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Analysis of the Palm Oil Governance in Indonesia

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***Abstract*—** *The rapid growth of demand for palm oil and expansion of plantations for its production induced complex Economic, Social and Environmental issues. Negative environmental consequences associated with the palm oil production in Indonesia is striking and becoming an increasingly concerning problem. This paper is providing a descriptive analysis of the palm oil issue, a premise to the results of the initiatives used to achieve sustainable development; featuring political legitimacy and institutional fit, and a final analysis of such techniques and what can further be done to reach the sustainability goal.*

I. INTRODUCTION

Palm oil is a vegetable oil extracted from the fleshy part of the fruit of the oil palm (Elaeis guineensis). Oil from the seeds of this palm is one of the oldest foods for mankind known in ancient Egypt. Palm oil in 2015 exceeded the production of soybean oil, rapeseed oil, and took first place among vegetable oils production (Fig. 1), outstripping about 2.5 times production of sunflower oil [1,2,3].

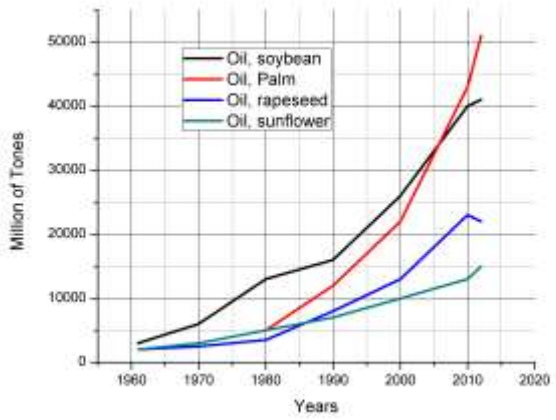

Fig. 1. World's Production of Vegetable Oils. (Data from [1,2 and 3]).

Palm oil is often used in the food industry and it is the world's largest food manufacturer. Nestlé buys over 420,000 tons of palm oil for its products, each year [1]. Besides food, palm oil is used for biofuel production, cosmetics, shampoos, and many other biochemical products [1].

Of course, like the other oils, palm oil can be used in any production process that uses vegetable oils. A crucial role is always played by economic expediency: the palm oil production industry in the Pacific Asia mostly is concentrated in Southeast Asia. Nowadays the largest producers of Palm Oil among the ten leading in this field are Malaysia (produces more then 17 million tones per year) and Indonesia with more then 20 million tons [1], Fig. 2.

The Production of palm oil in Indonesia has been going on since 1964 and today, accounts for 11 percent of exports earning of $5.7bn of USD, maintaining its status as one of the largest producer of palm oil. The entire production of the oil is derived from rainforests [3]. Rapid growth in demand for palm oil has led to the threat of destruction of tropical forests, by burning them, and planting in their place of plantations of oil palm [3].

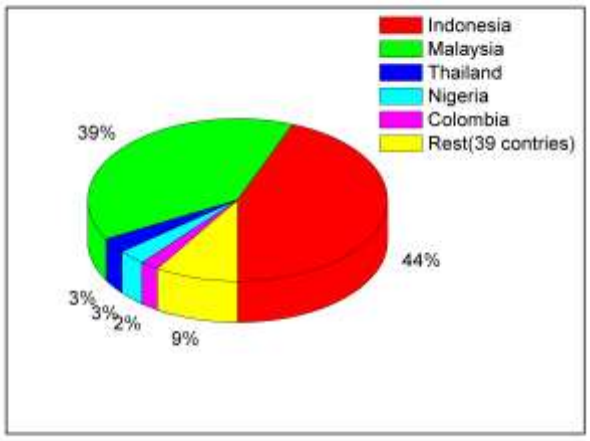

Fig. 2. Ten largest producers of Palm Oil as of 2011. (Data from [1]).

High demand for palm oil and expansive logging of virgin rainforest causes the attention of non-governmental organizations (NGO) on environmental protection of Indonesia and Malaysia: the Economic Benefit of Palm oil production faces (against) Environmental and Social Impacts of Oil Palm Plantations [4].

Agro-industrial development in Indonesia, and particularly the production of palm oil, has caused significant environmental degradation and pollution. In response, the Indonesian state has cooperated with numerous international actors to advance governance regimes in an effort to coordinate with global demand of palm oil. This action ensures the sustainable advancement of the agro-industrial sector of Indonesia.

Negative environmental consequences associated with the palm oil production in Indonesia is striking and becoming an increasingly concerning problem. By 2000, the total area oil palm increased from 3.2 million hectares, to 6.6 million hectares, effectively doubling over a ten-year span [5,6]. The

increasing popularity and consumer demand has led to an oil palm boom, as the price of crude palm oil increased 88 percent from $ 570 USD per ton in early 2007 to $ 1,440 USD per ton at the beginning of March 2008 [5,6].

There have been various initiatives implemented by the government of Indonesia alongside with international actors to secure the idea of legitimate environmental protection efforts. Initiatives such as standards and certifications, market focused instruments, decentralization/multi-level governance networks were enabled to execute global sustainable development demands, as well as preserving the surrounding ecosystems and community livelihoods. Although these initiatives were taken, there are still countless complications that lead to weak results, therefore recommending for a stronger regime in multi-level governance.

This paper will provide a descriptive analysis of the palm oil issue, a premise to the results of the initiatives used to achieve sustainable development; featuring political legitimacy and institutional fit, and a final analysis of such techniques and what can further be done to reach the sustainability goal.

II. Descriptive Analysis

Palm oil is one of the main exports of Indonesia. Together with Malaysia, the country produces up to 80-90% of world production [5]. Table 1 below shows Amount of Palm Oil produced in Indonesia and Malaysia in 2001 – 2011 (*Source: FAO Statistics* [1]).

TABLE I. Amount of Palm Oil produced in Indonesia and Malaysia in 2001 – 2011 (tones).

Years	Indonesia	Malaysia
2001	8,396,472.0	11,804,000.0
2002	9,622,344.0	11,909,300.0
2003	10,830,389.0	13,354,800.0
2004	10,830,389.0	13,976,200.0
2005	11,861,615.0	14,961,700.0
2006	17,350,848.0	15,880,700.0
2007	17,664,725.0	15,823,745.0
2008	17,539,788.0	17,734,441.0
2009	19,324,293.0	17,564,937.0
2010	21,958,120.0	16,993,717.0
2011	23,096,541.0	18,911,520.0

Figure 3 below shows, that palm oil production in Indonesia has grown rapidly over the past decade (Indonesia Investment [5]). According to the data of the Ministry of Environment and Forestry of Indonesia, over the past 27 years, the territories of national forests have decreased by 31 million hectares, which is equivalent to the area of Germany.

Drainage of peat lands and cutting down trees under palm plantations are recognized as the leading cause of fires in the country. In Indonesia, palm oil production is the primary cause of deforestation, which in turn leads to climate change and destroys the habitats of many species of living creatures. Moreover, the wastewater of palm oil refineries releases vast amounts of methane, a greenhouse gas that is 34 times stronger than carbon dioxide [6]. There are multiple actors in governing this issue, some of which include municipalities, local agencies, the state and international NGO's, such as The Roundtable of Sustainable Palm Oil.

Fig. 3. Indonesian Palm Plantation and Oil Production 2008 – 2016 (Data from [1,2 and 3]).

The RSPO is an organization that that focuses on standard setting and certification, to achieve sustainability [3]. There are efforts in multi-level governance, where there are actors involved from the co-governance sphere, the public-private sphere as well as the social-private sphere [1]. However, most governance is done under the public and private actors using hard law, where a hierarchal mode of governance is issued by market forces [9]. Geibler [3] mentions, "(inter-) governmental efforts are often too slow and sensitive to stop unsustainable use of a resource". Regulatory response using the multi-level structure has been inadequate, due to a lack of clarity in smallholder plantation agreements, which include: enduring land disputes, failure of company service, increase in pests, pollution of rivers, unsafe fertilizers, unsafe working environment, inequalities, and the loss of traditional livelihood security [4].

Global sustainability efforts are applied using the market approach, to provide a solution to unsustainable use of palm oil [3]. Many of these market institutions are governed by non-state actors which include "multinational companies and non-governmental organizations" [3]. This type of governance is considered a private global governance because "they are established without direct involvement of governments, agencies or intergovernmental organizations" [3].

III. Premise to Findings

A. Standards and Certifications

Standards and certifications were created for the palm oil industry to ensure that while demand is still high, sustainable production is still being executed. One of the main actors in ensuring that palm oil production is brought up in a sustainable manner is the Roundtable of Sustainable Palm Oil (RSPO). It tries to focus on addressing these sustainability challenges that are brought up by market demand. Pramudya,

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Hospes and Termeer [7] advise that sustainable development consists of three complimentary elements: one being *economic* sustainability, second being *environmental sustainability* and third being *social equity*. These three elements can reveal how effective the standards are. Not only should the RSPO consist of encouraging sustainable development, it needs to portray that it can achieve political legitimacy. Bernstein and Cashore [2] define political legitimacy to be the acceptance of shared rule by a community as appropriate and justified, meaning that legitimacy arises from a multi-level process of social interaction between all spheres of governance.

The RSPO is a Non-State Market Driven governance phenomenon, in which it needs to attract firms that are already practicing "close to a systems standard" [2]. In order for this governance to work, there needs to be social interaction from community members, to provide a discourse on particular issues that can come about. There needs to be transparent processes and an open developmental process as well as stakeholder participation for the legitimacy of the standards that are being portrayed by the RSPO [3]. Furthermore, there needs to be a third party that can approve such standards, that has no participation to the certification, henceforth removing any biases.

That being said, the RSPO is consistently being criticized due to the fact that it does not meet a handful of standards that affects its political legitimacy. The RSPO does portray positive characteristics in the sense that it forces industries to follow a set of rules, and consists of members from seven different categories of the palm oil chain. However, the RSPO is not consistent in reaching long term goals, and members within the RSPO are mainly large companies, posing a bias that leans more towards the economic sector rather than solving environmental problems [3]. Furthermore, there is a lack of direct integration of small-scale farmers and local stakeholders [3]. The dominance of large companies of the palm oil chain, within the RSPO is without comparison, which is why is it constantly challenged and criticized by environmental groups such as Friends of the Earth [3]. In addition to the dominance of large companies within the RSPO, small scale farmers often don't have a good understanding of the standards that are set forward. Geibler [3] indicated that the "large number of standards leads to confusion and increased production cost". This indicates that there is not enough education being offered for small-scale farmers, for there to be any type of sustainable development. As mentioned by Agrawal and Lemos [1] political legitimacy is obtained from the very source, in this case, the farmers that produce the palm oil.

Figure 4 below shows ownership of Palm Oil Plantations in Indonesia.

Opportunities can arise from such certification programs such as gain access to a wider market, as there is a greater interest among consumers to support sustainable environmental practices [4]. In order for such opportunities to occur, there needs to be partnerships between smallholders and Palm Oil Mills, as it is seen to create a clean production system in the future. A system that involves small farmers to the RSPO and ISO standards will significantly increase Indonesia's ability to achieve global trade standards.

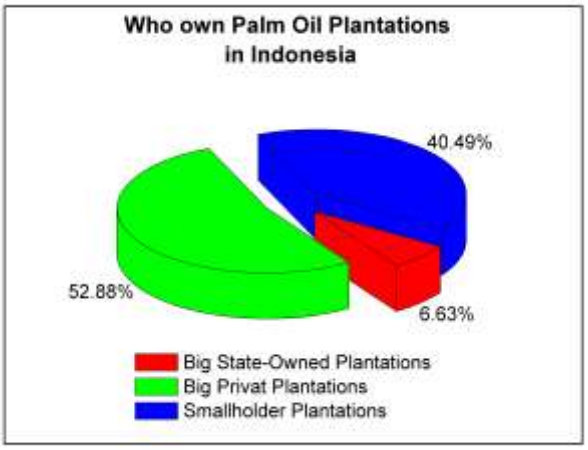

Fig. 4. Ownership of Indonesian Palm Oil Plantations.

If these certification schemes arise, for example the RSPO, there can be threats posed to the regulation of environmental sustainability. If the RSPO does not come to the decision of improving stakeholder and smallholder's communication, they can always be deducted by emerging competitors that will fulfill the requirements to achieve a sustainable stamp of approval. The RSPO can receive negative coverage from press, which can lead to a change in consumer preference, therefore decreasing the demand of such products. These threats are already occurring seeing that the RSPO is receiving weak market demands. There is also critique that companies that want deforestation to be legalized, to further practice cheap unsustainable palm oil production use the RSPO. This has caused there to be a less demand for the RSPO from global demand [3].

For the time being, the certification scheme like RSPO is fundamentally flawed and thus cannot be considered an effective governance technique. It is to be mindful that it is a new type of regulation, in which it still has a long way to go before it is well executed. The lack of transparency, limited amount of stakeholder participation, lack of education and green washing does not make this tool to be politically legitimate. As mentioned by Geibler [3], "a single controlling tool alone such as non-state market based governance through standard setting cannot determine and regulate negative consequences of complex interactive systems in global value chains".

B. Environmental Policy instruments. Multi-level Governance

Multi-level governance arrangements as stated by Smith [8] are "centralized governmental forms that become distributed across all levels and actors. It provides the opportunity for multiple actors to be involved in various political levels [4]. Indonesia has decided to take part in efforts of decentralization to achieve sustainable development through the process of inclusion of all actors and institutions. Smith [8] described multi-level governance as governance that is well organized and has distinct functional separation across

all levels and allocates clear lines of responsibility on all levels. Smith [8] presents two types of multi-level governance, being Type 1 and Type 2. Type 1 is well ordered, has nested responsibilities, and has a clear and neat distribution between all multifunctional institutions and networks. Contrarily, Type 2 is fluid, very task specific, provides a flexible institutional design and allows there to be membership intersection across levels. Type 1 tends to adhere to older characteristics of regionalism within a hierarchical tier, whereas Type 2 exhibits new polycentric characteristics, where interdependencies are negotiable between all levels [8]. Institutional fit requires there to be a decentralized type of governance where all actors can be included in the decision process. McCarthy and Zen [6, 10] suggest that there are 4 crucial elements of decentralization, which include, "sufficient powers, resource and administrative capacities to accomplish development objectives and effective accountability mechanisms that need to be in place to ensure that the elected politicians will be held responsible in local constituencies.

Due to the immense global demand for palm oil, efforts to provide a multi-level governance system would be worthy. Indonesia has taken up some efforts in decentralization and some strengths have risen from such an occasion. Local agencies are more responsive to local concerns and priorities due to demand for responsible environmental management from communities. Local agencies are closer to the problem and are putting in an effort to deal with specific issues. Furthermore, decentralization has increased democracy in Indonesia, and now has greater participation efforts for local governments. These characteristics have so far met with what it means to be Institutionally Fit, which is the involvement and participation of different actors.

Indonesia does show effort in moving forward to achieve sustainable development of palm oil using a multi-level governance approach, however, there are weaknesses present. It has been noted that these regulatory responses (although implemented) have been inadequate. Hamilton-Hart [4] has provided evidence that there is a lack of smallholder-plantation agreements which lead to land disputes that cause conflicts between the actors of the different parties. There is also evidence showing that there is failure of companies to provide promised services, an increase in water pollution, unsafe use of pesticides, injuries, inadequate working conditions and the loss of livelihoods through land loss [4]. It is evident that the decentralization process has left plenty on unclear perspectives of authorities, as well as a consistent application of community participation [6, 10]. The reason being for the lack of community involvement is stated by McCarthy & Zen [6, 10], in which they state that agencies are project oriented rather than interested in mitigating environmental issues. In other words, they are simply not interested in working with community members because it is not a priority for them, as it doesn't bring them any monetary benefits. To increase public participation, Indonesia has made it mandatory for all companies to provide an Environmental Impact Assessment report, however, implementation of these processes remains weak, due to the constant efforts of industries finding ways to prevent participation and achieving their economic goals by involving legal administrations. Although there are training programs in place to be part of the EIA, there is a lack of training involved for civil servants to fully understand what they are looking for. Considering that public participation, community involvement and the uncertainty of power amongst regions is weak, decentralization applied in the palm oil sector is not institutionally fit. It does not meet any of the standards that are outlined by MacCarthy and Zen [6], or Smith [8].

Useful opportunities come from changes in government policy related to environmental issues of palm oil production. Legislation of spatial planning and Environmental Impact Assessment (EIA) provides that environmental friendly principles should be taken into account before forest and peat areas are allocated for transition to plantations (MacCarthy & Zen, 2010). This is a good opportunity for local agencies to control palm oil production and solve environmental issues.

Strong bureaucratic regulation induces threats to achieve environmental friendly conditions with the production of palm oil. Indonesia's Law on EIA required from EIA commissions to assess Environmental Impact Statements (EIS) for each palm oil production company. The main challenge for the operation of these commissions is the search of personnel with required knowledge and commitment to assessing environmental issues, people free of any conflicts of interest. In the past, central government agencies have chosen representatives of NGOs to participate in the EIA commissions, however they tend to choose representatives who will agree with economic proposals [10]. There are often circumstances where palm oil companies pay "independent" consultants or members of the EIA commission to provide the result that they need [10]. This could cause corruption within the program management and start conflict outside of industries, in communities. Other threats such as greater environmental degradation and material scarcity can arise.

That being said, even though multi-level governance is being implemented, it is not being implemented to its full potential, causing the governance not to be institutionally fit. Strengths do exist, however they are outweighed by the weaknesses.

IV. Conclusion

This article has discussed the current governance techniques that are being used to sustain the development of palm oil in Indonesia. Certification schemes that are presented by the RSPO are not sufficient in promoting sustainable palm oil development, and do not fit the characteristics to be considered politically legitimate. It needs to be understood, that there is still a long way to go for the RSPO to be considered politically legitimate. To take a step forward, community involvement should be a priority for such industries as well and environmental well-being. Political legitimacy will not be achieved if the RSPO decides to continue its actions on prioritizing the economy, rather than its stakeholders and small farmers. The governance weaknesses need to be cleaned up and taken into account. There needs to be improvements in data availability, transparency and lack of participation of stakeholders in order to achieve its status of

being politically legitimate. Greenwashing by the RSPO should also be put to a half, if they would like to be considered legitimate by international NGO's and have a majority approval.

The application of multi-level governance by Indonesia was a step in the positive direction, however, the weaknesses outweigh the strengths, suggesting that it is not entirely Institutionally fit. Decentralization increased democracy and greater participation for local government, however the shift represented by decentralization has induced its own set of problems. These set of problems include: the difficulties of building the capacity of district governments; the decentralization process caused relevant areas of authority unclear; district and municipal governments are often unable to provide adequate resources and qualified staff for new local agencies.

In order to achieve political legitimacy and institutional fitness with regard to palm oil governance, there should be focus on community involvement, participation of all actors, voluntary agreements, and partnerships. Given the wide range of challenges that we are facing, mitigating the widespread pollution problems associated with sectors, policies should be better prepared according to the characteristics of the respective industries, and policy instruments need to be integrated in order to be consider broader socioeconomic realities, in which, and where, any policy tool should apply.

Lemos and Agrawal [1], Steurer [9], Smith [8] all have mentioned the characteristics of what it takes to be institutionally fit and politically legitimate and how to best thrive in a constantly growing economy, while adhering to environmental concerns. It is in our best interest to constantly challenge global demands and industry supply to further surplus the environmental support that is needed.

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