Effect Relationships on Sustainable Development of Palm Oil Production for Independent Smallholder Farmers toward Sustainable Certification System

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Abstract

Palm oil is currently the most widely used vegetable oil in the world and its usage is also expected to double by 2020. However, there are some social and environmental impacts of palm oil plantation. Some complications resulted from the plantation may go as far as mass objections to the production of palm oil. On the contrary, demand for palm oil is still vast and constantly rising. In Indonesia, independent small farmers are the most important stakeholders since they are 43% of the whole Indonesian palm oil producers and have become the biggest spotlight of Indonesian palm oil development, including challenges and problems in which they will have to face to substantially increase their role in the global market as well as maintaining sustainability. Challenges today need to be engaged with innovation and inventions in a more productive and effective way. Enhancing independent small farmers will not only enlarge their contribution to sustainability practices, but also ensuring the sustainable products supplied to the market. Thus, supporting sustainable palm oil production is the way forward. Based on this current issue, this research identifies key point relationships (direct and indirect) on sustainable development factors which are based on Indonesian Sustainable Palm Oil Certification System (ISPO), these identified key points will be the primary target to be improved and government support in fostering the sustainability of palm oil industry will be profoundly necessary.

Keywords: sustainability, legality, farmer's organization, environment, certification system, structural equation model, Maximum Likelihood Estimate (MLE)

1. Introduction

Palm oil is the most widely used vegetable oil in the world and is found in half of all packaged products on supermarket, from shampoo to detergents have been using palm oil as one of the ingredients. Palm oil accounts for 35% of the global vegetable oil market. Some empirical research on palm oil showed that there are several reasons to support the following argument. First, its efficiency, Palm requires 10 times less land than the other three major oil producing crops (soya, rapeseed and sunflower). Palm kernel expeller is used extensively in the energy and animal food sector. Palm kernel oil is a widely used ingredient in the personal care market (Sheil *et al*., 2009; Popp *et.al*., 2016). Second, its versality. Palm kernel oil can be processed to form a wide range of products with different melting points, consistencies and characteristics (Koushki *et.al*., 2015). Third, feeding a global population. The importance of palm oil becomes clear when we consider that many people in the developing world rely on it as a cheap and available cooking medium (Sayer *et.al*., 2012; N. *et.al*., 2012). Fourth, providing livelihoods. Many people rely on palm oil for their livelihoods (Wilms-Posen *et.al*., 2014). Palm oil small farmers are some of the poorest farmers in the world. The money they earn from growing oil palm trees is crucial to feed and care for their families. Fifth, supporting economies. Farming and producing palm oil form the backbone for many communities and, indeed, countries (Acheampong & Campion, 2013). Palm oil accounts for 11% of Indonesia's export earnings, with one third of this production attributed to small farmers.

Palm oil usage is also expected to double by 2020, yet the negative impacts of its unsustainable production can be devastating. The social and environmental impacts of palm oil plantation are: First, deforestation. Palm oil has been linked with the destruction of the world's precious rainforests. Development of new palm oil plantations, coupled with small farmers expanding their farms to meet the rising demand for palm oil, has resulted in

significant deforestation. Second, threat to species for their survival. The removal of acres of rainforest threatens the rich biodiversity in these finely balanced ecosystems, along with the habitat of species. While palm oil is not the only cause of deforestation, it does play its part. Third, environmental damage. The removal of forest releases carbon into the atmosphere, speeding up global warming. In the tropics, tree roots anchor the soil. Deforestation removes this important structure, allowing heavy rains to wash away nutrient-rich soil. Crop yields begin to decline and farmers then have to use expensive fertilizers, which eat into their profits and further damage the environment. Dealing with adverse environmental and ecological impacts of palm oil cultivation, in particular, avoiding further deforestation must be a priority in a shift towards sustainable palm oil (Obidzinski *et.al.,* 2012; Petrenko *et.al.*, 2016). Fourth, social consequences (WWF & AFGC, 2013). While the global palm oil market creates an opportunity to bring many communities out of poverty, the race for land rights has left many locals on the losing team. Reports of displaced communities and illegal land grabs are not uncommon. The resulting conflicts, loss of income and dependence on large plantations have had a significant impact of the social welfare of many (Jensen *et.al.*, 2009; Obidzinski *et.al.*, 2012).

Some complications resulted from the plantation may go as far as mass objections to the production of palm oil. On the contrary, demand for palm oil is still vast and constantly rising. In Indonesia, independent small farmers are the most important stakeholders since they are 43% of the whole Indonesian palm oil producers and have become the biggest spotlight of Indonesian palm oil development, including challenges and problems in which they will have to face to substantially increase their role in the global market as well as maintaining sustainability. Independent smallholders' according to Vermeulen & Goad (2006) are growers who cultivate palm oil without direct assistance from government or private companies. They sell their crop to local mills either directly or through traders.

It is therefore very strategic to empower independent small farmers in order to effectively respond to the market requirements of Sustainable Palm Oil. Challenges today need to be confronted with innovation and inventions in more productive and effective ways. Enhancing independent smallholder farmer's will not only enlarge their contribution to sustainability practices, but ensure the sustainable products supplied to the market. Thus, supporting the production of sustainable palm oil is the way forward (Padfield *et.al.,* 2012).

In March 2011, the Indonesian government officially launched the Indonesian Sustainable Palm Oil (ISPO) standard in the Ministry of Agriculture's decree No. 19/Permentan/OT.140/3/2011. The standard is designed to make a sustainable palm oil production and complies with Indonesian laws and regulations. The standard has been implemented in 2011 as a mandatory proceeding but however is still on a trial basis, contrary to the Roundtable on Sustainable Palm Oil (RSPO) standard for all oil palm plantation companies operating in Indonesia by 2014 which is a voluntary proceeding. ISPO standard is still in preparation to comprise 7 principles, 39 criteria and 128 indicators covering licensing and plantation management, cultivation and processing, environmental monitoring and management, labor, social and economy empowerment, and business (Dirjenbun, 2011). Recently, the Indonesian Government also issued law No. 19/2013 concerning protection and empowerment to improve palm oil small farmers' livelihood in the future, since it has been quite long that they are not properly taken care of. The inauguration of this act allows relevant parties to be committed to the protection and empowerment to the farmers in Indonesia. It also supported by the recently issued law No. 11/Permentan/OT.140/3/2015 concerning Indonesian Sustainable Palm Oil Certification System (ISPO) for the demand in organizing sustainable palm oil development.

It is also crucial that the independent small farmers can trace back their palm oil usage to meet the standards set. Because of the complexity of the supply chains, therefore companies and farmers organizations need to work together to build a sustainable palm oil industry across the value chain. Sharing practices and developing innovative solutions is extremely important to move forward on this issue. Independent farmers shouldn't take a silo mentality, collaboration is the key. WWF *et.al*. (2012) stated that a responsible and transparent production according to a credible international standards does not generate a net cost for companies and our economic development. In fact, it is quite the opposite; it-compliant operations are simply more profitable. Hand-in-hand, these standards generate broader social benefits to our people and preserve the key natural resources that underpin the wealth of our nations. The key for strengthening the palm oil governance and optimizing development outcomes is to cooperate on making the ISPO as a certification system more valuable and internationally recognized as a part of Indonesia's green development strategy; also to strengthen and improve local government systems for the palm oil sector management (Paoli *et.al*., 2011).

Thus, this research identifies key point relationships (direct and indirect) on sustainable development factors which are based on Indonesian Sustainable Palm Oil Certification System (ISPO), these identified key points will be the primary target to be improved and government support in fostering the sustainability of palm oil

industry will be profoundly necessary. To achieve this objective we developed a framework applied to the independent small farmers. Although access to markets vulnerability is not improved through certification, indirect effects through organizational changes increase productivity. If certification schemes are weakly institutionalized, independent small farmers will easily shift to a more profitable way of production. Here, the relationship among them will be analyzed to stress the necessity effort for government support in strengthening the sustainability of palm oil industry. Government could be a catalyst or an obstacle and we look forward to make sure the social and economic developments will not cause irreversible deforestation. In future years businesses will be accounted for their contribution in a sustainable way.

2. Method

The research was conducted since March – May 2016 in the three districts (Landak, Kubu Raya, and Sambas) which was been the largest population of palm oil small farmers in West Kalimantan as figure 1. In-depth interviews were conducted from independent small farmers by purposive sampling. The number of participants who were selected from the sampling were 150 independent small farmers. This size is the minimum sample in multivariate analysis to estimate the indicators as the research property (Hair *et.al.*, 1992; Fraenkel & Wallen, 1993; Sugiyono, 2003).

In-Depth interviews are one-to-one encounters in which the interviewer uses an unstructured or semi-structured set of questions related to particular issues/topics to guide the discussion. The object of the exercise is to explore and uncover deep emotions, motivations and attitudes. There are some advantages of in-depth interviews. The interviewer can devote complete attention to each research participant, listen actively and establish good result; better sampling because recruiting is easier when scheduling in-depth interviews and researchers need fewer respondents to attain the same results; useful with difficult recruiting because its only need to accommodate one individual; it's also elicit candid responses in a private setting regarding personal and/or professional topics of discussion; fewer distractions; faster and cheaper; more productive; deeper Insights; more flexible, and faster adaptation (Turner, 2010; Mack *et.al.,* 2011; Alshenqeeti, 2014).
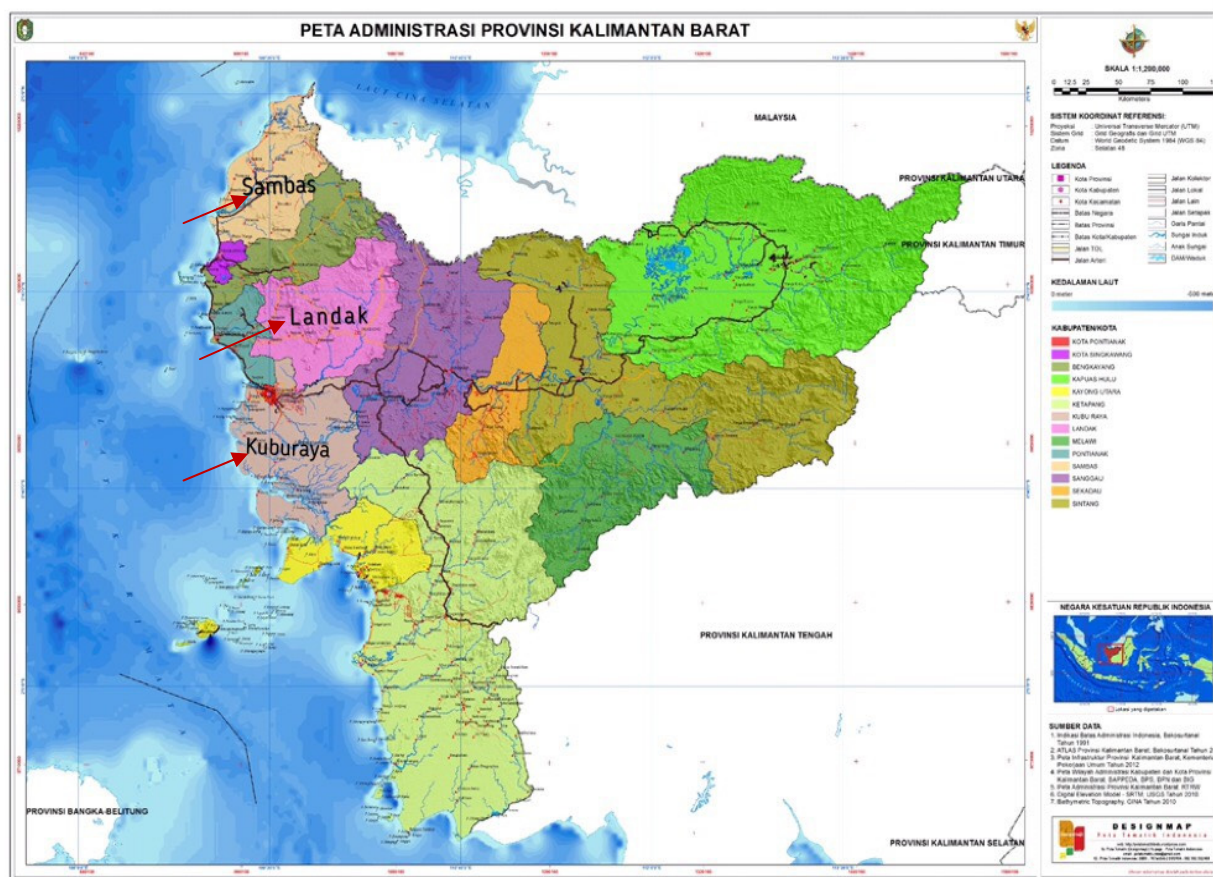

Figure 1. ➤ Research location in West Kalimantan

The findings of this study are structured base on Indonesian Sustainable Palm Oil (ISPO) which is considered as government policy to improve the competiveness in global market and to reduce greenhouse gas emissions as well as paying attention to environmental issues by Ministry of Agriculture. The sustainability aspects were formulated base on environment, legality, and farmers organizations, to answer these following questions (i) what are the relationship aspects which affected on sustainable development of palm oil production? (ii) What are the direct and indirect effects on the sustainable development of palm oil production? In addition, a review of an extant literature from previous studies contributed to the main findings of this paper. This enables the chain of evidence to be established and to maintain clear linkages between the aspect of ISPO by allowing conclusion to be formulated through the research questions, relevant literature, data collection tools used and the evidence.

Data was analyzed using simultaneous equations (structural equation model) with Lisrel software in the following steps. First, model specs were constructed by defining the latent variables and observed indicators variables of latent variables, to connect the latent variables with each indicator, and to connect each latent variable. Second, identifying models those are qualified for further estimation with over-identified category. Third, estimate the value of the parameters in the model with ML (Maximum Likelihood) because it is commonly used and have some advantages that although estimator is bias against small sample but the asymtotic is not biased; consistent; the asymtotic is efficient so that consistent estimator has smaller asymtotic variant than the others. Afterwards, to evaluate the estimate results to see the possibility of offending estimates in acceptable limits. If the value of the error variance is negative, it can be improved by setting the error value variants with very small positive value (0.005 or 0.01), if the estimated coefficient exceeds the standard or very close to 1, it can be improved by eliminating one of the variables, and to ensure that the value of the standard error coefficient should not be of greater value. Fourth, validity and reliability test of the model with the criteria that the value of t-loading factor must be greater than the critical value (1.96). The data becomes invalid if the value of standard loading factor is more than 0.50 or equal to 0.5 and its better if the value could reach 0.70. Reliability test is shown by CR test. The data become unreliable if CR value is more than 0.7 or equal to 0.7 or VE value is more than 0.50 or equal to 0.5. Fifth, test on goodness of fit. Sixth, model respecification by using the modification indices information was done to get good model. Seventh, goodness of fit test was used again after model respecification. Eight, the last steps is to interpret the results (Wijanto, 2008; Riadi, 2013).

3. Results

The results were analyzed using simultaneous equation with Maximum Likelihood (ML) based on the research question (i) what is the relationship aspects which affected on sustainable development of palm oil production? (ii) What are the direct and indirect effects on the sustainable development of palm oil production? However, it was necessary to test the initial validity and reliability on the data before answering those questions. It has shown that the some t-loading factor value was not valid even though all of the data were reliable. Thus, the next validity and reliability test on the data should be conducted again to qualify all the data until they become valid and reliable. Furthemore, Furthemore, goodness of fit test were done after model respecification and proved in Table 1.

Tabel 1. Validity and reliability test

No.	Criteria	Standard Value	Initial		Final	
			Estimate Value	Conclusion	Estimate Value	Conclusion
1	Chi Square / χ^2	Small value	2.806,7900	Poorly	1.401,8418	Poorly
2	χ^2/DF	$1,0 \geq x \leq 5,0$	9,51	Poorly	5,31	Poorly
3	NCP	Small value with narrow interval	2511,79 (2345,7719; 2685,1809)	Poorly	1137,8418 (1024,3173; 1258,8533)	Poorly
4	SNCP (NCP/n)	Small value	16,75	Poorly	7,58	Good
5	RMSEA	$\leq 0,08$	0,239	Poorly	0,1701	Poorly
6	ECVI	Small value and close to saturated ECVI	I=96,8945 M=19,5892 S=4,7114	Poorly	I=96,8945 M=10,5761 S=4,7114	Good
7	AIC	Small value and close to saturated AIC	I=14437,2735 M=2918,7900 S=702,0000	Poorly	I=14437,2735 M=1575,8418 S=702,0000	Good
8	CAIC	Small value and	I=14541,5500	Good	I=14541,5500	Good

			M=3143,3855		M=1924,7671	
		close to saturated CAIC	S=2109,7330		S=2109,7330	
9	NFI	≥ 0,90	0,7903	Poorly	0,8673	Good
10	NNFI	≥ 0,90	0,7868	Poorly	0,8559	Good
11	PNFI	Higher value	0,7174	Poorly	0,7045	Poorly
12	CFI	≥ 0,90	0,8065	Poorly	0,883	Good
13	IFI	≥ 0,90	0,8069	Poorly	0,8835	Good
14	RFI	≥ 0,90	0,769	Poorly	0,8366	Good
15	GFI	≥ 0,90	0,4083	Poorly	0,5801	Poorly
16	AGFI	≥ 0,90	0,296	Poorly	0,4418	Poorly
17	PGFI	0-1	0,3432	Poorly	0,4363	Poorly
18	RMR	≤ 0,05	0,1078	Poorly	0,1038	Poorly
19	CN	≥ 200	18,5079	Poorly	26,0011	Poorly

Source: author's analysis (2016)

In Table 1, the respective model was using modification indicates information to improve the model and there were nine criterias that became good. The result of the estimated coefficient model for sustainable development of independent small farmer on palm oil production was presented in Figure 2.

Chi-Square=1401.84, df=264, P-value=0.00000, RMSEA=0.170
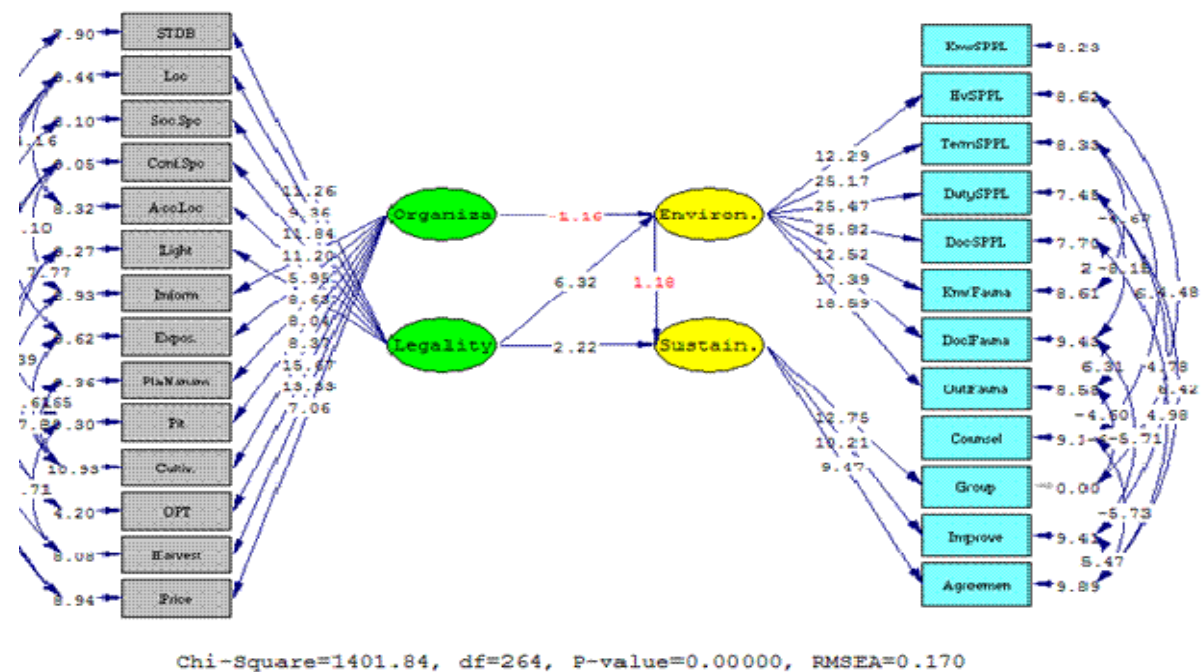
Figure 2. Model of sustainable development

In Figure 2, we saw the path of variable latent which affected sustainable development. Illustration summary of the estimate coefficient, the corelation among the laten variables, and the effect that influenced significant or not significant to sustainable development was presented in Table 2.

Table 2. The path of variable latent which effect to sustainable development

Path	Estimate Coeff.	t Value	Conclusion	Correlation	Total Effect	Indirect Effect
Organization → Environment	-0.1906	-1.1578	Not significant	0.8828	-0.1906	-
Legality → Environment	**1.1300**	**6.3224**	**Positive Significant**	**0.9490**	**1.1300**	**-**
Environment → Sustainability	0.2448	1.1805	Not significant	0.6841	0.2448	-

Organization → Sustainability	-0.0467	-0.8427	Not significant	0.6558	-0.0467	-0.0467
Legality → Sustainability	**0.4629**	**2.2211**	**Positive significant**	**0.6952**	**0.7395**	**0.2766**
Organization → Legality	-	-	-	0.9499	-	-

Source*:* author's analysis (2016)

In Table 2, there were some paths to describe the effect of latent variable on sustainable development. Yet, there was only one path of variable latent which affected sustainable development. That aspect was legality which proved had positive significant effect with total effect value as 0.7395% and indirect effect value as 0.2766%. The legality had positive effect on the environment as 1.13%. The legality and environment had very strong relationship, which means legality and sustainability also had strong relationship. Thus, if legality was increased 1%, it would increase the environment 1.13% and if the legality was to be increased by 1%, it would also increase the sustainability value to 0.46%. Therefore, the direct effect of legality (62.59%) was stronger than the indirect effect (37.41%). It has shown that legality became the most important aspect to influence the sustainability. However, the environment and the farmer's organization had not significant effect on sustainable development. Farmer's organization also had not proven significant on environment aspect and there wasn't correlation between farmer's organization and legality. Next, we had some results of indicator that has significant effect on latent variable and futher effects on sustainable development as previously described.

Tabel 3. Indicator of latent variable effect on sustainable development

Indicators of Latent Variables	Estimate Coefficient/ Total Effect	Indirect Effect Indicator on Environment	Total/Direct Effect Indicator on Legality	Determinant Coefficient
Sustainability:				
Group	0.7448	0.1823	0.5508	1.0000
Improve	0.6305	0.1543	0.4663	0.6182
Agreement	0.6277	0.1536	0.4642	0.7161
Legality:	0.8281			0.6096
STDB				
Loc	0.7319			0.4522
Soc.Spc	0.9229			0.6467
Conf.Spc	0.8542			0.4115
Acc.Loc	0.6263			0.4964
Light	0.6869			0.3475

Source: author's analysis (2016)

In Table 3, there were three indicators of sustainability that had indirect and direct effect respectively on environment and legality aspects. The biggest effect value was farmer's group then followed by improvement on farming and price agreement of fresh fruit bunches. However, there wasn't a single indicator of legality that had indirect and direct effect on environment.

4. Discussion

The results were to answer the research questions (i) what is the relationship aspects which affected on sustainable development of palm oil production? (ii) What are the direct and indirect effects on the sustainable development of palm oil production? The results confirm that there was only one path of variable latent which affected on sustainable development. That aspect was legality which proved positive significant effect with total effect more than indirect effect on sustainable development. This finding was in line with Colbran & Eide (2008) which established legally binding certification schemes and a reliable monitoring system to ensure that the international certification is effective and enforced and maximizing the possible benefits. Caroko *et.al.* (2011) even stated that the government should also enable fair community engagement, whereas the government has an active role in supervising and enforcing contract agreements, benefit sharing and dispute settlements. However, Teoh (2010) recognize that small farmers will face financial constraints in preparation for certification so they must be supported. Thus, the proposed fund be required to provide the opportunity for various players in the supply chain to support the overall goal to add value to the oil palm supply chain. This is supported by Diop, *et.al.* (2013) that local people often lacking knowledge of the formal legal system or how to seek support in the event of contested rights. For some small farmers, the certificate has not been fully understood as a tool to create

more sustainable agriculture. Rather, certification is seen as an economic tool in the pursuit of a better livelihood particularly for independent small farmers. Small farmers participate because they have to (scheme small farmers), or because certification is introduced by trustful people who open opportunities for higher incomes (Hidayat *et.al*., 2015).

Therefore, legal certification alone cannot expect to develop a sustainable development automatically, unless these policy measures are backed by government and the private sector to strengthen the policy frameworks with sustainable development and food security policies in synergy. This translates into the need for supporting policy development in countries with a weak policy framework, building upon the (positive and negative) experiences while enforcing existing policies especially in relation to land tenure, economic and social policies as well as management of natural resources. Those must be put into high consideration, where the local population cannot provide sufficient labour and there is an influx of migrant workers, social and land conflict become inevitable. In cases where labour import is necessary, tenure safeguards must be implemented for local communities. That's why the palm oil plantation development for sustainable development is also reconsidered and planned carefully. With certification, independenet small farmers need to change production processes within their existing resources and power asymmetries. Their relative vulnerable position may influence the farmers' ability to cope with uncertainties related to participation in a certification scheme. This necessarily implies the provision of training, sharing good (environmental and socioeconomic) agricultural practices and facilitating the transfer of adequate technologies and methodologies. Consequently, bureaucratic regulation and government approach, including the application of market instruments, need to be mutually supportive. By mixing policy tools and providing for continual improvement as the state seeks to respond to outside criticism, incremental improvements that involve integrating these approaches may move the state to enhance its capacity for improving policy and implementation over time.

This research also proved that legality has positive effect and very strong relationship with the environment, so legality and sustainability also have positive effect and strong relationship. The direct effect of legality was stronger than indirect effect. It has shown that legality became the most important aspect to influence the sustainability. This finding was also supported by Wisena *et.al.* (2014) that the strategy is carried out on the development of a sustainable oil palm industry should increase the attention to the environmental and law enforcement by the government. The guidelines in legality should complement, not contradict, each other and should not impose unnecessary burden on those who produce biofuel in a socially and environmentally satisfactory way. Those could be the key lessons standing out from the environmental harm which are having a devastating impact on vulnerable people (Colbran & Eide, 2008). McCarthy & Zahari (2010) even concluded that policymakers need to avoid the temptation to raise prices on either market or state regulatory approaches to environmental problems. The solutions need to be crafted in combining different policy instruments to face the specific problems associated with certain sectors of the industry. Legal instruments need to be strengthened to ensure that companies who operate in the shadow of the law are required to improve pollution mitigation systems.

However, the environment and the farmer's organization respectively didn't have significant effect on sustainable development. This finding was different from prior research (Colbran & Eide, 2008; McCarthy & Zahari, 2010; Padfield *et.al*., 2012) ; Ador *et.al*., 2014; Montefrio, 2015). Yet, Hidayat *et.al.* (2015) found that non-economic benefits such as social and environmental improvements are less valued by the small farmers unless they lead to economic benefits. This finding also raised the question: is developing economy and protecting environment a pair of contradiction? The answer according to Guo & Ma (2008) depends on the economy development stages. In the developed country the developing economy and protecting environment is not a pair of contradiction because of environment improved along with the economic structure changed. But in the developing country it is a pair of contradiction because of environment worsens with a high speed economy increase (Ador *et.al.,* 2014). So, it is argued that environmental change (or the perception of change) is not an important factor for independent small farmers as the case earlier empirical researches which concern about palm oil contract farming in the exclusion process. Hall (2011) stated that there are four powers those are not exhaustive and that there could be other powers operating in certain contexts, such as environmental change, knowledge and technologies, and political relationships and alliances. Thus, in this analysis, environmental change can only be considered as another form of power or just an intermediary condition that connects the powers from the actual exclusion if it is together with the three of the other factors.

The development of economy and the protection of environment, sometimes, are contradictory in particular in the short-term. But this kind of contradiction has a condition, in the majority situation, this kind of contradictory performance is, protected the environment request to reduce the development path choice space. In the reality,

this kind of space nearly always exists, sometimes possibly needs us to develop. However, in the long term, the expense and effect of protecting environment is an important factor affecting environment (Guo & Ma, 2008). Thus, the choice of the industrial structure is a factor affecting the environmental pollution. Technology also is an important indicator to affect the environment. In generally, the country which use low technology may consume more resources and more pollution.

Still, farmer's organization also has no significant effect on sustainable development, eventhough farmer's organization hopefully changes to induce a higher production quality that may benefit small farmers indirectly and financially. Existing research has identified a variety of external drivers, or contextual factors, that affect an organization's tendency to become active with regard to sustainability, including the ecological, organizational field context and individual contexts. This was confirmed by the results that farmer's group had the biggest indirect and direct effect respectively on environment and legality aspects then followed by improvement on farming, price agreement of fresh fruit bunches. The improvement on farming had indirect and direct effect on sustainable development of course has strengthened a consensus is emerging that addressing the new challenges requires a sustainable agricultural intensification in small and large farms throughout the world (SDSN, 2013). Thus, there was an urgent matter to improve performance which mean any or all of increased profitability and productivity, high efficiency and returns from external inputs, improved yield stability, reduced greenhouse gas emissions, enhanced ecological resilience, and environmental service provision.

The improvement on price agreement of fresh fruit bunches has indirect and direct effect on sustainable development. Paoli *et al*. (2011) in Summary for Policy Makers & Practitioners stated that processing fresh fruit bunches (FFB) from oil palm creates numerous solid and liquid by-products, including empty fruit bunches (EFB), residual fruit material, palm kernel shells and liquid palm oil mill effluent (POME). In the past, these by-products were seen as waste materials requiring disposal, and carried significant pollution risk.

Recently, advanced technologies to contain EFB and POME co-composting (discussed below) generate nutrient-rich organic fertilizers, capture biogas by-products, and eliminate GHG emissions arising from conventional waste treatment.

The factors which specifically promote the formation of partner membership for sustainability were social perceptions, expectations and preferences; technological developments; concerns about globalization; regulatory environment; and decline in government efficacy (Bansal & Roth, 2000). However, in this reseach context, those factors can not be met by farmer's organization. Thus, the role farmer's organization had not significant effect on sustainable development, parrticularly for independent small farmers. Understanding differences in partners' motivations is important because these differences can produce a mismatch within the partner membership and lead to difficulties in working together if motivations are not aligned or complementary. Additionally, when partners have different motivations, different types of partnerships may be needed (Gray & Stites, 2013).

Furthermore, farmer's organization also didn't prove significant on environment aspect and there wasn't correlation between farmer's organization and legality. These findings reinforced the fact that relationship between the absence of farmer's organization role on sustainable development. This could be generate to the absence of effect on environment aspect. However, legality should be legitimate because it refers to social acceptance of an organization based on its conformity to societal norms and expectations. Nikoloyuk *et.al.*, 2010 stated that legitimacy is important for organizations because without it, organizations will have difficulty acquiring critical resources needed for a long-term sustainable success. In this research, independent small farmers was not actively motivated by farmer's organization and caused it wasn't legitimacy. This have led to the absence of the link between farmer's organization and legality. Still, farmer's organization which actively motivated by legitimacy will encourage the sustainability of their farm business to build a reputation, image and brand for social and environmental responsibility; attract and retain employees; and build the social license to operate (Gray & Stites, 2013).

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