm plots only used them for short-term consumptive intent by putting them up for sale. This was done because the local community's tradition or custom is hunting and nomadic in nature, not management of palm plantation. According to Posey in Adimihardja (2004) the local knowledge system should be understood to cover various forms of intellectual creativity of particular communities which is an individual and social contemporary, and sustainable response to their surrounding environment. The local technology and knowledge systems provided us with an illustration regarding the community's traditional wisdom in utilizing social and natural resources wisely by referring to environmental conservation and balance. Additionally, the change was also observed to occur among farmers from transmigration areas, wherein they still lack much local knowledge in utilizing peatland resources for agricultural activities. This is understandable as social interaction among the communities who are currently managing the peatland is relatively new. Some were even forced to utilize the peatland as they had no other land alternatives that are relatively of better quality. It is no surprise that transmigrant farmers of peatland employ the mindset and actions as if they were on the fertile land of their origin.

This research also found good corporation practices in the social-cultural aspect in which among others are, first, availability of community partnership. The corporation's presence in Pelalawan Regency has provided benefit to approximately 90,000 residents, created 5,000 types of jobs and contributed to 5.4% of household income in the Riau Province. Additionally, the corporation serving as the sample for this study has also succeeded in collaborating with 29,000 plasma farmers originally from the island of Java. The Corporation also established a partnership program with the community as the landowners to develop an acacia plantation of their own called HTR (community plantation forest). The corporation provided funding, seedlings, and fertilizers, and plantation maintenance for 28,384 hectares of land. 30 - 35 types of jobs have been created through the HTR. At the time, the government provided 2.5 hectares per head of household with a distribution of 2 hectares for planting oil palm purposes and the remaining half a hectare for housing purposes. Second, labor protection. Labor absorption is conducted through labor formalization using the annual contract system which is mostly filled up by women. There are approximately 350 workers with social security and work accidents insurance fees being paid for by the corporation. The amount of salary received by the workers adheres to the regency's minimum wage rate with a monthly average of 2.1 million rupiahs. These workers also obtain other incentives in the form of 15 kilograms of rice benefit if they were to complete the entire effective working hours of 23 work days. Third, supporting conservation of local culture. Through CSR funds, the corporation has programs in support of cultural conservation in the local regency. These programs also influence the regional government's awareness on revitalizing customary structures by issuing regional

regulations aimed at enabling the village to be managed based on traditional customs, providing space to rein-vigorate customary apparatus in the village structure for matters pertaining to traditional customs, and regulating management of customary lands—which must have changed right of ownership through formal legal means.

There are several actors involved in the management and utilization of peatlands, namely the corporation, the government, interest group and the community. Every one of these actors undoubtedly has varying interests: 1) corporation, the corporation has an interest in regulating its waste disposal efficiently by taking ecological principles into account. The study result acquired by the Forbil Institute shows that there is a corporation which has obtained a PROPER (a company performance rating assessment program which requires companies to conduct self-assessment based on environmental documents, air, water control, and processing of poisonous and hazardous waste materials) scale of blue from the Ministry of Environment and Forestry (Forbil Institute, 2017). This means that the corporation had undertaken the required efforts in environmental management in accordance to the prevailing stipulations and regulations. Such corporation must be acknowledged and appreciated for their efforts and awareness in conserving the environment; 2) government, the regional environment agency serving as the arms of the government assumes its role as a mediator between the interests of the corporation and the community, particularly when negative impacts are found in the lives of the community, as a result of industrial waste disposal; 3) interest group, the interest group involved in the utilization of peatland has the role of criticizing government policies in its efforts of controlling forest fires, peat degradation, and the issue of flooding. This group's interest is for the government to change its perspective in viewing the ecological issue of peatland from a recovery approach to a mitigation approach. In addition, this interest group also frequently highlights the management of waste processing and disposal system implemented by the corporation; 4) community, the community's interest is essentially conservative, and benefits wherein the utilization and management of peatland does not lead to environmental pollution, and that it would provide positive results to the community.

Good Practices of Corporation in the Utilization of Peatland can be explained as follows: first, Support to Sustainable Environmental Management in the Production Process. As a form of environmental awareness, a corporation in Riau operates various latest technological advances to support its production starting from the log yard, sewage plant (IPAL), all the way to the processing of water taken from the Kampar river, which undergoes treatment before being distributed to factories and housing compounds. The company's production process also uses advanced paper processing technology, such as the use of the most modern wood powder processing machinery which has 92% efficiency in maintaining the fabrication process and sustaining the environment (Forbil Institute, 2017). Additionally, the corporation also has an interest to process peat land and provide additional benefit by cultivating Acacia and Eucalyptus in accordance to principles of ecological conservation,

as stipulated in governmental regulations, as well as to increase the effectiveness of production. Second, commitment to restoration, conservation, and environmental issues. There is a corporation which has launched a program called sustainable forest policy 2.0 with a 1:1 commitment which means that for every 1 hectare of concession area another 1 hectare will be dedicated for restoration or conservation forest. As of current, there is already 150 thousand hectares of forest area successfully restored. Third, Waste Management. Many corporations have implemented zero waste management in the processing of their waste, which means that all wastes are able to be reused as an energy alternative that is renewable (renewable energy). Fourth, Support for Sustainable Environmental Management in the Non-Production Process (Community Development). Aside from the production process, the corporation's commitment to protect the environment can be observed in their community development program committed to education. Take the Tanoto Foundation's Pelita Pendidikan Program which was initiated in Riau in 2011 as an example, the company collaborates with 95 public elementary schools, even outside of the Pelalawan Regency up to the Siak Regency which is generally located in isolated areas, and focus on access to education as well as sustainable environmental education (Forbil Institute, 2017). This program offers provision of school equipment and facilities such as desks and chairs, procurement of books, physical construction of sanitation facilities and even environmental education such as waste management.

CONCLUSION

Ecological conservation is a complex matter, and it is a fundamental issue in the process of oil palm cultivation. There are paradoxes in government policies pertaining to peatland management, as its implementation bears a massive impact on the industry which consequently influences the production process. There are numerous actors involved in this issue, and a policy accommodating the interests of each actor is a necessity. For instance, implementing a policy capable of differentiating the needs of each of the vegetation planted in the peatland—which is parallel to optimum water level policy appropriate to the depth of the peat area or the type of peat soil (multifactor or multilevel considerations)—in comparison to water level standardization approach. This can subsequently be supported by policies accommodating nonconventional soil conservation technology, which has the capacity to address the main issues of peat conservation and peat environment, which is a soil conservation, forest fire, and rise of carbon emission. Hence, the policies created will be able to link between the social, economic and ecological aspects, as well as boost innovations in the production process itself.

The result of this study also shows that corporation has obvious strength in the aspect of product innovation, particularly in waste processing, which can then be utilized as a source of ecofriendly energy. The government can, thus, collaborate with corporations to address villages experiencing issues of land restoration due to B3 contamination, which can simultaneously be used

to support community empowerment programs referring to household economy and micro level utilization of peatland. On the other hand, the involvement of the corporation is no less significant for the corporation itself to seek future strategies by understanding interests and reactions of other actors regarding the corporation's policies. The government's policy of implementing a standard of production in the form of PROPER, which also places the ecological aspect as the main assessment point needs to be upheld as it can encourage product competitiveness, both nationally and internationally.

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