Indonesian Sustainable Palm Oil (ISPO) Standards In Management Of Palm Oil

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Abstract— The oil palm plantation industry in Indonesia is faced with a strong view which suggests that the development of oil palm plantations in Indonesia has an impact on environmental damage. One effort currently made by the Indonesian government to ensure the sustainability of the development of the palm oil industry is to create a sustainability standard called The Indonesian Sustainable Palm Oil (ISPO) which is mandatory. ISPO is a "guidance" for sustainable palm oil development, as well as a commitment to the implementation of various relevant laws and regulations in Indonesia. The purpose of this study is to determine the value of the ability of oil palm plantation companies in an area to meet the Indonesian Sustainable Palm Oil (ISPO) standards and identify the problems faced in achieving these standards. This research was conducted in the province of East Kalimantan in the period June 2012-May 2013. Evaluation of the company's ability to achieve the ISPO standard was carried out by the audit method, the results of the assessment of all parameters set according to the Principles, Criteria and Indicators contained in the ISPO provisions were then assessed in units percent. The results showed that the ability of plantation companies in East Kalimantan to meet ISPO standards had reached 79.14%. the capacity can still be increased up to 100% by increasing efforts to meet indicators that are not yet in accordance with ISPO regulations, namely; 1). Licensing and estate management systems, 2). Implementation of technical guidelines for oil palm cultivation and processing. 3). Environmental management and monitoring. 4). Responsibility towards workers. 5). Social and community responsibility. The determining factor for the achievement of ISPO standards is the commitment of plantation companies as business actors supported by adequate human resources to realize sustainable plantation development as well as the role of the government as the determinant of regulations in overseeing established policies. The socialization and training on the principles and criteria of ISPO standards to plantation companies needs to be immediately and more intensively carried out by the government together with the ISPO commission as an effort to accelerate the application of these standards. Dissemination and training are also needed so that the obstacles in achieving the standards of Indonesian Sustainable Palm Oil principles and criteria can be overcome, because these efforts are part of the success factors of ISPO implementation.

Keywords : Sustainable, ISPO, Palm oil, Plantation Companies, Management.

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1 INTRODUCTION

In Indonesia, the plantation sub-sector plays an important role for the economy, based on constant 2000 prices, the contribution of the agricultural sector to the national Gross Domestic Product (GDP) is 10.97 percent, where the plantation sub-sector accounts for 2.31 percent after the food crops subsector of 6, 96 percent.

The plantation subsector in Indonesia has become one of the sources of non-oil and gas foreign exchange and is able to provide employment for more than 6 million people [1]. Palm oil is the commodity of choice in the plantation revitalization program based on several considerations, including: (1) the commodity developed has a very strategic role as a source of community income, (2) the commodity developed has market prospects, both in the domestic and export markets [2]. Oil palm plantations in Indonesia in 2012 reached 9.5 million hectares, In 2017 Indonesia's CPO production rose from 23.5 million tons to 26 million tons or grew 11.01%, with the amount of production Indonesia is still the largest palm oil producer and controls 48% of the world market share [3], [4].

Behind the achievement of existing success, the Indonesian oil palm plantation industry is also faced with a challenge that must be addressed wisely, namely the strong view that portrays that the development of Indonesia's oil palm plantations has an impact on damaging natural resources and environmental sustainability. Such opinions continue to be planned and systematic. Negative campaigns, both at home and abroad are increasingly intense, demands that are often leveled among stakeholders are that oil palm development in Indonesia implements a sustainable oil palm development system. One of the efforts made by the Indonesian government to ensure the sustainability of the development of the palm oil industry is to create a garden sustainability standard called The Indonesian Sustainable Palm Oil (ISPO). ISPO is officially issued by the Directorate General of Plantations, this standard is already in force and is mandatory because the ISPO is based on Indonesian government laws and regulations [5], [6].ISPO is a guidance as well as a commitment based on laws and regulations in force in Indonesia. This provision is mandatory or must be implemented for plantation business actors in Indonesia and the target of its implementation is to begin in 2012 [4]. Noting these problems, it is necessary to conduct research to determine the value of the ability of oil palm plantation companies in Riau to meet the Indonesian Sustainable Palm Oil (ISPO) standards and what problems the company faces in meeting these standards [7], [8].

2. MATERIALS AND METHODS

2.1. Time and Place of Research

The study was conducted in June 2018 until Agust 2018 in Riau Province with the object of research in the form of oil palm plantation companies by taking the example of five (5) plantation companies which are in 3 districts namely Indragiri Hilir Regency, Rokan Hulu Regency, Rokan Hilir Regency [9]. Determination of the 5 examples of plantation companies is done by choosing directly (purposive sampling) from 5 existing districts, the selection of three districts is based on its position that is able to represent the widespread distribution of oil palm plantations in Riau. In all selected plantation companies there are still management of development areas, Immature Plantations (TBM), Productive Plants (TM), and owning Palm Oil Mills (PKS).

2.2. Data Types and Sources

Primary data collected were: area cultivated for plantations, planting area based on plant age, nursery, plant maintenance activity data, FFB and CPO production data, environmental management data and data related to licensing fulfillment. The data is collected by field observation, interviews and consultation and document verification.
Secondary data collected through a desk study (desk study) is the area of oil palm plantations and FFB and CPO production at the district and provincial level, licensing type data and research result data related to oil palm plantations in Riau. The secondary data is traced from company reports, BPS, Dinas and related agencies and research institutions.
The parties interviewed in this study were plasma farmers, management of plasma cooperatives, management representatives from each company, surrounding community leaders, the Plantation Office, the Office of Cooperatives, the Office of the Environment and environmental NGOs [10] [11].

2.3. Data analysis

Data analysis was performed by comparing the data from the assessment of parameters measured or observed during the audit with indicators contained in the ISPO standard which consisted of 128 indicators. ISPO indicators are indicators that have been determined in Permentan No.19 of 2011 [12] Determination of conformity values is done by adding indicators that are in accordance with ISPO standards for plantation companies in the study area. Determination of the weights in each principle is done by formula :

$$Bp = \frac{np}{N} \times 100\%$$

Where :

Bp = the weight value of each principle
Np = number of indicators in each principle.
N = the total number of indicators.

Calculation of the value of achieving principles and criteria

$$Pp = \frac{nr}{b} \times 100\%$$

Where:
Pp = value of principle achievements.
nr = average value of principle achievements.
b = the weight value of each principle.

In this study also identified problems that become obstacles for companies in meeting ISPO standards. Problem identification is done by interviewing the relevant stakeholders.

3. Results And Discussion

3.1. Characteristics of Plantation Management in the Study Area

According to the Riau Plantation Office (2013) there were around 364 plantation companies applying for Plantation Business Permits (IUP), while the licenses that had been issued by the Plantation Service were only 210 companies with an area of 3.13 million hectares[9].
A total of 127 companies hold HGU with an area of 1.136 million hectares. An increase in the area of oil palm plantations in Riau was able to increase the value of non-oil exports and foreign exchange earnings from CPO exports up to 2013 reached 1.26 billion US dollars (US) or equivalent to Rp.12,659 trillion [4].
The plantations in Riau, especially in this research area, are large plantations managed in a modern plantation management system with the support of third party funding capital in the form of bank credit. Technically land clearing, crop maintenance and harvesting use a combination of semi-mechanical and mechanical technology[8]. The development of nucleus and plasma estates is carried out in one management system so that no plasma farmers manage their own estates [13].
Based on observational data obtained from each company which is the object of research it is known that the source of the seed comes from the company or each company that is the object of research is known that the source of seed comes from a company or provider of certified seed and which has been appointed by the government such as the Center Research on Palm Oil (PPKS) and PT. THIP Each

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provisions in each principle in the form of percent. These results represent the value of achieving ISPO

company carries out its own nursery with a two-stage nursery system, namely the initial stage or Pre-Nursery and the advanced stage, namely Main-Nursery[8].

Management and supervision of field technical activities are divided into units of work area in the form of Estate (± 5,000 ha) then divided into Rayon supervised by the Assistant Head (± 2,500 ha), then subdivided into work areas for each area between 500-700 ha, which is overseen by the Afdeling Assistant. Each Afdeling Assistant is assisted by several Overseers for each major type of work. In general, the culture of cultivation culture that is applied refers to the cultivation technical guidelines that are recommended both by the Palm Oil Research Center (PPKS) and the technical guidelines made by PT. THIP and other large companies in Indonesia.

3.2. Achievements on the Application of ISPO Principles

The evaluation results showed that in general the achievement of the principles and criteria for managing oil palm plantations carried out by 5 companies in the study area was 73.18% in accordance with ISPO standards. Of the 128 indicators assessed, there are 111 appropriate indicators and 17 indicators that are not in accordance with the ISPO provisions [14]. The 17 indicators are spread on principle 1 to principle 5, while for principles 6 and 7 have been well fulfilled by all plantation companies in Indonesia. The percentage of the total achievement of the ISPO principle in 5 plantation companies is presented in Table 1.

Table 1. Percentage of ISPO principles and criteria achieved in the 5 plantation companies studied.

Principles and weight valve	Achievements company					Mean	Value of Achievement (%)
	1	2	3	4	5		
Principle 1	27	26	30	31	27	28,2	84.8
Principle 2	6	6	6	7	7	6.4	85.3
Principle 3	19	13	16	18	17	16.6	63.8
Principle 4	14	14	13	14	14	13.8	75.4
Principle 5	7	5	4	6	5	5.4	77.1
Principle 6	3	3	4	4	4	3.6	97.3
Principle 7	4	4	4	4	4	4	100
Average number of achievements							83

Based on the data in Table 1, it can be explained that all the plantation companies studied were able to meet the 6th principle and 7th principle of the ISPO standard (100%). Followed by principle 1 (84.8%), 4th (75.4%), 2nd principle (85.3%), and 5th principle (77.1%), the smallest achievement value principle is the third principle (63.8%).

There are two principles that can be achieved by all the company is both the 6th principle and the 7th principle, while for principle 1 to principle 5 company achievements are still quite low and vary its value [15]. This is due to several intermediate factors Other: 1). The difference in a company's management system related to HR capabilities and abilities financing activities by related companies with ISPO principle standards, 2). Location differences plantations because each Regency has a different licensing service system. 3). Difference social and cultural conditions of each region or Regency where the company are on. 4). Land conditions plantations both physically environmentally like topography, and the location of plantation estates far from public facilities and infrastructure built by the government [14].

Fulfillment of licensing documents related toplantation business (principle 1) the value of performance is 84.8%, one indicator of this principle is the fulfillment of all types of permits needed, accordingly applicable provision. The fulfillment of this indicator is very relating to the existing government service system in each Regency as well as the types of requirements that are required for licensing. There is a system difference administrative services and the types of requirements impact the time it takes to get permission, so this indicator is relatively difficult to set fulfillment time [14].

The 5th company is a medium company in being able to reach the ISPO principle 1 standard, because some of these companies can meet 3 criteria in principle 1 namely; there is still a feild not yet received a complete permit, development Smallholdings have not yet been carried out in accordance with the extent required, and there are still problems with land claims by an unresolved community though the problem has been going on for a long time. All permits will be simplified to just 30%, or only about 60 licenses, that is involving 11 Ministries and Institutions in Indonesia.

Efforts to simplify licensing were carried out so that the process licensing can be easier and faster, simplification licensing is also expected to avoid asynchronous regulations and policies issued between departments and between the central government and regions, given the inconsistencies this regulation has had resulting in hampered investment in oil palm plantations.

Application of technical cultivation in the processing of plantations oil palm (Principle 2) the value of its achievements 72.88%. The achievement of this principle has indeed been quite high, but the cultivation practice adopted by the fifth the company has not yet fully followed the standard recommended cultivation techniques. This mismatch generally occurs in technical cultivation such as still there are reject seeds that are embedded in field, fertilizing which is still less than the recommended dose, control weeds are not done, there are raw fruit harvested and fruit that has been harvested but not transported to the factory [16].

Some parts of the criteria have not been fulfilled yet ISPO on the second principle, namely; The company hasn't done it yet technical cultivation according to standards raw which is recommended especially in terms of handling plant maintenance in particular fertilizing so many plants are experiencing nutrient deficiency and become less productive. Company also not yet able to make a fruit harvesting system well, most of the harvested area is not yet complete with facilities and infrastructure to support harvesting activities. Is the cause of the low value that can be achieved by companies 4 and 5 [11].

The imperfections in the application of the technical culture very low impact on both production quality and quantity. Some research results mention that application guidelines technical cultivation is a part of Good Management Practices (GMP) which very important [17]. To encouraging increased plantation production must be achieved through the implementation of Good Management Practices (GMP), and the success of the GMP program depends on commitment from top management to give the direction and budget allocation needed, then followed by managers at the farm level to implement it with well [17].

Based on principle 3, namely Management and environmental monitoring, coconut plantation company palm oil has an achievement value of 63.8%. This principle is one principle that is still low in fulfillment. The third principle indicator includes: The company must carry out management and monitoring on the quality of water, air, soil and waste as well biodiversity. Management and monitoring objectives the environment is to preserve ecological functions an area so that it can support sustainability palm oil plantation business managed. Audit results indicate that there are still B3 waste handling activities and diversity management biological that has not been done by the company plantations properly and in accordance with ISPO regulations.

The 5th company has the lowest value in terms of environmental management, because there are several obligations relating to the management of liquid waste from factories that have not been carried out according to management standards waste. The company also has not yet carried out an inventory and mapping and management conservation area which is It is in within the plantation area, and not yet experts or personnel who have special knowledge
in the field of environmental management [18].

Management of these environmental aspects is very important and will relate to other aspects in plantation management system. [19] explain that an environmental management system implemented to improve environmental performance as a whole is a key strategy for moving towards greater sustainability, with the target to minimize greenhouse gas emissions, increase efficient use of energy, and efficient use other resources. Effective environmental management and efficient in the oil palm plantation business joint work between plantation entrepreneurs, the government, researcher, community and observer environment. Revamping internal company and improve communication with related parties become part of management sustainable, so that if all parties implement duties and responsibilities well then Indonesia's palm oil industry will be stronger and stronger to develop [20].

For liquid waste management,[20] explains that there are two important things must be done ie reuse waste generated and use water efficiently so the resulting waste becomes smaller or smaller, because it is in the process of processing palm oil uses a lot of water as a production input then produces a lot of liquid waste as an output production, liquid waste is very potential towards environmental pollution.

Rating of the 4th principle (Responsibility to workers) shows an achievement value of 75.4%. In accordance with ISPO guidelines, indicators for this principle are: 1) The company has paid accordingly government regulations, 2) Provide maintenance costs health, 3) Involve all workers in labor social security programs, 4) Provide work facilities, as well as 5) Provide opportunities for para workers to form trade unions. That indicator not done by the company is not yet available facilities and infrastructure that supports the organization of the System Occupational Health and Safety Management (SMK3) and there is no mechanism for submission of complaints and worker complaints. One obstacle faced by company that is in research area in meeting.

This indicator is the unavailability of resources people who are able to handle management programs Occupational Health and Safety (K3).

Occupational Health and Safety (K3) is is an important action because of productivity, effectiveness and efficiency of resource use included human resources will be greatly influenced by existing whether or not the health and safety problems of workers. Implementing K3 is also a mandate from the Law employment in force in Indonesia.

Based on the audit results it can be explained that from 5 the company that is the object of research is not yet available even one company that has K3 experts certified from the Department of Labor or Institution K3 Workers Certification.

The company has not been able to fulfill several criteria namely; do not have skilled experts create a Safety Management System program and Occupational Health, is very limited in conducting training to employees who are staff in the company, and there is no working cooperative yet assist workers in meeting their daily needs, because these items are quite expensive if you have to purchased from outside the company location.

Achievement value for the principle of social responsibility and community (Principle 5) is 77.00%, one indicator i.e. plantation companies must have program to maintain shared local wisdom custom Society. The program actually has included in the

Corporate Social Responsibility program (CSR) company. However, not all companies in the research area can carry it out. From the data in Table 1 it can also be seen that only company to 1 that can reach the highest value if compared to 4 other companies. That matter because that the 1st company is there the preparation of CSR programs that are good and more able realized when compared to the company the other.

The ability of the company 1 in compiling the program and coordinate with other relevant parties such as village government and customary institutions are sufficient good and support from the management of the company as well high enough. In the company 2,3,4 and 5 are not yet available Good CSR program formulation so implementation the program becomes difficult and not well targeted.

Specifically for companies 2 and 3 whose locations close to the district capital region there are difficulties in formulating activities related to preservation of local wisdom because of the organization or institution the local custom is less clear, so person in charge of activities on the part of indigenous peoples becomes difficult to determine. Based on data from Table 1 it can be seen that Companies 3 and 4 have a low value in ability to meet the principle of responsibility answer social and the community that is required by the ISPO standard, that is because the two companies do not have human resources or energy capable of doing social mapping and making basic data about conditions social, economic and cultural and institutional Village or The closest village around the company plantation. Lack of information and social data owned causes the company cannot compile social responsibility programs well for implemented at field.

According to [21] so far not yet technical instructions on applying social responsibility company or known as Corporate Social Responsibility (CSR), even though it has been written on the inside Limited Liability Companies Act (PT), therefore programs related to CSR yet directed and not on target. Therefore the government plans to make a CSR Act in 2014. However, the application of social responsibility (CSR) can still be done by companies, both in the plantation sector, mining or other sectors, and what is important the application of community empowerment as a form corporate social responsibility must continue to be carried out by involving the local community, so that it is able raise the economy of the community, especially for community around the location of the plantation company [22].

Empowerment of community economic activities (Principle 6) has been fulfilled by all 5 companies well with a value of 100%. The indicator is the company has carried out related activities by increasing human resources for the community, implementing economic empowerment program by giving assistance with business capital loans and have providedbusiness opportunities for the surrounding community. Help capital is given to small businesses and households like a blacksmith's business, making snacks and so. Performance improvement and sustainable production (Principle 7) is a principle with performance value 100% Indicators of this principle include: improved performance employees and staff, improvements to the management system gardening and yield processing, application of new technologies from research results in the environmental field, corrective actions of plantation management to achieve optimum production and take preventive measures against the dangers of land fires. Based on the results of the overall evaluation of the level of achievement of ISPO principles and criteria then can be explained that not all principles and criteria ISPO can be fulfilled by existing plantation companies in the study area. Fulfillment has not yet been achieved principle and the criteria according to ISPO provisions are caused by several obstacles or problems including: 1). The company does not understand well the contents of the principle and the criteria in the ISPO standard; 2). Business actors still don't understand the benefits the truth as well still questioning whether the government as the maker ISPO policy will consistently oversee the policy the said; 3). Still lack of human resources capabilities available to prepare documents and create related programs with ISPO standards.

Lack of understanding of the contents of principles and criteria ISPO and the low confidence of the company towards the seriousness of the government in implementing ISPO in a manner consistent and how much benefit the application of ISPO is for company, indeed is something that can be understood because when this research was conducted the entire company in riau, including companies that an example in this study just got one times general explanation about ISPO through the socialization program carried out by the Plantation Office Riau Province so that information is found incomplete and profound. The number of technical programs that must be carried out and equipped with recordings, then also needed various administrative requirements and mandatory permits fulfilled certainly requires deep human resources sufficient amount and ability to carry it out.

So very is required knowledge that large and deep for employees or staff specifically on duty addressing the ISPO program and then the need for commitment the strong from he top leadership and the whole support company management elements so that all programs oractivities related to the fulfillment of indicators in the provisions of the ISPO can be implemented properly. According to [23] education about management sustainable plantations for plantation companies very important as the government's steps require it oil palm plantations for Indonesian certification Sustainability Palm Oil (ISPO).

Then also needed several things, namely: 1). Is better cooperation between the government and

plantation companies as business executives, 2). Support from stakeholders is needed other, 3). sufficient time is required for understand and prepare all types of documents and the program needed, 4). There is a guarantee for benefits for meeting ISPO standards and 5). Is legal certainty towards various regulations that have been fulfilled.

3.3. Determinants of Achievement of ISPO Standards.

In general, based on audit results can be explained that there are still some obstacles that cause ISPO principles and criteria in particular have not been met for principle 1 to principle 5. Constraints These include: 1) HR capabilities available for preparing documents and making programs related to ISPO standards still low; 2) The benefits of implementing ISPO are still not understood well and there are still doubts from the party company management about government consistency to oversee the policy. 3) Permission must Filled with regard to the management of gardens still too many, and weak legal certainty of status and plantation company land ownership.

Related to the still lack of HR capabilities available for preparing documents and making programs related to standards ISPO then efforts are needed to prepare workers who have knowledge about plantation management as well as having knowledge about management environment. Preparation of personnel in the environmental field can recruited from college graduates in the field of science the environment is then given special knowledge about oil palm plantations and ISPO or provide courses problem environment to plantation staff.

Provision of knowledge or education regarding sustainable plantation management for the company plantations are very important as the government steps obliging oil palm plantations to do Indonesian Palm Oil Sustainability certification (ISPO), because until 2013 there were only 20 plantation companies that get ISPO certificates from hundreds of plantation companies in Indonesia therefore to enact ISPO standards required better collaboration between the government and plantation companies as perpetrators business, some forms of cooperation are: 1) Provide mutual support among relevant stakeholders; 2) Enough time management is required prepare programs and various types of permits necessary; 3) There is a guarantee for profit compliance with ISPO standards and legal certainty over various regulations that have been fulfilled.

Law enforcement is needed for guaranteed compliance with applicable regulations even law enforcement is a critical success factor ISPO. In addition, several things are needed support success factor ISPO implementation is adjustment time, guarantees or benefits and government support itself as stakeholders responsible for it for the development of sustainable plantations.

According to [17] there are six steps must be taken in developing the plantation industry sustainable palm oil. First, increase productivity oil palm plantations through vision 35/26, one of them by providing superior seeds. Second, apply the PisAgro program which also has a 20:20:20 vision ie 20% increase agricultural productivity, then 20% efforts to reduce poverty and 20% reduce emission. Third, applying Cow-Palm integration, fourth, together with local governments committed to creating waste-free palm oil industry, fifth, together strive to reduce greenhouse gas emissions, as appropriate with targets set by the central government. Next sixth, continue to improve and strengthen the application of Indonesian Sustainable Palm Oil (ISPO).

Thus the determining factor in success ISPO standards are: 1). Company Commitment in running his plantation business in a sustainable manner through the availability of human resources quality, and 2). The role of government as a determinant regulations for implementing law enforcement, provide guarantee benefits and provide more time towards the company in preparing for applying the ISPO.

4. COCLUSION

The ability of oil palm plantation companies in riau currently (existing condition), in meet Indonesian standards and criteria Sustainable Palm Oil (ISPO) in general has reached 79.14% (good enough). Determinants of achievement the application of the ISPO standard is the company's commitment plantations as business actors supported by adequate human resources to realize development sustainable plantations and the role of government as a determinant of regulations in guarding policies has been established. Operationally and training of plantation companies as an effort the acceleration of the application of ISPO standards needs to be done by the government together with the ISPO commission so that constraints in achieving standard principles and criteria Indonesian Sustainable Palm Oil can be overcome, because these efforts are part of the success factor ISPO implementation.

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