The challenges of sustainable palm oil product development in Indonesia against consumer demand

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Abstract. Sustainable development is a global action plan by world leaders, to address various problems, especially those related to the environment and social economy. Palm oil products as a featured commodity of Indonesia, are not immune to consumer demands, which are related to their sustainability. This study aimed to identify challenges and derive recommendations to be used in developing sustainable palm oil products, which is also likely to be accepted by consumers. This research was based on a literature study of current requirements, regarding sustainable palm oil products. Furthermore, the results showed that consumers’ demands were growing, especially those related to sustainability. Also, the consumers’ requirements towards palm oil products were resulting in minimum greenhouse gas emissions, protecting the workers involved, indirect land-use change, and traceability of the supply change of the commodities. However, as a solution, development of national standard was needed. Therefore, the Standard National Indonesia (SNI) for sustainable palm oil, was used as a guideline and requirement source for every producers of the products in Indonesia, in order to overcome challenges and increasing commodity competitiveness, in accordance with consumer demand.

Keywords: Sustainable, Palm oil, SNI, Environment, Social economy, Consumer demand

1. Introduction

The developments occurring in all sector of life in the world, seems to be increasing rapidly, requiring lot of resources with a good plan. Sustainable development is a concept practiced, in order to meet current needs with the ability of future generations [1], involving relationship integration between economic development, health, environment, and social prosperity [2]. That concept was well agreed upon by world leaders, as a global action to addressing various problems, especially those related to the environment and social economy. Also, the goal is to end poverty, reduce inequality, and protect the environment, with targets that are likely to be achieved by 2030 [3].

Furthermore, palm oil is a vegetable oil with very wide and varied use, due to its production from oil palms, which have very high manufacturing values and components needed by humans, compared to other manufacturer [4, 5, 6]. Based on the contents, palm oil is generally used as a raw material for food [7-11], pharmaceutical, cosmetics [12], oleochemicals [13,14], and biofuel [15] products. Its various uses in the world have encouraged an increase in production. However, Indonesia is a country with the largest amount of palm oil production in the world [16]. In 2018 palm oil production in Indonesia reached 36.59 million tonnes with total exports of 29.67 million tonnes (US$ 18.23 billion). This
production in 2018 was supported by area of oil palm plantations reaching 12.30 million hectares, while increasing every year [17].

Also, some studies reported that the development of oil palm plantation areas, potentially have several possible impacts, such as the destruction of biodiversity, deforestation, forest degradation, and increased greenhouse gas emissions, which seems to be the major causes of climate change [18-24]. This impact certainly provided a negative view of palm oil products. Furthermore, this impact is also contrary to several agreements from countries in the world, such as the Paris Agreement, the Kyoto Protocol, and the Sustainable Development Agenda in 2030 [23, 25, 26]. The application of the sustainable development concept in producing palm oil (sustainable palm oil) seems to be a solution to this negative view. The sustainable concept is the procedure and governance of palm oil production, by applying the best practices that provides environmental and social factors. Moreover, this procedure includes the protection of tropical forests, peatlands, High Conservation Value (HCV) areas, High Carbon Stock (HCS) forests, and other significant habitats. Also, this concept demands adherence to legal and customary land regulations, with the rights of indigenous and local communities, which are in accordance with the international norms on human and workers’ rights [27].

Most consumers in the world today have paid attention to the issue of sustainability, particularly in environmental, health, and social protection [28, 29]. Denial about the sustainability factor being part of the requirements of consumers in buying a product, is impossible, as it is becoming widespread in European countries. However, it is not the only concern of European countries, as several consumer countries have also required sustainability criteria for palm oil products. For example, India has palm oil sustainability requirements, by publishing the Indian Palm Oil Sustainability (IPOS) Framework since 2017 [39], with China through the Chamber of Commerce of Foodstuffs and Native Produce (CCFNP), implemented a Guide for Overseas Investment and Production of Sustainable Palm Oil (GOIPSPO) [40]. Therefore, the aim of this study is to identify and describe challenges in the form of requirements and standards, which constitute provisions in the trade of palm oil to destination countries, in order to meet consumer needs. Based on these challenges, recommendations should be provided in the development of sustainable products, which are reliable to meet and match consumers’ demands, in order for Indonesian palm oil products to compete internationally, especially in meeting the sustainability criteria.

2. Methods

This study used the descriptive qualitative method. The object of this research was the sustainability requirements for palm oil products in international trade, as consumer demand. Furthermore, data exploration was carried out through literature studies from various sources, such as in the form of regulations, standards, reports, and scientific papers. The data obtained from the exploration described and supported this research towards the achievement of results for the study objectives, in order to determine solutions to solve the challenges of international trade, regarding the requirements for sustainable palm oil.

3. Result and Discussion

Sustainable palm oil was initiated by group of stakeholders, which are currently known as the Roundtable on Sustainable Palm Oil (RSPO) [30]. This group was formed, due to concerns about palm oil products not being result of a deforestation process, which is having an impact on environmental destruction, while also considering the social factors [19]. Most of the demands being emphasized upon by consumers towards palm oil products, are resulting in minimum greenhouse gas emissions, protection of involved workers, indirect land-use change, and traceability of the supply difference of these products. Presently, there are several standards and guidelines related to sustainable palm oil, with each having their respective principles, in accordance with purpose (see Table 1). Furthermore, standards are used as requirements in a country with designation of palm oil, which currently applies in trade both locally and internationally. Although these standards and guidelines expressed different principles, their objectives include compliance with applicable laws and regulations, implementation of best practices in plantation and production, protection of the environmental condition, social and economic responsibility towards workers, and community transparency in the process. Also, the aim of standard
and guideline is to help reduce deforestation, conserve biodiversity, and respect the lives of rural communities, in palm oil-producing countries [31].

Table 1. Principles in sustainability standard and guide related to palm oil sustainability

| ISPO [36] | RSPO [37] | MSPO [38] | IPOS [39] | CFNA [40] | SAN [41] | ISCC [42] | RSB [43] |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| 1. Compliance with laws and regulations | 1. Behave ethically and transparently | 1. Management commitment and responsibility | 1. Overall sustainable improvement and transparency | 1. Commitment to legal compliance and corporate governance | 1. Effective planning system | 1. Protection of land with high biodiversity and human wellbeing | 1. Legality and transparency |
| 2. Application of good agricultural practices | 2. Operate legally and respect rights | 2. Compliance to legal requirements and laws | 2. Compliance to legal compliance and corporate governance | 2. Use of appropriate best management practices (BMPs) | 2. Biodiversity conservation | 2. Environmentally responsible production to protect soil, water and air | 2. Planning and monitoring |
| 3. Management of the environment, natural resources and biodiversity | 3. Optimize productivity, efficiency, positive impacts and resilience | 3. Social responsibility, health, safety, and employment conditions | 3. Good plantation practices | 3. Environmental responsibility and conservation of natural resources | 3. Natural resource conservation | 4. Improved livelihoods and human wellbeing | 3. Greenhouse gas emissions |
| 4. Labor responsibilities and community economic empowerment | 4. Respect community and human rights and deliver benefits | 4. Environment, natural resources, biodiversity and ecosystem services | 4. Good business practice and commitment to long-term economic and financial viability | 4. Social responsibility for employees and local communities | 4. Sustainable cattle production (applies for the cattle certification scope only) | 5. Sustainable land use with laws and international treaties | 4. Human and labour rights |
| 5. Corruption and transparency | 5. Support smallholder inclusion | 5. Responsible community relations, fair labor and employee conditions | 5. Development of new planting | 5. Responsible community relations, fair labor and employee conditions | 5. Compliance with laws and international treaties | 5. Good management practices and continuous improvement | 5. Rural and social development |
| 6. Transparency | 6. Best practices | 6. Conserve, protect, and enhance natural resources, environment, bio diversity and ecosystem services | 6. Best practices | 6. Conserve, protect and enhance natural resources, environment, bio diversity and ecosystem services | 6. Good management practices and continuous improvement | 6. Local food security and compliance | 6. Local food security |
| 7. Sustainably business improvement | 7. Development of new planting | 7. Protect, conserve and enhance ecosystems and the environment | 7. Protect, conserve and enhance ecosystems and the environment | 7. Protect, conserve and enhance ecosystems and the environment | 7. Protection of land with high biodiversity and human wellbeing | 7. Land rights | 7. Conservation and monitoring |

Note: The standards and guides above are the standard/guide most used as references by consumers and palm oil entrepreneurs in Indonesia. ISPO (Indonesian Sustainability Palm Oil), RSPO (Roundtable Sustainable Palm Oil), MSPO (Malaysia Sustainable Palm Oil), IPOS (India Palm Oil Sustainability), CFNA (China Chamber of Commerce of Foodstuffs and Native Produce), Sustainable Agriculture Network (SAN), ISCC (International Sustainability and Carbon Certification), RSB (Roundtable on Sustainable Biomaterials).

Furthermore, Indonesia and Malaysia are the two largest palm oil producing countries in the world. With consumer demands for sustainable palm oil products, several steps should be taken in order to meet the required criteria. The steps were based on the fact that most of Indonesia's palm oil products were exported abroad, with values reaching 29.67 million tonnes (equivalent to 81.09% of the total production). Also, the main export destinations for Indonesian palm oil products were India, China, and the European Union (EU) [21]. The EU countries were export destinations mostly concerned with sustainable palm oil products. This was motivated by a commitment among the EU member countries, to access biofuel without further contributing to climate change [21,44], due to the regulation issuance of Renewable Energy Directive (RED) [45]. Moreover, the issuance of RED in the EU has a very broad impact, including the use of palm oil products as food. This fact was due to the implementation of the EU Regulation 1169/11, on the provision of food information to consumers procuring certified sustainable palm oil [46]. The impact of this regulation was that, most retailers have committed to using 100% certified sustainable palm oil (CSPO) [4,19,47,48], as most of them were oriented towards meeting consumer needs [49]. However, on the other hand, the other two largest export destination countries for palm oil (India and China), have a low position in requiring sustainable palm oil [30, 50, 51]. Also, the trend in the consumption of sustainable palm oil products was increasing, and was indicated by the growing number of members and CSPOs in India and China [52]. Furthermore, there
is possibility that in the next few years, CSPO should be part of the important requirements in the trade of palm oil products.

This policy certainly has an impact on the value chain of palm oil production, especially for smallholders. At the beginning of its existence, oil palm plantations were actually superior plants, capable of increasing the welfare of smallholders and reducing poverty [19, 53]. However, presently, the sustainable palm oil policy has the potential to have a negative impact on smallholders due to lack of knowledge regarding the plantation sustainability management. Moreover, the cost that is to be paid for this management process is very high [19]. A previous study showed that CSPO requirements and policies had the ability to eliminate the role of smallholders and the poor, from the value chain [54]. This was enough to disrupt the sustainability management, because smallholders are an important part of the palm oil production value chain [19]. Even in Indonesia, the contribution of smallholders reached 38.26% of the total palm oil production in 2018 [17].

Furthermore, while encountering these challenges, palm oil production should be able to meet the sustainability criteria required in international trade. In relation to sustainable palm oil, adequate coordination between all parties involved in developing a national concept in Indonesia with supports from the Government, is required [56], with the country already having a related policy, namely Indonesian Sustainability Palm Oil (ISPO). However, there are still lack of acceptances in international trade. Through Presidential Regulation number 44 of 2020, a comprehensive concept was formed in realizing sustainable palm oil production, and its acceptance was recognized in international trade. Apart from this concept, standard should be used as a guideline, and specification for every palm oil product business, in implementing the concept of commodity sustainability. Also, Standard National Indonesia (SNI) is a procedure that applies nationally in the country [57]. However, there is presently no SNI related to sustainable palm oil. The development of SNI related to sustainable palm oil is a step required to be taken, considering the fact that not all business actors understand the criteria needed in realizing sustainability. Also, SNI should be used as a guideline in the implementation of plantation activities to the production of the final palm oil product, with support from all parties needed, in order for related problems and challenges in international trade to be overcome. Therefore, this SNI is expected to increase the capability of oil palm business actors in Indonesia, and should meet the standards and guidelines required by consumers globally.

4. Conclusion
The challenge for Indonesia as the largest producer of palm oil was to prepare the country for the possibility of trade policies oriented towards consumer demand, such as sustainable red oil products. The role of smallholders was very important as part of the value chain, with support from the Government is needed, in order to realize sustainable palm oil. Also, in order to support the fulfilment of palm oil production in Indonesia, a tool is needed to serve as guidelines and technical specifications, which should be applied properly by the commodity producers. Furthermore, the development of SNI as a national standard was a way to overcome challenges, and improve product competitiveness, in accordance with consumer demand. Also, Indonesian national standards harmonized with the criteria and requirements for sustainability in international trade, should increase the acceptability of these palm oil products, because the specified requirements have already been achieved. Therefore, that condition should have an impact on improving the competitiveness of palm oil products, while also increasing state revenues.

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