

Article

Incentives for Palm Oil Smallholders in Mandatory Certification in Indonesia

Eusebius Pantja Pramudya ^{1,6,*}, Lukas Rumboko Wibowo ², Fitri Nurfatriani ³, Iman Kasiman Nawireja ⁵, Dewi Ratna Kurniasari ², Sakti Hutabarat ⁴, Yohanes Berenika Kadarusman ⁶, Ananda Oemi Iswardhani ¹ and Rukaiyah Rafik ⁷

- ¹ Institute of Social and Economic Research, Raffles Hills Blok A3 No. 14-15, Depok 16954, Indonesia; anandaismael@gmail.com
 - ² Research Center for Population, National Research and Innovation Agency (BRIN), Gedung B.J. Habibie, Jl. M.H. Thamrin No. 8, Jakarta Pusat 10340, Indonesia; lukas.rumboko.wibowo@brin.go.id (L.R.W.); dewi.ratna.kurnia.sari@brin.go.id (D.R.K.)
 - ³ Environment, Maritime, Natural Resources, and Nuclear Policy, Deputy of Development Policy, National Research and Innovation Agency (BRIN), Gedung B.J. Habibie, Jl. M.H. Thamrin No. 8, Jakarta Pusat 10340, Indonesia; fitri.nurfatriani@brin.go.id
 - ⁴ Department of Agribusiness, Faculty of Agriculture, University of Riau, Jl. HR Soebrantas Km 12.5, Pekanbaru 28293, Indonesia; sakti.hutabarat@lecturer.unri.ac.id
 - ⁵ Department of Communication and Community Development Sciences, Faculty of Human Ecology, IPB University, Gedung FEMA Level 5 Wing 1, Kampus IPB Dramaga, Kota Bogor 16680, Indonesia; nawireja@apps.ipb.ac.id
 - ⁶ School of Business and Economics, Universitas Prasetiya Mulya, BSD Campus, BSD City Kavling Edutown I.1, Jalan BSD Raya Utama, BSD City, Tangerang 15339, Indonesia; yohanes.kadarusman@pmba.ac.id
 - ⁷ Forum Petani Kelapa Sawit Berkelanjutan Indonesia (FORTASBI), Jl. Danau Kerinci, RT.05/RW.07, Kecamatan Bogor Tengah, Kota Bogor 16129, Indonesia; rukaiyahrafik@fortasbi.org
- * Correspondence: eusebius.pramudya@lecturer.prasetiyamulya.ac.id



Citation: Pramudya, E.P.; Wibowo, L.R.; Nurfatriani, F.; Nawireja, I.K.; Kurniasari, D.R.; Hutabarat, S.; Kadarusman, Y.B.; Iswardhani, A.O.; Rafik, R. Incentives for Palm Oil Smallholders in Mandatory Certification in Indonesia. *Land* **2022**, *11*, 576. <https://doi.org/10.3390/land11040576>

Academic Editors:
Harpinder Sandhu and
Andrew Millington

Received: 27 February 2022

Accepted: 12 April 2022

Published: 14 April 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Abstract: The Indonesian Sustainable Palm Oil (ISPO) is a mandatory certification for palm oil plantations based on compliance with Indonesia's regulations. Its implementation has been slow, particularly for independent smallholders that face problems of complicated requirements, limited capacity, and limited funding. Meanwhile, limited incentives are in place, either in the form of premium prices, ease of regulation, or funding. This article aims to elaborate on the role of incentives and their options in supporting the acceleration of ISPO implementation to ensure and improve the market access of smallholders. It identifies ways to develop incentives to facilitate the acceleration of ISPO certification and alternative financing sources available to support this. The method of this research is based on qualitative methodology using a literature review, policy document analysis, and in-depth interviews with informants from the government and smallholders. The analysis of this article shows that incentives are needed in the form of funding, regulatory measures, technical assistance, promotion, and rewards for good practices to provide better facilitation and financial support for the regulatory compliance in the legal, managerial and financial aspects of the ISPO. These incentives target government and smallholders. Implications for enabling these incentives include the improvement of government coordination, improved understanding of challenges faced by smallholders, and adoption of innovative approaches to manage financial resources, which are crucial to facilitate smallholders' capacity and organizational improvement.

Keywords: palm oil; smallholder; incentive; certification; legality compliance; Indonesia

1. Introduction

Background

Indonesia is the biggest palm oil producer in the world. The country is located in a tropical area, which provides suitable geographical conditions for palm oil production. The

location of Indonesia can be seen in Figure 1. FAOSTAT data (www.fao.org/faostat/en/ accessed on 24 March 2022) in 2020 indicated that 52.09% (14,996,010 ha) of the world's oil palm plantations were in Indonesia, which produced 61.21% (256,528,200 tons) of the world's palm oil [1]. Based on UN-Comtrade data (comtrade.un.org accessed on 24 March 2022) for 2020, Indonesia accounted for 26 million tons or 55% of the global exports, followed by Malaysia with 14.6 million tons or 28% of the global exports [2]. Using the national data in 2021 [3], the geographical distribution of palm oil production in Indonesia is shown in Figure 2.



Figure 1. Map of Indonesia and location of Indonesia in East Asia.

The Indonesian Sustainable Palm Oil (ISPO) is a sustainability standard established by Indonesia in response to the demand to improve palm oil sector sustainability. The Indonesian government announced the development of ISPO in 2009, as the result of an increasing dissatisfaction from being an outsider to the RSPO (Roundtable on Sustainable Palm Oil) that was initiated by NGOs and buyer companies [4]. ISPO is based on legality (requiring compliance with and enforcement of the law and regulations applicable in Indonesia), which according to the Government of Indonesia, is an economically viable, socio-culturally appropriate, environmentally friendly system for increasing the acceptability and competitiveness of Indonesia's palm oil products in the national and international market and for accelerating greenhouse gas emissions reduction [5,6]. The emergence of ISPO showed the potential of the nation-state and government to have a crucial role in sustainability governance [7]. The step of Indonesia was followed by Malaysia, which developed MSPO (Malaysian Sustainable Palm Oil) in 2013.

The ISPO implementation started in 2011 based on the Minister of Agriculture's Regulation No. 19/Permentan/OT.140/3/2011 on the Guideline on Indonesian Sustainable Palm Oil [8]. The ISPO initially defined December 2014 as the end date for implementing ISPO. This target date was missed, with only 96 companies certified by June 2015 that

covered a total area of 756,743 hectares [9]. ISPO was revised in 2015 with additional mandatory requirements for STD-B (*Surat Tanda Daftar Budidaya* or Cultivation Registration Letter) for smallholders and licensing for integrated oil palm processing. However, ISPO certification itself was voluntary for smallholders. After the revision in 2015, by January 2020, a total of 621 ISPO certificates were issued covering 5.45 million hectares of oil palm plantations [10]. By December 2020, 682 ISPO certificates were issued covering 5.77 million hectares [11]. The latest data from November 2021 mentioned that 765 ISPO certificates had been issued but information on the total area was not available [12].

The latest revision of ISPO refers to Presidential Regulation No. 44/2020, which requires mandatory ISPO certification for all big and small plantations by 2025 [13]. It means that all palm oil plantations should meet seven ISPO principles: compliance with rules and regulations, implementing good agricultural practices, environmental management, responsibility to labor, responsibility to the community, implementing transparency, and sustainable business improvement [14]. For the smallholders, only five principles are obligatory, excluding having a responsibility to labor and community.

Data on ISPO's achievements from December 2020 indicated that only 17 smallholder cooperatives covering 12,809 hectares (or 0.19% of the total smallholder plantation area) were certified while for the private company plantations 610 certificates covering 5.45 million hectares were issued (or 62.76% of the entire private company plantation area) and for state-owned plantations 55 certificates covering 318,776 hectares were issued (22.53% of the state-owned company plantation area). A significant challenge remains for the certification of palm oil smallholders in Indonesia, especially independent smallholders that are not integrated with any companies. Failure to do so will risk independent smallholders, which make up 40.8% of the total palm oil plantation area, being considered illegal [15].

Although Indonesia ranks as the largest palm oil producer with the largest number of smallholders, in-depth discussion on ISPO is still lacking. The literature normally associates ISPO with the Indonesian government's attempt to ensure palm oil sustainability through less stringent standards [16–18]. Discussions on the economic and political aspects of ISPO consider ISPO to be Indonesia's response to the demand for improved sustainability in palm oil governance that is already in place without state involvement [4,19–28]. Past research has focused on discussing interactions among ISPO actors and between ISPO and other stakeholders [29–33]. Topics regarding smallholders primarily relate to the various challenges and smallholders' readiness in implementing ISPO [34–37]. Incentives are needed for ISPO implementation [37–39]. However, what kind of roles incentives can play and the options for these types of incentives remain to be explored.

Our research provides scientific information supporting the acceleration of ISPO implementation through the elaboration of the role of incentives and their options in more detail. It addresses the following research questions. The first question is in what ways can incentives facilitate the acceleration of ISPO certification? The second question is what alternative financing sources are available to support ISPO certification acceleration? The analysis to address the research questions will be developed from a literature study. In addition to providing a thorough literature review, we surveyed government officials through in-depth interviews to shape our summaries of the challenges (Section 4.1) and types of incentives (Section 4.2) available to Indonesian palm oil producers to encourage greater adoption of sustainability certification.

This research contributes to the academic debate about ISPO implementation for smallholders, particularly related to the target for certifying all palm oil plantations in 2025 where the biggest challenge is certifying smallholder plantations. It explains technical issues in the implementation based on interviews with government officials and smallholders. It explores the financial resources and what innovative mechanisms are needed. These discussions have not been explored in the existing literature. Our research targets policymakers, academia on the topics of sustainable palm oil, smallholder facilitation, sustainable finance and public administration, NGOs and consultants on ISPO implementation issues, and smallholder organizations.

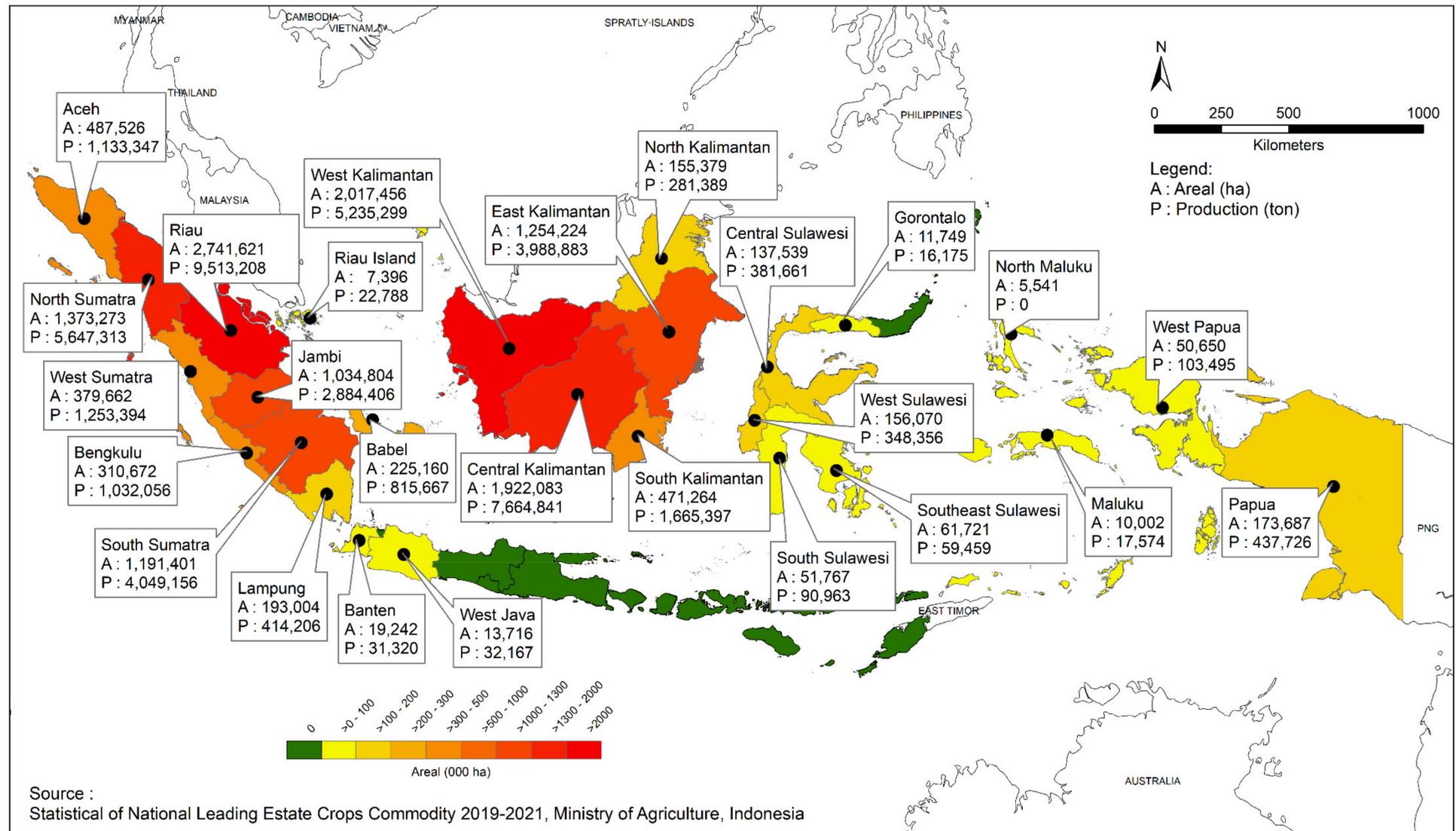


Figure 2. Geographical distribution of Indonesia’s palm oil production.

2. Literature Review

2.1. Incentives and Certification

Recent developments show an increasing demand for changes in the production of commodities to comply with sustainability standards. The development of sustainable products is driven externally by regulations and customer demands for traceable foods with fewer impacts on society and the environment, and internally by producers' motivations and ability to innovate in more environmentally friendly processes and products for achieving competitive advantages [40–42]. To promote changes toward sustainable production, incentives can be provided. An incentive is anything that motivates someone to act, change their behavior and choose options with an expected reward from those actions [43,44]. Incentives can be theoretically associated with the principal–agent problem where one party (the principal) wants to make sure that another party (the agent) has complied with the wish of the principal [45,46]. Within the commodity trade and sustainability context, such motivation can take place where the public in a developed country wishes for changes in production practices that are more environmentally friendly in producing countries.

In a market system, incentives are regulated by a price mechanism [47]. This is common in the agricultural commodity trade, where more sustainably produced commodities receive better prices because people trust they are healthier and cause fewer environmental impacts. Apart from market incentives, there are also non-market and regulatory incentives [48]. Examples of non-market incentives are promoting specific crops for enriching soil nutrition, regulations, or cross-compliance by combining additional costs and monitoring to ensure compliance. Meanwhile, regulatory incentives address complexities and confusion in regulations and their implementation.

The primary approach to practicing agriculture with less impact on sustainability is adopting Good Agricultural Practices (GAP). GAP is a manual developed by the government, companies, or smallholder groups that aims to formalize careful and wise management practices to ensure that future generations can still benefit from fertile and productive functions in farming [49]. Through economic mechanisms, economic actors can hope to promote the adoption of GAP. The character of procedure formalization in GAP motivates big palm oil companies to strongly advocate its adoption in addition to sustainability certification [50]. However, it does not necessarily mean that smallholders will immediately make changes to comply with GAP due to the complexity of daily cultivation practices and the potential risks from applying a new mode of production [51]. In addition to that, while offering incentives (through a potential increase in income, access to market, subsidy, and access to new skills), GAP also creates disincentives such as cost increases, limited supervision, and complexity due to the low level of literacy in the documentation [52].

Commodity certification is established to ensure that incentives are provided to those who work to improve their production methods. The common approach to certification is voluntary based, where actors in the supply chain from the upstream to the downstream apply socially and environmentally friendly production norms. Consumer acceptance is key to the legitimacy of voluntary-based certification [53]. Meanwhile, producers in the downstream chain hope that having proof of certification helps customers to tell their products from other non-certified products and creates barriers to entry for competitors [54]. Certification is faced with the challenge of ensuring the sustainability of smallholders who are expected to apply fertilizers properly, stop forest encroaching, and convert peatland and clear new land [55]. However, heavy reliance on private actors in the supply chain in developing the principles and criteria of certification can risk the exclusion of smallholder producers due to cost unaffordability and the complexity of interpreting and implementing standards [56].

Sustainability certification requirements might lead to rejection by producer countries who complain about the high cost of certification. In contrast, the sustainability problems highlighted by the Northern hemisphere's actors may not address the Southern hemisphere's producers' needs [57]. For example, Southern hemisphere countries initiated an alternative for developing sustainability standards based on legality, related to the second type of incentive, i.e., regulation-based incentives [48]. The regulations give certainty, but their effective implementation depends on the enforcement, monitoring, and control of the law, which can be improved if the scheme also regulates the provision of economic incentives.

Among market-based and regulation-based certification systems, there is a recent rise in legally based certification. The legality regime is often emphasized as a flawed certification system, but its enforcement could bring some advantages under a realistic account of the link between the state, standards, and practices [58]. The state plays a significant role for smallholders, and focusing merely on market-based certification can be problematic. However, a highlight should also be made on the foundation of a robust certification system. A strong incentive system should be established, providing smallholders with skills and advisory support to integrate and translate sustainable practices into improved farm-level yield and profitability, connecting smallholder producers to sustainable product-orientated buyers, linking smallholders to financial recognition and rewards to improve access to capital and insurance, and providing remuneration for adopting practices to enhance ecosystem services [59].

The adoption of sustainability certification depends on the circumstances of the smallholders. Usually, a certification system depends on the arrangement of premium prices to allow smallholders to cover certification costs. The palm oil sector in Indonesia is more complicated on this matter as it is not only a sector made up of industrial plantations. Since the 1980s, smallholder plantations have been growing. There are two types of smallholders, namely scheme smallholders and independent smallholders [28,60–62]. Scheme smallholders are bound to milling companies under the NES (Nucleus Estate and Smallholder) scheme launched by the Indonesian Government in 1977. Later, independent smallholders emerged, motivated by an entrepreneurial spirit to venture into small-scale plantation businesses. Independent smallholders do not have purchasing guarantees from milling companies, and therefore they sell FFB (Fresh Fruit Brunches) to intermediary traders. The FFBs from independent smallholders are not priced based on their quality since the mills opt to buy the cheapest fruits [63]. The absence of premium prices and the lack of relationship between the commodity quality and the prices are problematic on their own, which can complicate the formulation of incentives for motivating smallholders to implement ISPO.

2.2. Challenges in Implementing Indonesia's Mandatory Certification for Smallholders

As discussed in the Introduction, ISPO became mandatory in 2020, requiring all plantations to obtain an ISPO certificate by 2025. Those plantations not complying with ISPO face sanctions of permit withdrawal as they are considered illegal under Indonesia's laws and regulations [64]. Oil palm plantations in Indonesia are facing the greatest complexity in certifying smallholders' oil palm plantations, which is resulting in the very slow implementation of ISPO certification for smallholders. Prior studies also revealed smallholders' difficulty in understanding and participating in various certification schemes, including ISPO [35,65]. ISPO also faces challenges such as the absence of premium prices and missing incentives [26]. Regardless of such difficulties, mandatory certification such as ISPO can also be used to develop a more effective check and balance mechanism, which will, in turn, help the government carry out more targeted supervision and appreciation [66].

The challenges in implementing ISPO certification can be categorized into three perspectives: legal, managerial and financial. These three perspectives are discussed below.

2.2.1. Legal Perspectives: Land and Business Legality Problems

From the legal perspective, land and business legality have been the main issues. Land legality refers to the land ownership document, which is issued by the BPN (*Badan Pertanahan Nasional* or National Land Agency) under the HGU (*Hak Guna Usaha* or Business Right to Use) for plantation companies for areas that are classified as APL (*Area Penggunaan Lain* or Land Areas for Non-Forest Uses) and SHM (*Sertifikat Hak Milik* or Ownership Certificate) of other lands for smallholder plantations [66]. Land legality has been a significant issue in Indonesia. Compliance with land legality will need to be supported by policy instruments. In addition to punishment, incentives are provided by giving rewards that can be more effective than delivering penalties or imposing stringent regulations and rules alone, especially when aiming for the long term [32]. Meanwhile, lack of incentives and their application could lead to ineffective implementation of sustainable certification [62]. Incentives are essential to address the many issues concerning land legality. Incentives from regulatory measures and cross-compliance incentives are the types of incentives required, especially for smallholder plantations in forest areas [38].

Around 3.372 million hectares of land in Indonesia have been detected as illegally planted with palm oil, of which 1.8 million hectares are located in Riau [67]. In response, BPN has required the official release of land by the Ministry of Environment and Forestry to be converted into APL status. Such release, however, involves a very complicated administrative procedure. In the meantime, enforcing the law against the illegal operation in the forest risks community resistance and subsequent violence, and legal resolution often means political, administrative, and social complexities [68].

Land legality problems also occur in areas outside the forests. Many cases have shown that in areas under APL classification, land title documents do not match the name of smallholders on the identity cards. Smallholders are ignorant of the change of ownership with the title transfer, either due to their lack of knowledge of the procedures or cost issues [66,69,70]. While scheme smallholders leave the legality of their land areas and businesses to be administered by the milling companies, many independent smallholders lack the legitimacy of their land and operate as independent businesses. In most cases, the legality of smallholders' land is limited to SKT (*Surat Keterangan Tanah* or Land Information Letter, which is a letter issued by the head of the village) and the AJB (*Akta Jual Beli* or Deed of Sales), which are not recognized as legal ownership documents. Meanwhile, many plantations operate in former forest concessions or protected forests, but the government does nothing about it. The government uses the term act of omission to describe the circumstances of neglect and lack of awareness among the local community [66,71].

Beyond land legality, there is also business legality. To comply with business legality, a business should be able to show business permits in the forms of an IUP (*Izin Usaha Perkebunan* or Cultivation Business Permit) for plantation companies and STD-B (*Surat Tanda Daftar Usaha Perkebunan untuk Budidaya* or Cultivation Registration Letter) for smallholder plantation, and an environmental management document, called the AMDAL (*Analisis Mengenai Dampak Lingkungan* or Environmental Impact Analysis) for plantation companies and SPPL (*Surat Pernyataan Kesanggupan Pengelolaan dan Pemantauan Lingkungan Hidup* or Statement of Ability in Environmental Management and Monitoring) for smallholder plantations. Without land legality, such requirements will be impossible to meet [72].

Currently, the government has attempted to develop regulations to address the act of omission on the unlawful activity of plantations in forest areas through the "Omnibus" Law on Job Creation No. 11 of 2020. Two articles in the Omnibus Law are applicable. They are Article 110a, applicable to operations with a business license but without a permit for forest-related activities, and Article 110b, applicable for operations without a business or forest-related license.

Special provisions for oil palm smallholdings that are not licensed are stipulated in Article 110B of the Job Creation Law and the Government Regulation No. 23/2021 on Forest Administration. The regulations stipulate that no administrative sanction will be enforced on oil palm smallholders who have resided continuously in and/or around the forest areas

for at least five (5) years with a maximum area of five (5) hectares. The settlement will be through the social forestry scheme, TORA (*Tanah Objek Reforma Agraria* or Land Objects for Agrarian Reform), forest designation and function changes, and permit for the use of forest areas, especially for smallholdings in production forest areas. For the Social Forestry scheme, smallholders are provided with access to state-owned land areas within a fixed, definite time. Social Forestry is most appropriate to counter acts of omission in protected forest areas and conservation areas in the absence of land ownership rights. However, the smallholdings are not eligible for ISPO certification due to their noncompliance with legality requirements.

The TORA scheme allows the state to release land from the forest areas upon meeting specific criteria. Together with smallholdings eligible for release from forest areas and eligible smallholders who comply with the requirements of continuously residing in/around forested areas for more than 20 years with a maximum smallholding size of 5 hectares, smallholdings that abide by the TORA scheme can have access to legal ownership. With the grant of a legal right of ownership, the smallholdings already released from forested areas are eligible in terms of the land legality principle to apply for ISPO.

It can be said that TORA and changes in forest designation and function are the most strategic measure for ensuring the legality of oil palm smallholding areas. For this reason, acceleration of the TORA mechanism by providing area maps and coordinates is necessary. Acceleration can be achieved by facilitating smallholders to map, identify coordinates, meet technical and administrative requirements, and support understanding and meeting the requirements.

In addressing illegality caused by any act of omission in conservation forest and protected forest areas, smallholders are given a definite period until they are no longer allowed to continue oil palm cultivation activities. This period is known as the *Jangka Benah* (transition period to agroforestry), during which smallholders are required to grow forestry crops until a productive forest structure is achieved. Smallholders without the license for oil palm plantation activities must return the land areas to the state. Regulatory options for solving illegal palm oil plantations can be seen in Table 1.

Table 1. Settlement mechanisms for illegal palm oil plantations in forest areas.

Articles in Omnibus Law	Forest Areas	Settlement	Settlement Mechanism	Obligation
110A	Conservation Forest (HK or <i>Hutan Konservasi</i>)	Remains the same	Continues Business Activity under Cooperation Scheme with MoEF (Ministry of Environment and Forestry) for one more cycle of only 15 years since the planting period	<ol style="list-style-type: none"> To pay Non-Tax State Revenue (PNPB or <i>Penerimaan Negara Bukan Pajak</i>) for the Cooperation Obligation to be Under <i>Strategi Jangka Benah</i> (Transition Period to agroforestry) and Not to Replant
110B	Conservation Forest (HK)	Remains the same	<ol style="list-style-type: none"> Administrative Sanction in the Form of Suspension of Activities and Payment of Fine Return the business land to the state 	

Table 1. Cont.

Articles in Omnibus Law	Forest Areas	Settlement	Settlement Mechanism	Obligation
110A	Protected Forest (HL or <i>Hutan Lindung</i>)	Remains the same	Continues Business Activity under Cooperation Scheme with MoEF for one more cycle of only 15 years since the planting period	<ol style="list-style-type: none"> To Pay PNPB for the Cooperation Obligation to be Under Transition Period to become agroforestry
110B	Protected Forest (HL)	Remains the same	<ol style="list-style-type: none"> Administrative Sanction in the Form of Suspension of Activities and Payment of Fine Return the business land to the state 	
110A	Limited Production Forest (HPT or <i>Hutan Produksi Terbatas</i>)/ Production Forest (HP or <i>Hutan Produksi</i>)/Convertible Production Forest (HPK or <i>Hutan Produksi Konversi</i>)	Converted into Areas for Other Non-Forest Use (APL or <i>Area Penggunaan Lain</i>)	Approval of release of forest areas into Land Areas for APL designation preceded by an assessment by an Integrated Team	<ol style="list-style-type: none"> To pay Forest Resource Provision/Reforestation Fund (PSDH-DR or <i>Provisi Sumber Daya Hutan—Dana Reboisasi</i>) To Pay PNPB for the Release of Forest Areas into HP/HPT
110B	Limited Production Forest (HPT)/ Production Forest (HP)/Convertible Production Forest (HPK)	Remains as Production Forest Areas	<ol style="list-style-type: none"> Administrative Sanction in the Form of Suspension of Activities and Payment of Fine Approval on the Use of Forest Areas for 25 years (for Oil Palm Estate) or in accordance with the licensed purpose 	<ol style="list-style-type: none"> To Pay PNPB during the use of Forest Areas

Source: Law on Job Creation No. 11 of 2020.

Acts of omission of illegal oil palm activities in production forest areas by smallholders with a business license can be settled by releasing forest areas into APL. However, such a release of forest areas should be preceded by an in-depth assessment. Unlicensed smallholdings will be approved to use forest areas for 25 years. For any unlicensed business activities in forest areas, an administrative penalty should be applied in the form of a contribution to PNPB (*Penerimaan Negara Bukan Pajak* or Non-Tax State Revenue). The requirements are also applicable for licensed oil palm business activity, which is required to pay PSDH (*Provisi Sumber Daya Hutan* or provision of forest resources), DR (*Dana Reboisasi* or reforestation fund (DR), and PNPB for the release of forest areas.

The Constitutional Court reviewed the Job Creation Law, and it was decided that the government should revise this within two years [73]. The decision entailed two different interpretations: the government cannot continue enforcing the Job Creation Law and should refer back to the provisions in the former laws, or the Government is allowed to continue enforcing the law provided that no strategic decisions are taken. The Government

has opted to continue with the second interpretation and enforces the law despite massive opposition from critical legal scholars.

2.2.2. Managerial Perspectives of Smallholders and Their Organizations

From a managerial perspective, capacities are lacking amongst smallholders and at their organizational level, and there is a weak market linkage of smallholders' products. The lack of technical capacities among smallholders is one of the reasons for their reluctance to apply for certification schemes. Smallholders are faced with knowledge, skills, and financial and organizational constraints [74]. More than that, Glasbergen [75] suggested that most smallholders were not aware that their participation in certification would positively lead to good management and, therefore, potential economic incentives. Lack of capacity among smallholders has been an issue since the certification scheme was launched [76,77]. Nothing has changed, either, until today.

The biggest constraint facing the application of the certification schemes, including ISPO, is the adoption of Good Agricultural Practices (GAP). The government has historically encouraged smallholders to establish a partnership with companies for better application of GAP [50]. The company's technical support and extension services have increased production levels. Furthermore, additional focus should be given to independent smallholders in future training of GAP that good access to legitimate seeds and high-quality inputs are necessary. Due to financial conditions, smallholders are not accustomed to making plantation operational notes, using personal protective equipment, applying fertilizers, and properly tending their plantations. Lack of GAP application directly affects productivity [78]. Scheme smallholders have better access to the mills through a sales contract system and generate a better income with a shorter market chain [69]. As long as they have sufficient support from the companies, they do not have any difficulties complying with GAP. Independent smallholders are faced with more challenges in accessing knowledge and inputs. In many cases, smallholders who have received GAP training go back to their traditional practices due to financial difficulties and access to their production inputs [69,71]. The lack of capacity among smallholders is also associated with smallholder organizational circumstances. Some studies indicated low organizational capacity among smallholders, including capacity in recording and documenting linked to the lack of clarity on land legality [61,69]. Related to smallholders' organizational capacity, ISPO requires smallholders to assemble in smallholder organizations, either in a cooperative, farmer group, or farmer group association [6]. Only smallholders organized in a legal entity can sell FFBs to palm oil mills. Scheme smallholders usually join Village Unit Cooperatives (KUD) established by the company as a member. However, in many cases, once their partnership with a company ends, they will terminate their membership of the KUD. Independent smallholders grow independently in scattered locations, making it difficult for them to assemble in a cooperative as they are not located in the same landscape.

Government programs also require the institutionalization of smallholders despite their obligation to facilitate the institutionalization of smallholders as stipulated in Article 69 of the Law No. 19 of 2013 on Smallholders Protection and Empowerment, which says that national and local governments have an obligation to encourage and facilitate the establishment of smallholder institutions and smallholder economic institutionalization. For this reason, government programs are only accessible to smallholders who are already members of a well-established organization [5,6].

The Indonesian legal system requires that a Legal Entity shall mean an organization or association that is established by the deed of the Ministry of Law and Human Rights. The Ministry of Agriculture's Regulation Number 82/Permentan/OT.140/8/2013 on the Guideline for the Assistance of Farmer Group and Farmer Group Association stipulates that a smallholders' economic institution shall mean a smallholder-owned enterprise consisting of an association of smallholders/livestock farmers/smallholders as members that is established based on common interest, the social-economic-environmental situation, resource and commodity availability, as well as harmony for members' improvement and

business growth. The regulation is by no means meant to put smallholders in a problematic situation. Instead, this applies the precautionary principle in terms of access to the program and a direction for smallholders to become credible by institutionalizing themselves.

Cooperatives are the legally most accepted smallholder organizations. A cooperative can strengthen the bargaining position in product marketing and access to inputs, financial services and programs (including replanting) [79]. However, many smallholders are not willing to actively participate as members of a cooperative due to a prior bad experience with poor cooperative management, including what they experienced when they became scheme smallholders. As cooperatives are not popular with many smallholders, certification standards have recognized Gapoktan (*Gabungan Kelompok Tani* or association of farmer groups) in certification processes. Validated only by the District Agriculture Office makes a Gapoktan not fully recognized as a legal business entity since it lacks the required recognition of the Law and Human Rights Ministry [80]. However, smallholders are more comfortable joining Gapoktan, which unlike cooperatives does not require them to join as members or to comply with saving rules.

The managerial perspective is also related to smallholders' access to the market, which is a problem faced mainly by independent smallholders. Without technical support and beyond the government outreach for monitoring, independent smallholders practice uncontrolled production that is below the standard required by the market [63]. This has put smallholders in a challenging situation with limited options for marketing their plantation products. For now, in most cases, smallholders sell their products to intermediaries. Meanwhile, contracts with company mills are established with scheme smallholder cooperatives, large-scale oil palm farmers with significant capital, and traders who can collect a relatively large volume of products [62]. Gapoktan of independent smallholders rarely enter a contract with companies due to their ability to supply only insufficient volumes, lower-quality fruits, or due to the fact that they are not considered fully legalized. This has made smallholders receive prices below the prices given to scheme smallholders and intermediary traders.

Contract agreement with companies guarantees smallholders' access to the market. Such partnerships may not be an issue to scheme smallholders whose production chain is already linked with the company's chain. However, many scheme smallholders have experienced disappointment during their partnership and decided to withdraw after making the final payment of their loan. Many choose to quit the contract and become independent smallholders [63]. Real problems remain for independent smallholders who have yet to establish partnerships with oil palm companies and those who are comfortable establishing partnerships using current partnership options. The smallholders expect government support and assistance in training from the cooperative manager, development of a special management information system, and facilitating access to financing programs, especially the Special Small-Scale Credit (KUR-Khusus) for Smallholder Replanting Program and Plantation Intensification.

2.2.3. Lack of Financing for Certification

ISPO certification financing and funding facilitation are regulated by the Ministry of Agriculture's Regulation No. 38 of 2020 on the Implementation of Certification of Indonesia Sustainable Oil Palm Plantation [5,6]. The regulation is an implementing regulation of the Presidential Regulation No. 44/2020 on the Indonesia Sustainable Oil Palm Plantation Certification System. It stipulates that for company-level certification, the oil palm company is responsible for paying the cost of applying the certification system. Meanwhile, smallholders can apply for financial support in applying ISPO certification as a group.

There are costs to be covered for implementing sustainable palm oil certification—including for ISPO. These financial costs are for training (cooperation with training provider organizations recognized by the ISPO committee or government working units responsible for providing training), technical support in complying with ISPO principles and criteria (by district/city or provincial office, local facilitators, and extension service officers), and

the first certification process (priority is given to smallholders group with a total size of plantation of between 500 and 1000 hectares with the cost for surveillance and recertification to be covered by the smallholders) [81]. Finance remains an issue because ISPO is mandatory. ISPO certification is applicable for five years. Scheme farmer cooperatives only need to pay for meals during an ISPO application process because the partner companies arrange it [82]. On the other hand, smallholders, especially the independent ones, cannot afford to pay for the certification [81].

Land legality requirement has also remained the central issue in accessing capital [83]. With so many acts of omissions associated with illegal oil palm plantations in forest areas, access to capital becomes problematic for many oil palm smallholders. Lack of access to capital makes it unaffordable for many smallholders to buy production inputs, which ultimately makes it difficult for them to comply with Good Agricultural Practices (GAP) [84].

3. Materials and Methods

This research used materials from four sources, namely the literature, policy documents, media news, and in-depth interviews. The literature covers journal articles, books, book chapters, reports from non-governmental organizations (NGOs) and government, government officials' presentations, theses, and media news and web pages from balanced and reputable sources. Policy documents consulted are the various regulations in Indonesia issued by the national and local governments.

This research on Indonesia Sustainable Palm Oil (ISPO) incentives uses a qualitative approach that includes a literature review complemented by in-depth interviews. A semi-systematic review approach was used in the literature review which aims to identify key concepts, map theoretical themes, identify knowledge gaps in the literature with empirical conditions based on field evidence, and build knowledge by choosing concepts to frame a field to inform research questions [85–87]. The literature review consists of several steps including searching data, examining various published materials based on their central issues firstly from an assessment of their abstracts and secondly from the evidence presented, and then reviewing findings and policy recommendations already available to get a rough idea about the state of knowledge in the field under study [88,89]. Ensuring a balance between the depth and breadth of a literature review is essential [89]. To ensure such balance happens, a literature review has to focus on quoting only relevant studies, follow the inclusion criteria agreed upon at the start, and discuss the broader implications of discussion by other disciplines.

The literature review was conducted through a semi-systematic review. The semi-systematic review was selected from the limited scientific literature on ISPO implementation, which might lead to misleading information [86,90]. This semi-systematic review focused on four keywords in the data collection, namely ISPO, smallholders, incentives, and certification. The literature collection process was carried out through stages of data searching, filtering based on content in the abstracts, filtering based on full article assessment, and then identifying the results [91]. Focusing on the literature published after 2010, we collected around 200 peer-reviewed journal articles using Google, Google Scholar, and reference databases. After searching the data, we found around 80 articles considered relevant to the aims and research questions. We then identified four central issues: legality, management, finance, and theory. Next, we identified problems with existing interpretations and findings in order to develop relevant policy recommendations. In-depth interviews were conducted to collect feedback from various stakeholders. Complementing information from the literature review, in-depth interviews help researchers prevent bias or subjective views based on available perspectives on research topics [92]. The in-depth interviews used a semi-structured approach [93], where a predetermined set of questions are formulated in the discussions among the researchers. Here researchers use open-ended questions to allow further discussion to explore the knowledge and perceptions about an issue.

In-depth interviews were conducted during January 2022 with government officials and smallholders. The informants were interviewed by online discussion using Zoom, which was facilitated by Fortasbi (*Forum Petani Kelapa Sawit Berkelanjutan Indonesia* or Forum for Indonesian Sustainable Oil Palm Farmers). Fortasbi is a forum consisting of NGOs and smallholder organizations to assist smallholders in applying for certification. There were several ministries interviewed. To represent the local government's perspective, in-depth interviews were conducted with a Jambi Provincial Government plantation development official. Jambi Province is neither the biggest palm oil producer nor has the largest number of smallholders. Nevertheless, Jambi Provincial Government is more progressive in facilitating independent smallholder groups to navigate their many challenges in implementing sustainable palm oil certification. This can be shown by the smallholder groups that have received ISPO, RSPO, and ISCC (International Sustainability and Carbon Certification) certifications. The Provincial Government actively facilitates smallholders to achieve legality by making STD-B free of charge and by providing training to smallholders and smallholder organizations. While many provinces struggle to deal with smallholder certification issues, Jambi has made steps toward problem-solving. There were also representatives of smallholders interviewed from Riau, which has the biggest numbers of smallholders, and East Kalimantan, which shows impressive progress in implementing some smallholder certification projects supported by various NGOs.

The key informants interviewed are listed in Table 2. The interviews were recorded and transcribed. The transcription aims to make the organization and analysis of the data more manageable [94]. The transcribed interview information was coded and grouped to identify relevant information. The in-depth interviews commenced by identifying answers to the specific issues related to the research question and then presented in the article.

Table 2. Key informants interviewed about Indonesia's oil palm industry.

No	Informants	Institution	Stakeholder Type
1	The Ministry of Agriculture	Processing and Marketing of Plantation Products Directorate	National government
2	The Ministry of Agrarian Affairs and Affairs and Spatial Planning/National Land Agency	Regulation and Determination of Land and Space Rights Director	National government
3	The Ministry of Village, Development of Underdeveloped Regions and Transmigration	Village Fund Utilisation Directorate	National government
4	The Ministry of Cooperative and Small and Medium Enterprises	Legal and Partnership Bureau	National government
5	The Ministry of Finance	Fiscal Policy Agency	National government
6	Jambi Provincial Government	Plantation Development Office	Provincial government
7	Smallholders association	Riau Gapoktan Representative	Smallholders
8	Smallholder association	East Kalimantan Gapoktan Representative	Smallholders
9	Smallholders	Member of a smallholder group in Riau	Smallholders
10	Facilitators (NGO)	Coordinator	NGO

The framework used for this research is exhibited in Figure 3. It shows that government and market-based incentives are the possible sources of incentives in implementing ISPO for smallholders. State-based incentives are closely associated with ISPO as a government-led initiative. The government distributes resources and mobilizes government employees at the national, local (district/city and provincial), and village levels. In many instances, however, market-based incentives are developed by companies who are mandatorily

required to establish a partnership with smallholders. Both schemes are the enabling conditions for smallholders in achieving certification.

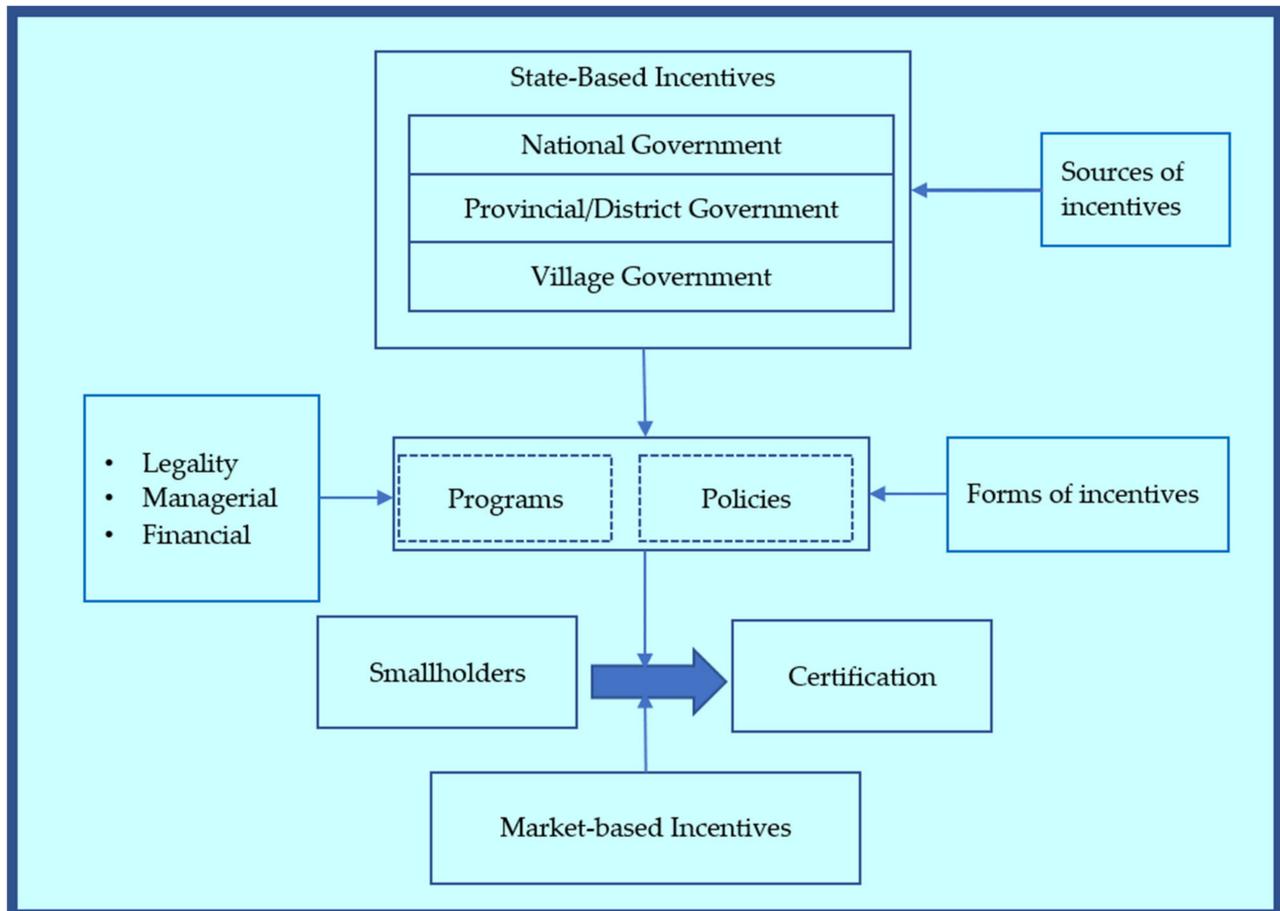


Figure 3. Research Framework on Indonesia's oil palm industry.

4. Results: Of Interviews

4.1. Managing the Legality Aspects

The informant from the Ministry of Agriculture admitted the slow rate of ISPO implementation. The main reason is the lack of ISPO socialization among smallholders—mainly the independent ones—and the plantation district and provincial offices. Legality is a very important aspect to be managed, particularly because there are 3.372 million hectares of palm oil plantations in forest areas. Options for solutions have been developed in the Job Creation Law, and the MoEF (Ministry of Environment and Forestry) is willing to facilitate those solutions. However, often the local governments cannot do much as they do not have the funds for managing these administrative procedures. Managing the land release from forest areas requires good collaboration between the local government and the MoEF. Local government informants revealed their disappointment about the Ministry of Environment and Forestry's lack of transparency on the data about palm oil in forest areas. This indicates the lack of coordination among relevant government institutions at the national and local levels on the inter-sectoral task force responsible for ensuring accelerated and coordinated settlement. Until now, finance is still an issue as far as the discussion about this is concerned.

The Ministry of Agrarian Affairs/BPN has the authority to settle cases of palm oil plantations located outside of the forest areas without evidence of legal ownership. Incentives should be provided through legal assistance and administrative process. An informant from the Ministry explained that a National Priority Program for the PTSL (*Pendaftaran Tanah Sistematis Lengkap* or Complete Systematic Land Registration) is in place for all unregistered land objects in a particular village. Smallholders with land areas of between 5 hectares to 20 hectares, depending on the region's density, can apply for ownership certification for free, provided that they can continue to manage their plantations free from prosecution by the authorities.

Not all smallholders, whose plantations are scattered in different locations, can meet the requirement to be in the same landscape. In this case, the informant from the Ministry of Agrarian Affairs explained that they can still get the certification through the Inter-Sectoral (Lintor) program. The Lintor program answers the need for the certification of these smallholders. In this program, BPN works together with other government offices, including the Provincial Office for Estate Crop, to establish the systematic registration of smallholders' land [95]. An informant from the Ministry indicated that until the end of January 2022, Lintor was still in preparation and facing financial constraints. Another certification scheme that allows plantations in different landscapes to apply is the Independent Mass Certification, enabling smallholders from the same administrative region (such as a village or district) to apply. Applying for this certification scheme takes considerable time to prepare, and good coordination and funding are essential because smallholders apply collectively.

In addition to incentives to solve land legality, incentives need to be arranged to manage business legality. The issuance of an STDB helps to improve land legality. A respondent from the local government explained that to apply for STDB, smallholders are required to register and fill in data on land ownership. The local government helps with the mapping and land database through GIS (Geographical Information System) mapping, aerial photos and the use of a drone. An obstacle also comes from the ability to conduct mapping that requires knowledge of operating digital maps. The informants from the Ministry of Agriculture, Jambi Provincial Government, and smallholder organizations mentioned the limited number of personnel with digital mapping skills. A similar situation is encountered in managing SPPL, which requires administering documents. The smallholders found it complicated to manage the document administration of SPPL.

4.2. Managing Managerial Aspects

All stakeholders interviewed mentioned the need for strengthening GAP and management training. The informants from smallholder associations and the NGO facilitating smallholders in certification expected the government to play more of an active role in facilitating the improvement of smallholder organizations, both through their programs or by promoting partnerships between companies and smallholders. Meeting this expectation is not easy. Informants from the Ministry of Agriculture and the Plantation Office in Jambi Province mentioned that they could not afford to establish a permanent-based extension while the current extension services are employed with a maximum 1-year contract. Moreover, extension services are more oriented to food crops.

The informant from smallholder organizations also described challenges in implementing GAP. Only smallholders with sufficient financial capacity can manage GAP compliance to provide an adequate amount of agricultural input, follow schedules, keep plantation cleanliness, and replant according to schedule. The responsibility for monitoring the GAP implementation is in the hands of the ICS (Internal Control System) division. The ICS team consists of managers and inspectors responsible for production management, monitoring, human resources, and marketing. The inspectors are recruited from members with relevant professional backgrounds. In reality, however, many ICS inspectors work voluntarily due to smallholder organizations' inability to afford their permanent employment. This prevented

them from optimally rendering their services. Even in certified smallholder organizations, only a few stay in the ICS team while the rest choose to leave.

In addressing the challenges in obtaining proper business licenses for smallholder organizations in cooperatives, the informant from the Ministry of Cooperative and Small and Medium Enterprises mentioned that measures must be taken not only to improve current cooperatives but also to facilitate smallholder organizations to be legalized into cooperatives. However, the informant also realized that it requires a significant effort to convince the rural community to join cooperatives. Many producers and their communities have had bad experiences in the past with the KUD (*Koperasi Unit Desa* or Village Unit Cooperative).

In improving the capacity of smallholder organizations, the informant from the Ministry of Cooperative and Small and Medium Enterprises stated that the Government of Indonesia is promoting the modernization of cooperatives. The modernization of cooperatives aims to improve organizational capacity and good cooperative governance to make cooperatives competitive and adaptive to changes. Modern cooperatives—if they are incorporated—can develop a relatively large-scale limited company to perform aggregation and consolidation functions by developing collection and distribution centers or factory sharing. As cooperatives attain economies of scale, they can easily develop partnerships with the private sector. Implementing this is not easy, according to a surveyed NGO. The cooperatives need capacity building to facilitate collective financial management at the organizational level, along with financial literacy and financial management at the household level. Furthermore, the opportunity to perform aggregation and distribution is limited by the current function of the cooperative as an FFB collector. Therefore, cooperatives also need to have the capacity to operate mini palm oil mills so they can sell their products more competitively than those produced by the mills owned by the corporations.

The smallholder organizations also mentioned additional managerial capability to ensure FFBs are harvested immediately and processed in the mills within 48 h after the harvest. Delayed processing will reduce the quality of the Crude Palm Oil (CPO) and, subsequently, the price that smallholders receive. Due to limited mini palm oil processing units, smallholders are heavily dependent on palm oil processing mills. Mutually beneficial cooperation between palm oil processing mills and smallholders should be established. Alternatively, smallholders should be able to produce other types of palm oil that can be consumed without sophisticated manufacturing processes such as artisanal red palm oil.

Since alternatives to the current system of palm oil production are not available in Indonesia, the emphasis of the current partnership between smallholders and companies is on the requirement for smallholders to enter a plasma scheme. This requirement, coupled with the requirement to comply with integrated one-window management of plantation areas, is a challenge on its own and the subject of resentment among smallholders in some regions. Considering the limitations of such partnerships, awareness has grown among smallholders of the need to develop a partnership with the palm oil industry's input and milling sectors, which they consider fairer. In addition, interviews with smallholder organizations and the NGOs reveal an interest among smallholders to consider an alternative to insisting on production integration in one-window management of a landscape with production coordination without having to relinquish their land to a company.

4.3. Managing Financial Aspects

Implementing the ISPO (Indonesian Sustainable Palm Oil) needs financial support. In meeting land legality, the informants from the Ministry of Agriculture and the Provincial Government revealed the absence of financial support for ensuring field implementation in managing legality compliance and capacity building. The interview with a local government respondent also indicated the local government's limited capacity to support funding in that only a few groups of smallholders have received support. In the meantime, increasing financing to support ISPO compliance is not easy. Interviews with the NGO revealed that since palm oil is considered a profitable sector, funding proposals for

facilitating STDB are usually not approved by the local government or during the budget discussion at the local parliament. Without such facilitation, even if smallholders can afford the costs of between Rp. 300,000–500,000 (around US\$ 21.5–35.7) for administering SPPL documents, for instance, filling the forms to complete the document is beyond the capacity of the smallholders.

Implementing ISPO certification needs costs for preparing certification application, which includes facilitators, training, and field school. The costs for developing demonstration plots and organizing field schools can be much higher than the annual costs. Interviews with two farmer organizations indicate that it costs IDR 500,000–750,000 (around USD 35.7–53.6) per hectare for ISPO certification. ISPO certified smallholdings would have to undergo an annual surveillance audit that costs around IDR 350,000–400,000 (around USD 25–28.6) per hectare. Another issue concerns the cost that smallholders have to pay post-certification. After certification, many independent oil palm smallholders cannot afford to consistently apply ISPO operational standards for the obligation of tax reporting and payment, providing personal protective equipment for workers, use of inputs in appropriate amounts and frequency, and monitoring and external audit [81]. It costs a lot to maintain certification. For example, in 2012, the cost of annual surveillance audits and the cost of improvement based on these audits both ranged from USD 1.19 and USD 34.66 per hectare [96]. This is very difficult for smallholders to afford.

4.4. Financial Sources for Developing Incentives

In financing the incentives described above, there are some financial sources that can be explored. The first source for financing these incentives is the government. At the national level, the government can provide financing through the central government system implemented through ministries or non-ministerial government agencies. The Minister of Agriculture's Regulation No. 38/2020 stipulates that farmer groups, farmer group associations, cooperatives, or other smallholder economic institutions can apply for the funding to the Heads of Offices at the District/City level, to be subsequently verified by the Heads and further verified by the Head of Provincial Offices. After eligibility is verified, the request is further submitted to the Directorate General of Plantation, taking into account the availability of funds in the National Budget (APBN) for independent smallholder certification.

Since 2015, the Government of Indonesia arranged financial schemes for the smallholders from BPDPKS (Badan Pengelola Dana Perkebunan Kelapa Sawit or Indonesian Oil Palm Plantations Fund Management Agency). BPDPKS is under the management of the Ministry of Finance to manage export taxes collected from companies. It is supervised by a technical committee that has members of ministries having functions related to palm oil plantations and their industry. Contribution from the national budget has increasingly declined with funding available from the BPDPKS. Specifically, for supporting ISPO implementation, BPDPKS prepares the fund through the Facilities & Infrastructure Program for funding ISP certification for smallholders. Funding for ISPO certification is included in the facilities and infrastructure, as stipulated in the Ministry of Agriculture No. 15/2020 and the Decision of the Director-General of Estate Crop No. 273/2020. Funding consists of technical verification for ISPO certification [97]. However, many challenges remain in implementing the BPDPKS smallholder palm oil replanting program. Apart from the illegal plantation in forest areas and the incompatibility between smallholders' ID numbers and documents on land ownership, there are issues concerning the lack of data synchronization with the Ministry of Agriculture's Directorate General of Estate Crops.

The government funding is also provided by local governments both at provincial and district levels. The local governments receive an allocation from the central government. According to the Agriculture Ministry Regulation No. 38/2020 [6], smallholders can request ISPO certification funding from the Heads of Plantation Offices in the provincial and district governments. The provincial or district governments will allocate from the APBD (Anggaran Penerimaan dan Belanja Daerah or Regional Income and Expenses

Budget). However, the informant from the local government said that they only have limited funding capacity for this purpose.

Another source of government funding is through the village government. The Minister of Village, Development of Disadvantaged Regions, and Transmigration Regulation No. 7/2021 on the Priority Use of Village Funds stipulates seven priorities in using village funds for national priority programs in line with village authority. A respondent from the Ministry of Village and Development of Disadvantaged Regions indicated that a guideline on priority setting is issued yearly. For 2022, the priority is on national economic recovery, national priority programs, and disaster mitigation and management. Achieving sustainable palm oil certification for smallholder plantations seems to prioritize village development. However, village leaders often do not have the awareness and knowledge of its urgency and its direct and indirect impacts on the village residents' welfare. The same respondent from the Ministry of Village and Development of Disadvantaged Regions described that many villages made decisions on the use of village funds based on Village Administration staff's interests instead of the urgency of the priority programs. Good practice by a BUMDes (*Badan Usaha Milik Desa* or Village Enterprise) in Kuansing (Riau) indicated their use of village funds for certification of palm oil plantations in their village. The respondents from the Ministry of Village and Development of Disadvantaged Regions stated that many BUMDes could establish a collective BUMDes to achieve a feasible business size for certification.

Beyond these alternative financing sources, the government can encourage companies to establish a partnership with smallholders. Companies play a role in facilitating ISPO certification of smallholders by providing support to smallholders in their application. PT Wilmar, for example, facilitated independent smallholders in Koperasi Tinera Jaya Cooperative in applying for the ISPO certification on their request [82]. Tinera Jaya Cooperative was selected for its good organizational management and having clear land legality. The interview with the facilitating organization indicated that many independent smallholders were not comfortable applying for ISPO certification with companies' support due to the experience of unfair treatment by companies and the requirement to be managed under one roof and under the company's plantation landscape where boundaries are no longer recognized. A further consideration is necessary to promote adopting an alternative partnership based on production and sales only instead of the land-based norm.

Innovative finance mechanisms have recently been developed to improve coordination and political support for financing sustainable development in Indonesia. Such innovative schemes are developed in line with the need for new funding support for climate change and the implementation of SDGs, in which palm oil sustainability is considered important for both national agendas. The first innovative finance mechanism is budget tagging. Budget tagging is the process of tracking and monitoring specific expenditures to enable allocation into a targeted thematic program [98]. In Indonesia, budget tagging is initiated by the BKF (*Badan Kebijakan Fiskal* or Fiscal Policy Agency) of the Ministry of Finance. Budget tagging is a potential funding source for smallholders because improving the palm oil sector's sustainability is closely linked with SDGs' achievement and climate change mitigation. An informant from the Ministry of Finance revealed from experience that budget tagging makes planning more focused. The budget is proposed with fewer items proposed under the terms that match well with National Development Planning's terms. Later, such clarity increases the amount of approved funding. BKF can recommend local governments with budgets already tagged in the proposal submission to the numerous programs from the BPD LH (*Badan Pengelola Dana Lingkungan Hidup* or the Environmental Fund Management Agency). So far, the budget tagging program for the palm oil sector by the Siak District government has only included mitigation measures for using palm oil timber waste from replanting and has not yet specifically promoted the application of sustainable palm oil standards [99].

The second innovative finance mechanism is fiscal transfer to promote palm oil smallholders' sustainability. A fiscal transfer allows the transfer of funds from the higher government at the national, provincial and district/city levels to the lower government level. In fiscal transfer, achievement indicators are agreed upon, which can be linked with ISPO implementation. Several examples in Indonesia include transferring ecological funds from the district government to the village government, the provincial government to the district government, and the national government to the provincial government. The fiscal transfer has been implemented in some provinces and districts [100] but there is nothing specific for the strategic measures in achieving ISPO certification.

The third innovative finance mechanism is the Indonesian Sustainable Finance Agenda. Sustainable finance has become a national agenda in Indonesia in which financial institutions and public companies are encouraged to implement sustainable businesses. Sustainable business refers to the projects/activities/products/services that comply with the sustainable finance principles in terms of efficiency and effectiveness, and mitigation and adaptation. The ISPO certificate is one of the official documents required to select loan applications from palm oil companies [101]. The OJK (*Otoritas Jasa Keuangan* or Financial Services Authority) mentioned some alternative financing schemes that can be developed to help smallholders achieve ISPO certification [102]. These alternative awards and best-practice-sharing-based schemes are provided internally by banks to their customers to obtain certification or implement the action plan to address gaps in sustainability compliance. Banks can provide financing to customers who have not yet obtained sustainability certification but are committed to being certified by demonstrating a sustainability action plan within the agreed timeline. This commitment is stipulated as a provision in the credit agreement. Following certification, the bank provides market incentives to customers by connecting to other off-taker companies that may provide training and assistance. The increasing opportunity for financing sustainable palm oil in financial institutions creates opportunities for independent smallholders. For scheme smallholders, financing is provided to the nucleus company to be further distributed to the scheme smallholders through scheme KUD (*Koperasi Unit Desa* or Village Unit Cooperative) to buy inputs. In this scheme, the nucleus company can also work with CSOs to improve scheme smallholders' capacity [102]. The independent smallholders can access some financing-facility options such as KUR (*Kredit Usaha Rakyat* or People Business Credit), commercial working capital financing under the supervision of BUMD (*Badan Usaha Milik Daerah* or Local Government Owned Enterprises), and pre- and post-harvest credit facilities. Given the sustainable financing agenda, banking institutions are advised only to provide financing to ISPO certified plantations. With only a limited number of palm oil smallholders who are certified, the acceleration of ISPO certification is crucial to prevent palm oil smallholders' alienation from access to formal financing.

5. Discussion

5.1. Identification of Incentives for Indonesian Palm Oil Smallholders

This article contends that various incentives are necessary to ensure Indonesia Sustainable Palm Oil (ISPO) implementation. The incentives address the challenges in legal, managerial, and financial aspects in the form of funding, regulatory measures, technical assistance, promotion, and rewards for good practices. By comparing the literature reviews and the results, Table 3 can be developed to show the need for financial and regulatory measures, promotion, rewards, technical assistance, and socialization.

Incentives can be financial and non-financial, especially enabling regulations and ensuring compliance. Regulation-based non-financial incentives are essential considering that ISPO is a legally based standard. Meanwhile, legality remains a complex issue in Indonesia in respect of detailed interpretation, coordination, and implementation [103]. Regulation-based incentives can accelerate ISPO certification implementation through better enforcement of regulations, facilitating government inter-agencies to simplify the implementation of ISPO principles and criteria, and better regulation when necessary. The

government agencies need a better understanding of the field situation. Financial incentives are needed both for the government for facilitating and coordinating regulation compliance, and for smallholders to cover the administrative and implementation costs. At the government level, usually an individual government agency cannot cover activities performed by other government entities, while ISPO requires coordination across government agencies at the central level, and between the central and local levels.

Funding for ISPO certification can come from the government at the national and regional level, village funds, and BPDPKS. Government funding is closely associated with ISPO's core characteristic as a legally based certification system. Similarly important, funding from the private sector can be mobilized from the partnership of palm oil companies and smallholders. In arranging these incentives, innovative approaches are needed to the current financial sources to improve coordination and political support both for the government and the private sector. ISPO, as a mandatory government standard, requires support from the whole palm oil chain including various private actors. However, it needs to reconsider current company and smallholder partnership models, replacing the emphasis on one-roof management models with coordination without obligation to allow smallholders to relinquish land into an integrated production landscape.

Table 3. Incentives for Indonesian palm oil smallholders.

Perspectives	Topic Reviewed	Literature Cited	Result	Incentives Needed
Legal	<ul style="list-style-type: none"> Mandatory requirement for smallholder oil palm plantations to be certified by 2025 while ISPO certification progress is slow. Options for solving land legality in the forest areas Options for solving land legality outside the forest area. Compliance with business and environmental management permits. 	GOI [5], GAPKI [13]; Suharto, et al. [9]; Hidayat [11], Machmud [12], Sardjono [64]; Watts, et al. [69]; Schoneveld, et al. [66]; Pramudya, et al. [104]; Dharmawan, et al. [70]; Kehati [71]; Chalil [72]; Fahmi, et al. [67]; Astuti [68]; Ichsan, et al. [83]; Pñeiro, et al. [48]; GOI [105]; GOI [106]; Oktaviani [95]; Pramudya [103].	<ul style="list-style-type: none"> Unavailability of funding for the local government for administering land release. Unsynchronized data of palm oil plantations areas both inside and outside the forest area Lack of coordination among government agencies. Inflexible and insufficient breakthrough in agrarian regulations that are unsuitable to the field situation. Lack of technical capacity for digital mapping. 	<ul style="list-style-type: none"> Funding for government agencies to facilitate land release administrative procedures. Regulatory measures for government agencies in synchronizing data, improving coordination, and updating regulations based on the field situation. Technical assistance for local government officials and representatives of smallholder organizations in digital mapping.
Managerial	<ul style="list-style-type: none"> Weak technical capacities. Awareness of benefits of adopting GAP. Weak capacity in recording and documenting. Getting smallholders organized in cooperatives. Direct market access to mills. Access to government support and technical assistance. 	Ditjen Perkebunan [107]; Pineiro, et al. [48]; Bowles, et al. [51]; Nurfatriani, et al. [55]; Dharmawan, et al. [35]; Martens, et al. [65]; Lambin, et al. [16]; Nawireja & Ross [76]; Glasbergen [75]; Ross, et al. [77]; Watts, et al. [69]; Brandi, et al. [61]; Euler, et al. [108]; Feintrenie, et al. [109]; Kehati [71]; Bronkhorst, et al. [79]; Innocenti & Oosterveer [63]; Hutabarat, Slingerland & Dries [62]; Vamuloh, Kozak & Panwar [110].	<ul style="list-style-type: none"> Weak technical and managerial capacity to obtain certification. Limited capacity to maintain certification. Weak government's extension service system beyond food crop commodities. Weak management and internal control. Insufficient conditions for adopting the government's approaches to cooperative modernization. Limited options for smallholder organizations to process FFBs than selling to the mills. Limited partnership model with companies. 	<ul style="list-style-type: none"> Funding for smallholder organizations in obtaining and maintaining certification. Regulatory measures for local governments to improve extension services for cash crop commodities. Regulatory measures for promoting alternative business models for smallholders' commodities, and alternative partnership models between smallholders and companies.

Table 3. Cont.

Perspectives	Topic Reviewed	Literature Cited	Result	Incentives Needed
Financial	<ul style="list-style-type: none"> Financial constraints of smallholders in implementing ISPO certification Higher costs for independent smallholders in implementing certification. Access to financial support for illegal plantations. 	Nuryanti, et al. [81]; Maat, et al. [84]; WWF [96]; Aisyah & Mulyo [37]; Cadman, et al. [39]; Kadarusman & Herabadi [38]; Tietenberg & Lewis [47]; Hobbs [52]; Furumo, et al. [56]; Pineiro, et al. [48]; Hutabarat, Slingerland & Reitberg [111]; GOI [6]; GOI [112]; Nurhatika [82]; Sawit Indonesia [97].	<ul style="list-style-type: none"> Lack of funding for government agencies to facilitate field implementation of ISPO compliances. Perceptions of policymakers that the palm oil sector does not need the government's financial support. Smallholders cannot afford the high cost of the preparation and maintenance of ISPO certification. 	<ul style="list-style-type: none"> Funding for government agencies for facilitating smallholders in implementing ISPO. Socialization of policymakers about the urgency of ISPO implementation and the role of finance to achieve it. Funding for smallholders in preparing and maintaining ISPO certification.
Theoretical	<ul style="list-style-type: none"> Regulatory-based certification can become an alternative for developing sustainability standards. Incentives motivate smallholders' improvement for sustainability. There are various kinds of incentives based on market/price, and non-market regulatory mechanisms. GAP is based on the formalization of production procedures that for smallholders might be too complicated and bring implications in costs and capacity. 	Kadarusman & Pramudya [7]; Mankiw [44]; Krugman & Wells [43]; Sloman, et al. [45]; Lipsey & Chrystal [46]; Tietenberg & Lewis [47]; Bowles, et al. [51]; Hobbs [52]; Schouten & Glasbergen [53]; Ferraro, et al. [54]; Nurfatriani, et al. [55]; Furumo, et al. [56]; van der Ven, et al. [57]; Bartley [58]; Hidayat, et al. [28] Innocenti & Oosterveer [63]; Labansing [113].	<ul style="list-style-type: none"> Regulatory-based certification faces complexities in regulations and their implementation. No market-based incentives for ISPO certification. Smallholders do not fully understand the benefits of improvement for sustainability, which also applies to local government officials. Limitations in developing incentives for ISPO with the existing emphasis on regulatory compliance. Limited smallholder capacity in implementing GAP. 	<ul style="list-style-type: none"> Regulatory measures for addressing regulation complexity and simplifying regulation implementation, and emphasizing transition toward sustainability. Financing mechanisms for supporting ISPO implementation. Rewards clearly show the benefits of sustainability improvements. Technical assistance for implementing GAP.

5.2. Further Insights on the Incentives for Indonesian Palm Oil Smallholders

The incentive development for ISPO certification should keep in mind two characteristics of the incentives. First, incentives are provided to create or enhance enabling conditions to meet legality requirements, which results in obtaining certification. Incentives, however, are also meant as a reward. It is possible that certification is a mere way of complying with regulation but willingness to improve sustainability in the palm oil sector in Indonesia through ISPO is lacking. Rewards can be considered for appreciating changes in agricultural practices and improvements in adopting sustainability principles. Arranging such rewards would establish awareness that sustainability involves transformation processes in improving governance and fixing past practices that are not socially and environmentally friendly. Smallholders' acceptance and trust in the certification process are closely linked with the gradual but comprehensive certification approach to achieving sustainability [114].

Provision of incentives does not necessarily lead to smallholders' certification; for example, some smallholders fail to be certified since their plantations are in the conservation forest areas. Instead of ignoring these smallholders, incentives should have been provided to enable the transition from palm oil-based livelihoods to livelihoods that are based on sustainable forest use. Facilitating sustainable forest-based livelihoods should involve market development approaches for sustainable forest products such as Non-Timber Forest Products (NTFPs), nature tourism, and even carbon trading. International collaboration is necessary to facilitate such transition, especially in developing a niche market for smallholders' forest products that generate better or comparable income to palm oil.

Theoretically, market-based incentives work very well to promote transformational changes. ISPO, as a system developed outside the market domain, has a low acceptance in the market system creating the absence of premium price as a market-based incentive. Furthermore, ISPO still faces a lack of consumer acceptance and trust in the certification process. The Indonesian government should work hard to convince stakeholders that ISPO is a system that does not only serve governmental intentions for ensuring legal compliance but is also a learning mechanism for saving the environment and achieving social betterment. Furthermore, Indonesia can learn from Malaysia's experience in developing MSPO, which has higher market acceptance with clearer indicators and requirements for compliance, more straightforward information on protecting the environment, and more measurable indicators for the implementation [113].

Another critical question for ISPO is whether its compliance will affect the situation of palm oil producers. Despite the government's warning that the failure to comply with ISPO would involve government sanctions, it is still unsure whether the government will take hard enforcement steps. The evidence so far shows that when the government is permissive, this tends to lead to widespread acts of omission. The government's willingness and ability will determine ISPO's acceptance by the market and the palm oil producers. Regardless of whether failed compliance with ISPO will lead to sanctions, promoting ISPO to smallholders could lead to some benefits. The most important one is the improvement of legal recognition, yield, and efficiency through GAP implementation, and access to market and finance.

In response to the possible challenge of addressing forest encroachment, cultivating palm oil in agroforestry should be promoted as long as it is legally allowed. However, alternative palm oil systems require more nuanced market development due to a lack of integration with existing palm oil value chains which prefer industrial plantation-style production.

Alternative products that are not integrated with conventional CPO (Crude Palm Oil) chains need to be developed; for instance, the artisanal red palm oil produced by West African farmers and the NTFP products from smallholder agroforestry. The agroforestry-based smallholder cultivation will enable the smallholders to manage market and agronomic risks related to monoculture plantations and facilitate environmental and social improvements.

6. Conclusions and Recommendations

Our research concludes that many challenges remain in implementing Indonesia Sustainable Palm Oil (ISPO) as mandatory certification, especially for palm oil smallholders in Indonesia. Independent smallholders face more constraints than scheme smallholders who are facilitated by companies and integrated into the company supply chains. With the increase in the number of independent smallholders, various incentives need to be developed to provide better facilitation of regulatory compliance and financial support. Incentives address multiple aspects, namely legality of land and business, managerial capacity for smallholders and their organization, and financial needs to implement ISPO. The incentives can be arranged variously as funding, regulatory measures, technical assistance, promotion, and rewards for good practices.

These incentives are not exclusively targeted toward smallholders. Some incentives are necessary for improving inter-agencies coordination and public administration processes and capacity at the local level. In addition, several ministries and government agencies in Indonesia are expected to have better knowledge about problems facing smallholders. Government regulations tend to be too stringent, overlooking smallholders' challenges and limitedness. The improved policy should involve intensive discussion with the smallholders and the application of innovative approaches for managing financial sources to improve coordination and political support. This provision of incentives can help smallholders to meet legal requirements, close the yield gap, and increase access to markets and finance.

Author Contributions: Conceptualization, E.P.P., F.N., S.H., I.K.N. and L.R.W.; methodology, E.P.P., L.R.W. and D.R.K.; validation, E.P.P., I.K.N., Y.B.K. and R.R.; formal analysis and investigation, E.P.P., F.N., S.H., I.K.N., D.R.K. and A.O.I.; resources, E.P.P., F.N., S.H., I.K.N., L.R.W., D.R.K. and A.O.I.; data curation, D.R.K. and A.O.I. writing—original draft preparation, E.P.P., F.N., S.H., I.K.N., L.R.W., D.R.K. and A.O.I.; writing—review and editing, E.P.P., F.N., S.H. and I.K.N.; supervision, E.P.P.; project administration, E.P.P. and D.R.K.; funding acquisition, R.R. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the FORTASBI (Forum of Indonesian Sustainable Palm Oil Smallholders), grant number 001/PKS-External/FORTASBI/IX/2021.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Acknowledgments: We would like to acknowledge the English translation and editing service by Theresia Wuryantari, and administrative support by Novia Ayu Laraswati, Sendy de Soysa and Widya Agustina from Fortasbi.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. FAOSTAT. FAO Statistical Database. 2022. Available online: <https://www.fao.org/faostat/en/#data/QCL> (accessed on 20 February 2022).
2. Comtrade, U. Statistical Database. 2022. Available online: <https://comtrade.un.org/data/> (accessed on 20 February 2022).
3. MOA. *Statistic of National Leading Estate Crops Commodity 2019–2021*; Ministry of Agriculture: Jakarta, Indonesia, 2020.
4. Hospes, O. Marking the success or end of global multi-stakeholder governance? The rise of national sustainability standards in Indonesia and Brazil for palm oil and soy. *Agr. Hum. Values* **2014**, *31*, 425–437. [[CrossRef](#)]
5. GOI. Indonesian ISPO Certification System. In *Presidential Regulation No. 44*; Government of Indonesia: Jakarta, Indonesia, 2020.
6. GOI. Principles and Criteria of Indonesian Sustainable Palm Oil (ISPO) for Smallholders. In *Ministry of Agriculture Decree N0. 38*; Ministry of Agriculture: Jakarta, Indonesia, 2020.
7. Kadarusman, Y.B.; Pramudya, E.P. The effects of India and China on the sustainability of palm oil production in Indonesia: Towards a better understanding of the dynamics of regional sustainability governance. *Sustain. Dev.* **2019**, *27*, 898–909. [[CrossRef](#)]

8. GOI. *Guideline of Indonesian Sustainable Palm Oil*; Ministry of Agriculture: Jakarta, Indonesia, 2011.
9. Suharto, R.; Husein, K.; Sartono; Kusumadewi, D.; Darussamin, A.; Nedyasari, D.; Riksanto, D.; Hariyadi; Rahman, A.; Uno, T.; et al. *Joint Study on the Similarities and Differences of the ISPO and the RSPO Certification Systems*; ISPO and RSPO: Jakarta, Indonesia, 2015.
10. Subagyono, K. Peraturan Pelaksanaan dan Perpres No. 44/2020: Tata Cara Sertifikasi ISPO dan Prinsip serta Kriteria ISPO. In Proceedings of the Webinar Nasional ISPO Pasca Terbitnya Perpres No. 44 Tahun 2020, Jakarta, Indonesia, 15 July 2020.
11. Hidayat, R.A. 10 Tahun ISPO: Perkembangan, Tantangan dan Strategi Percepatan. In Proceedings of the Webinar of 10 Years Reflection on the Implementation of the ISPO, Yogyakarta, Indonesia, 24 August 2020.
12. Machmud, M. Progress of the New ISPO Implementation. In Proceedings of the Indonesian Palm Oil Conference (IPOC) 2021, Jakarta, Indonesia, 1–2 December 2021.
13. GAPKI. Tantangan dan Harapan Implementasi Sertifikasi ISPO di Seluruh Rantai Pasok. In *Webinar Kesiapan Implementasi Sertifikasi ISPO Bagi Pekebun*; GAPKI: Jakarta, Indonesia, 2021.
14. Djati, P. 10 Tahun ISPO. In Proceedings of the Webinar Majalah Sawit Indonesia, Jakarta, Indonesia, 29 November 2021.
15. Dikin, A.; Gartina, D.; Sukriya, R.L.L. *Statistik Perkebunan Indonesia 2018–2020: Kelapa Sawit*; Sekretariat Direktorat Jenderal Perkebunan: Jakarta, Indonesia, 2019.
16. Lambin, E.F.; Thorlakson, T. Sustainability Standards: Interactions Between Private Actors, Civil Society, and Governments. *Annu. Rev. Environ. Resour.* **2018**, *43*, 369–393. [[CrossRef](#)]
17. Higgins, V.; Richards, C. Framing sustainability: Alternative standards schemes for sustainable palm oil and South-South trade. *J. Rural Stud.* **2019**, *65*, 126–134. [[CrossRef](#)]
18. Dauvergne, P. The Global Politics of the Business of “Sustainable” Palm Oil. *Glob. Environ. Politics* **2018**, *18*, 34–52. [[CrossRef](#)]
19. Wijaya, A.; Glasbergen, P. Toward a New Scenario in Agricultural Sustainability Certification? The Response of the Indonesian National Government to Private Certification. *J. Environ. Dev.* **2016**, *25*, 219–246. [[CrossRef](#)]
20. Mukherjee, I.; Sovacool, B.K. Palm oil-based biofuels and sustainability in southeast Asia: A review of Indonesia, Malaysia, and Thailand. *Renew. Sustain. Energy Rev.* **2014**, *37*, 1–12. [[CrossRef](#)]
21. Sahide, M.A.K.; Burns, S.; Wibowo, A.; Nurrochmat, D.R.; Giessen, L. Towards State Hegemony Over Agricultural Certification: From Voluntary Private to Mandatory State Regimes on Palm Oil in Indonesia. *J. Man. Hut. Trop.* **2015**, *21*, 162–171. [[CrossRef](#)]
22. Pirard, R.; Rivoalen, C.; Lawry, S.; Pacheco, P.; Zrust, M. *A Policy Network Analysis of the Palm Oil Sector in Indonesia What Sustainability to Expect?* CIFOR: Bogor, Indonesia, 2017.
23. Bissonette, J.-F. Is oil palm agribusiness a sustainable development option for Indonesia? A review of issues and options. *Can. J. Dev. Stud.* **2016**, *37*, 446–465. [[CrossRef](#)]
24. Abdul Majid, N.; Ramli, Z.; Md Sum, S.; Awang, A.H. Sustainable Palm Oil Certification Scheme Frameworks and Impacts: A Systematic Literature Review. *Sustainability* **2021**, *13*, 3263. [[CrossRef](#)]
25. Anderson, Z.R.; Kusters, K.; McCarthy, J.; Obidzinski, K. Green growth rhetoric versus reality: Insights from Indonesia. *Glob. Environ. Change* **2016**, *38*, 30–40. [[CrossRef](#)]
26. Astari, A.J.; Lovett, J.C. Does the rise of transnational governance ‘hollow-out’ the state? Discourse analysis of the mandatory Indonesian sustainable palm oil policy. *World Dev.* **2019**, *117*, 1–12. [[CrossRef](#)]
27. Brandi, C. The Changing Landscape of Sustainability Standards in Indonesia: Potentials and Pitfalls of Making Global Value Chains More Sustainable. In *Sustainability Standards and Global Governance: Experiences of Emerging Economies*; Negi, A., Pérez-Pineda, J.A., Blankenbach, J., Eds.; Springer: Singapore, 2020; pp. 133–144.
28. Hidayat, N.K.; Offermans, A.; Glasbergen, P. Sustainable palm oil as a public responsibility? On the governance capacity of Indonesian Standard for Sustainable Palm Oil (ISPO). *Agric. Hum. Values* **2018**, *35*, 223–242. [[CrossRef](#)]
29. Kartika, I.T.; Cangara, A.R.; Nasrun, M.; Darwis; Marifat, I.D.N. Interaction between the European Union’s renewable energy directives and Indonesia’s sustainable palm oil policy. *IOP Conf. Ser. Earth Environ. Sci.* **2020**, *575*, 012228. [[CrossRef](#)]
30. Dewi, G.D.P. Multi-stakeholder engagement in the Indonesian Sustainable Palm Oil (ISPO) framework. *IOP Conf. Ser. Earth Environ. Sci.* **2021**, *729*, 012085. [[CrossRef](#)]
31. Schouten, G.; Hospes, O. Public and Private Governance in Interaction: Changing Interpretations of Sovereignty in the Field of Sustainable Palm Oil. *Sustainability* **2018**, *10*, 4811. [[CrossRef](#)]
32. Choiruzzad, S.A.B.; Tyson, A.; Varkkey, H. The ambiguities of Indonesian Sustainable Palm Oil certification: Internal incoherence, governance rescaling and state transformation. *Asia Eur. J.* **2021**, *19*, 189–208. [[CrossRef](#)]
33. Dermawan, A.; Hospes, O. When the State Brings Itself Back into GVC: The Case of the Indonesian Palm Oil Pledge. *Glob. Policy* **2018**, *9*, 21–28. [[CrossRef](#)]
34. Widyatmoko, B. The implementation of Indonesian sustainable palm oil certification (ISPO): Opportunity for inclusion of palm oil smallholder in Riau Province. *Masy. Indones.* **2020**, *45*, 219–228.
35. Dharmawan, A.H.; Mardiyarningsih, D.I.; Rahmadian, F.; Yulian, B.E.; Komarudin, H.; Pacheco, P.; Ghazoul, J.; Amalia, R. The Agrarian, Structural and Cultural Constraints of Smallholders’ Readiness for Sustainability Standards Implementation: The Case of Indonesian Sustainable Palm Oil in East Kalimantan. *Sustainability* **2021**, *13*, 2611. [[CrossRef](#)]
36. Ernah; Parvathi, P.; Waibel, H. Adoption of Sustainable Palm Oil Practices by Indonesian Smallholder Farmers. *J. Southeast Asian Econ.* **2016**, *33*, 291–316. [[CrossRef](#)]

37. Aisyah, D.D.; Irham; Mulyo, J.H. How does willingness and ability to pay of palm oil smallholders affect their willingness to participate in Indonesian sustainable palm oil certification? Empirical evidence from North Sumatra. *Open Agric.* **2021**, *6*, 369–381. [CrossRef]
38. Kadarusman, Y.B.; Herabadi, A.G. Improving Sustainable Development within Indonesian Palm Oil: The Importance of the Reward System. *Sustain. Dev.* **2018**, *26*, 422–434. [CrossRef]
39. Cadman, T.; Sarker, T.; Tacconi, L.; Mutaqin, Z.; Nurfatriani, F.; Salminah, M. Making palm oil sustainable and inclusive: Incentives and disincentives in Indonesia. *ETFRN News* **2019**, 7–23. Available online: <http://www.etfrn.org/file.php/424/etfrnnews59-cadman-makingoilpalmsustainableandinclusive.pdf> (accessed on 20 February 2022).
40. Aibar-Guzmán, B.; García-Sánchez, I.-M.; Aibar-Guzmán, C.; Hussain, N. Sustainable product innovation in agri-food industry: Do ownership structure and capital structure matter? *J. Innov. Knowl.* **2022**, *7*, 100160. [CrossRef]
41. Bux, C.; Varese, E.; Amicarelli, V.; Lombardi, M. Halal Food Sustainability between Certification and Blockchain: A Review. *Sustainability* **2022**, *14*, 2152. [CrossRef]
42. Fiore, M.; Silvestri, R.; Contò, F.; Pellegrini, G. Understanding the relationship between green approach and marketing innovations tools in the wine sector. *J. Clean. Prod.* **2017**, *142*, 4085–4091. [CrossRef]
43. Krugman, P.; Wells, R. *Economics*, 4th ed.; Macmillan Learning: New York, NY, USA, 2021.
44. Mankiw, N.G. *Principles of Macroeconomics*, 2nd ed.; Cengage: Boston, MA, USA, 2021.
45. Sloman, J.; Garratt, D.; Guest, J.; Jones, E. *Economics for Business*; Pearson: Upper Saddle River, NJ, USA, 2019.
46. Lipsey, R.; Chrystal, A. *Economics*, 4th ed.; Oxford University Press: Cambridge, UK, 2015.
47. Tietenberg, T.; Lewis, L. *Environmental and Natural Resource Economics*, 11th ed.; Routledge: London, UK; New York, NY, USA, 2018.
48. Piñeiro, V.; Arias, J.; Dürr, J.; Elverdin, P.; Ibáñez, A.M.; Kinengyere, A.; Opazo, C.M.; Owoo, N.; Page, J.R.; Prager, S.D.; et al. A scoping review on incentives for adoption of sustainable agricultural practices and their outcomes. *Nat. Sustain.* **2020**, *3*, 809–820. [CrossRef]
49. Caliman, J.-P.; Berthaud, A.; Dubos, B.; Tailliez, B. Agronomy, sustainability and good agricultural practices. *OCL* **2005**, *12*, 134–140. [CrossRef]
50. Jelsma, I.; Woittiez, L.S.; Ollivier, J.; Dharmawan, A.H. Do wealthy farmers implement better agricultural practices? An assessment of implementation of Good Agricultural Practices among different types of independent oil palm smallholders in Riau, Indonesia. *Agric. Syst.* **2019**, *170*, 63–76. [CrossRef]
51. Bowles, S.; Edwards, R.; Roosevelt, F. *Understanding Capitalism*, 3rd ed.; Oxford University Press: New York, NY, USA, 2005.
52. Hobbs, J. *Incentives for the Adoption of Good Agricultural Practices: Background Paper for the FAO Expert Consultation on a Good Agricultural Practice Approach*; FAO: Rome, Italy, 2003.
53. Schouten, G.; Glasbergen, P. Creating legitimacy in global private governance: The case of the Roundtable on Sustainable Palm Oil. *Ecol. Econ.* **2011**, *70*, 1891–1899. [CrossRef]
54. Ferraro, P.J.; Uchida, T.; Conrad, J.M. Price Premiums for Eco-friendly Commodities: Are ‘Green’ Markets the Best Way to Protect Endangered Ecosystems? *Environ. Resour. Econ.* **2005**, *32*, 419–438. [CrossRef]
55. Nurfatriani, F.; Ramawati; Sari, G.K.; Komarudin, H. Optimization of Crude Palm Oil Fund to Support Smallholder Oil Palm Replanting in Reducing Deforestation in Indonesia. *Sustainability* **2019**, *11*, 4914. [CrossRef]
56. Furumo, P.R.; Rueda, X.; Rodríguez, J.S.; Parés Ramos, I.K. Field evidence for positive certification outcomes on oil palm smallholder management practices in Colombia. *J. Clean. Prod.* **2020**, *245*, 118891. [CrossRef]
57. Van der Ven, H.; Sun, Y.; Cashore, B. Sustainable commodity governance and the global south. *Ecol. Econ.* **2021**, *186*, 107062. [CrossRef]
58. Bartley, T. Transnational governance and the re-centered state: Sustainability or legality? *Regul. Gov.* **2014**, *8*, 93–109. [CrossRef]
59. Negra, C.; Havemann, T. Incentivizing sustainable production practices: Improving and scaling extension, certification, carbon markets and other incentive systems. In *The Sustainable Intensification of Smallholder Farming Systems*; Klauser, D., Robinson, M., Eds.; Burleigh Dodds Science Publishing Ltd.: Philadelphia, PA, USA, 2020; pp. 361–379.
60. Pramudya, E.P.; Hospes, O.; Termeer, C.J.A.M. Governing the palm oil sector through finance: The changing roles of the Indonesian state. *Bull. Indones. Econ. Stud.* **2016**, *53*, 57–82. [CrossRef]
61. Brandi, C.; Cabani, T.; Hosang, C.; Schirmbeck, S.; Westermann, L.; Wiese, H. Sustainability Standards for Palm Oil: Challenges for Smallholder Certification Under the RSPO. *J. Environ. Dev.* **2015**, *24*, 292–314. [CrossRef]
62. Hutabarat, S.; Slingerland, M.; Dries, L. Explaining the “Certification Gap” for Different Types of Oil Palm Smallholders in Riau Province, Indonesia. *J. Environ. Dev.* **2019**, *28*, 253–281. [CrossRef]
63. Innocenti, E.D.; Oosterveer, P. Opportunities and bottlenecks for upstream learning within RSPO certified palm oil value chains: A comparative analysis between Indonesia and Thailand. *J. Rural Stud.* **2020**, *78*, 426–437. [CrossRef]
64. Sardjono, M. *Indonesia Policy on Sustainable Oil Palm Development*; Assistant Minister of Agriculture for the Environment—Ministry of Agriculture: Jakarta, Indonesia, 2014.
65. Martens, K.; Kunz, Y.; Rosyani, I.; Faust, H. Environmental Governance Meets Reality: A Micro-Scale Perspective on Sustainability Certification Schemes for Oil Palm Smallholders in Jambi, Sumatra. *Soc. Nat. Resour.* **2019**, *33*, 634–650. [CrossRef]

66. Schoneveld, G.C.; van der Haar, S.; Ekowati, D.; Andrianto, A.; Komarudin, H.; Okarda, B.; Jelsma, I.; Pacheco, P. Certification, good agricultural practice and smallholder heterogeneity: Differentiated pathways for resolving compliance gaps in the Indonesian oil palm sector. *Glob. Environ. Change* **2019**, *57*, 101933. [CrossRef]
67. Fahmi, A.; Hakim, L.; Abdi, Z.; Rouli, Y.I.; Wardana, E.; Silva; Pardede, I.A.; Syahrial, R.; Putri, N.Q.; Pradiko, I. *Inventarisasi Daya Dukung Dan Daya Tampung Lingkungan Hidup Provinsi Riau Untuk Perkebunan Kelapa Sawit*; Pusat Pengendalian Pembangunan Ekoregion Sumatera, Kementerian Lingkungan Hidup dan Kehutanan: Pekanbaru, Indonesia, 2020.
68. Astuti, R. Governing the ungovernable: The politics of disciplining pulpwood and palm oil plantations in Indonesia's tropical peatland. *Geoforum* **2021**, *124*, 381–391. [CrossRef]
69. Watts, J.D.; Pasaribu, K.; Irawan, S.; Tacconi, L.; Martanila, H.; Wiratama, C.G.W.; Musthofa, F.K.; Sugiarto, B.S.; Manvi, U.P. Challenges faced by smallholders in achieving sustainable palm oil certification in Indonesia. *World Dev.* **2021**, *146*, 105565. [CrossRef]
70. Dharmawan, A.H.; Nasdian, F.T.; Barus, B.; Kinseng, R.A.; Indaryanti, Y.; Indriana, H.; Mardianingsih, D.I.; Rahmadian, F.; Hidayati, H.N.; Roslinawati, A.M. Kesiapan Petani Kelapa Sawit Swadaya dalam Implementasi ISPO: Persoalan Lingkungan Hidup, Legalitas dan Keberlanjutan. *J. Ilmu Lingkung.* **2019**, *17*, 304–315. [CrossRef]
71. KEHATI. *Menuju Industrialisasi Sawit Rakyat: Menjawab Lonjakan Kebutuhan Sawit Global Melalui Sawit Rakyat*; KEHATI: Jakarta, Indonesia, 2020.
72. Chalil, D. Dimensi Sosial Ekonomi Replanting Menuju Pengusahaan Sawit Berkelanjutan: Studi Kasus di Provinsi Sumatera Utara. In *Grant Riset Sawit 2020: Ringkasan Hasil Penelitian*; BPDPKS, Ed.; BPDPKS: Jakarta, Indonesia, 2020; pp. 71–72.
73. Tresna, N.A.; Lulu, A. MK: Inkonstitusional Bersyarat, UU Cipta Kerja Harus Diperbaiki Dalam Jangka Waktu Dua Tahun. Available online: <https://www.mkri.id/index.php?page=web.Berita&id=17816> (accessed on 25 February 2022).
74. Lambin, E.F.; Gibbs, H.K.; Heilmayr, R.; Carlson, K.M.; Fleck, L.C.; Garrett, R.D.; le Polain de Waroux, Y.; McDermott, C.L.; McLaughlin, D.; Newton, P.; et al. The role of supply-chain initiatives in reducing deforestation. *Nat. Clim. Chang.* **2018**, *8*, 109–116. [CrossRef]
75. Glasbergen, P. Smallholders do not Eat Certificates. *Ecol. Econ.* **2018**, *147*, 243–252. [CrossRef]
76. Nawireja, I.K.; Ross, C. Challenges to Certification for Smallholders and Practical Solutions. In Proceedings of the Measurement and Mitigation of Environmental Impact of Palm Oil Production, The Stones Hotel, Bali, Indonesia, 23–25 February 2010.
77. Ross, C.; Nawireja, I.K.; Harmita, D. Trial Audit of Scheme Smallholders 13–18 July 2009: Indonesian National Interpretation RSPO Principles & Criteria. In Proceedings of the RSPO RT7, Kuala Lumpur, Malaysia, 13–18 July 2009.
78. De Vos, R.E.; Suwarno, A.; Slingerland, M.; Van der Meer, P.J.; Lucey, J.M. Independent oil palm smallholder management practices yields: Can RSPO certification make a difference? *Environ. Res. Lett.* **2021**, *16*, 6. [CrossRef]
79. Bronkhorst, E.; Cavallo, E.; van Dorth tot Medler, M.-M.; Klinghammer, S.; Smit, H.H.; Gijzenbergh, A.; van der Laan, C. *Current Practices and Innovations in Smallholder Palm Oil Finance in Indonesia and Malaysia: Long-term Financing Solutions to Promote Sustainable Supply Chains*; CIFOR: Bogor, Indonesia, 2017; Volume 177.
80. Syahyuti. *Mau Ini Apa Itu: Komparasi Konsep, Teori Dan Pendekatan Dalam Pembangunan Pertanian Dan Pedesaan*; Nagakusuma Media Kreatif: Jakarta, Indonesia, 2014.
81. Nuryanti, S.; Hutabarat, S.; Yusri, J. Analysis on Sustainability of Oil Palm Smallholder (A Case Study of Oil Palm Independent Smallholder Kelompok Tani Petani Makmur at Lubuk Ogong Village, Bandar Sei Kijang Sub District, Pelalawan District). *J. Sungkai* **2019**, *7*, 61–78.
82. Nurhatika. *Analisis Persepsi Pekebun Kelapa Sawit Pola Swadaya terhadap Proses dan Keberlanjutan Sertifikasi ISPO di Koperasi Tinera Jaya*; Jurusan Agribisnis Fakultas Pertanian, Universitas Riau: Pekanbaru, Indonesia, 2022.
83. Ichsan, M.; Saputra, W.; Permatasari, A. Pekebun sawit di ujung tanduk: Mengapa kemitraan usaha perlu didefinisikan ulang? *Inf. Brief.* **2021**, 1–12.
84. Maat, H.; Lisnawati; Woittiez, L.; Slingerland, M. Good agricultural practices in oil palm and smallholder inclusion in Indonesia. In *Exploring Inclusive Palm Oil Production*; Tropenbos International: Wageningen, The Netherlands, 2019; pp. 72–77.
85. Omazic, A.; Zunk, B.M. Semi-Systematic Literature Review on Sustainability and Sustainable Development in Higher Education Institutions. *Sustainability* **2021**, *13*, 7683. [CrossRef]
86. Snyder, H. Literature review as a research methodology: An overview and guidelines. *J. Bus. Res.* **2019**, *104*, 333–339. [CrossRef]
87. Zunder, T.H. A semi-systematic literature review, identifying research opportunities for more sustainable, receiver-led inbound urban logistics flows to large higher education institutions. *Eur. Transp. Res. Rev.* **2021**, *13*, 28. [CrossRef]
88. Pautasso, M. The Structure and Conduct of a Narrative Literature Review. In *A Guide to the Scientific Career: Virtues, Communication, Research, and Academic Writing*; Shoja, M.M., Arynchna, A., Loukas, M., D'Antoni, A.V., Buerger, S.M., Karl, M., Tubbs, R.S., Eds.; John Wiley & Sons, Inc.: Hoboken, NJ, USA, 2020; pp. 299–310.
89. Hart, C. *Doing a Literature Review: Releasing the Research Imagination*; SAGE Publications: London, UK, 2018.
90. Yuan, Y.; Hunt, R.H. Systematic reviews: The good, the bad, and the ugly. *Am. J. Gastroenterol.* **2009**, *104*, 1086–1092. [CrossRef]
91. Mueller, M.; D'Addario, M.; Egger, M.; Cevallos, M.; Dekkers, O.; Mugglin, C.; Scott, P. Methods to systematically review and meta-analyse observational studies: A systematic scoping review of recommendations. *BMC Med. Res. Methodol.* **2018**, *18*, 44. [CrossRef]

92. Gough, D.; Oliver, S.; Thomas, J. *An Introduction to Systematic Reviews*; Sage Publications: Los Angeles, CA, USA, 2013.
93. Kumar, R. *Research Methodology: A Step by Step Guide for Beginners*; ISAGE Publications Ltd.: London, UK, 2014.
94. Miles, M.B.; Huberman, A.M.; Saldana, J. *Qualitative Data Analysis: A Methods Sourcebook*; SAGE Publications: Los Angeles, CA, USA, 2020.
95. Oktaviani, E. *Program Pendaftaran Tanah Lintas Sektor Sebagai Upaya Memperoleh Kepastian Hukum Hak Atas Tanah di Kabupaten Banyuwangi (Cross-Sector Land Registration Program as an Effort to Obtain Legal Rights of Land in Banyuwangi District)*; Universitas Jember: Jember, Indonesia, 2019.
96. WWF. *Profitability and Sustainability in Palm Oil Production Analysis of Incremental Financial Costs and Benefit of RSPO Compliance*; WWF International: Gland, Switzerland, 2012.
97. Sawit Indonesia. Sertifikasi ISPO Petani Dibiayai BPDPKS. Available online: <https://sawitindonesia.com/sertifikasi-ispo-petani-dibiayai-bpdpks/> (accessed on 28 January 2022).
98. Haryanto, J.T. Budget Tagging dan Perbaikan Tata Kelola Sektor. In Proceedings of the Limited Discussion Peluang dan Potensi Insentif Pemerintah untuk Petani Swadaya Guna Mempercepat Implementasi ISPO Menjelang 2024, Online, 31 January 2022.
99. BKF. *Laporan Penandaan Anggaran Perubahan Iklim Kabupaten Siak Tahun 2017–2020*; Badan Kebijakan Fiskal Kementerian Keuangan: Jakarta, Indonesia, 2020.
100. Putra, R.A.S.; Muluk, S.; Salam, R.; Untung, B.; Rahman, E. *Mengenalkan Skema Insentif Fiskal Berbasis Ekologi di Indonesia: TAKE, TAPE DAN TANE*; Naskah Kebijakan, The Asia Foundation–UKAID: Jakarta, Indonesia, 2019.
101. OJK. *Pedoman Teknis Bagi Bank Terkait Implementasi POJK Nomor 51/POJK.03/2017 Tentang Penerapan Keuangan Berkelanjutan Bagi Lembaga Jasa Keuangan (LJK), Emiten, Dan Perusahaan Publik*; Departemen Penelitian dan Pengaturan Perbankan, Otoritas Jasa Keuangan: Jakarta, Indonesia, 2018.
102. OJK. *Buku Perbankan Berkelanjutan: Kredit/pembiayaan perkebunan Dan Industri Kelapa Sawit*; Departemen Penelitian dan Pengaturan Perbankan, Otoritas Jasa Keuangan: Jakarta, Indonesia, 2019.
103. Pramudya, E.P.; Hospes, O.; Termeer, C.J.A.M. Friend or foe? The various responses of the Indonesian state to sustainable non-state palm oil initiatives. *Asian J. Sustain. Soc. Responsib.* **2018**, *3*, 1. [[CrossRef](#)]
104. Pramudya, E.P.; Hospes, O.; Termeer, C.J.A.M. The disciplining of illegal palm oil plantations in Sumatra. *Third World Q.* **2017**, *39*, 920–940. [[CrossRef](#)]
105. GOI. *Government Regulation No 23 on Forestry*; Government of Indonesia: Jakarta, Indonesia, 2021.
106. GOI. *Law No. 11 on Job Creation*; Government of Indonesia: Jakarta, Indonesia, 2020.
107. Direktorat Jenderal Perkebunan. *Statistik Perkebunan Unggulan Nasional 2019–2021*; Kementerian Pertanian Republik Indonesia: Jakarta, Indonesia, 2020.
108. Euler, M.; Hoffmann, M.P.; Fathoni, Z.; Schwarze, S. Exploring yield gaps in smallholder oil palm production systems in eastern Sumatra, Indonesia. *Agric. Syst.* **2016**, *146*, 111–119. [[CrossRef](#)]
109. Feintrenie, L.; Chong, W.; Levang, P. Why do Farmers Prefer Oil Palm? Lessons Learnt from Bungo District, Indonesia. *Small-Scale For.* **2010**, *9*, 379–396. [[CrossRef](#)]
110. Vamuloh, V.V.; Kozak, R.A.; Panwar, R. Voices unheard: Barriers to and opportunities for small farmers’ participation in oil palm contract farming. *J. Clean. Prod.* **2020**, *275*, 121955. [[CrossRef](#)]
111. Hutabarat, S.; Slingerland, M.; Rietberg, P.; Dries, L. Costs and benefits of certification of independent oil palm smallholders in Indonesia. *Int. Food Agribus. Manag. Rev.* **2018**, *21*, 681–700. [[CrossRef](#)]
112. GOI. *Ministry of Village, Development of Disadvantaged Regions and Transmigration Regulation No 7 on the Priority of Village Funds Usage*; Ministry of Village, Development of Disadvantaged Regions and Transmigration: Jakarta, Indonesia, 2021.
113. Wulandari, A.; Nasution, M.A. Perbandingan Roundtable On Sustainable Palm Oil (RSPO), Indonesian Sustainable Palm Oil (ISPO) dan and Malaysian Sustainable Palm Oil (MSPO). *Jur. Pen. Kelapa Sawit* **2021**, *29*, 35–48. [[CrossRef](#)]
114. Labansing, S.A.; Sulong, R.S.; Idris, S. Sustainable Certification in the Malaysian Palm Oil Industry. *Asian J. Bus. Manag.* **2020**, *3*, 119–131.