

Towards improved forestry performance: evaluating the added value of the timber legality assurance system in Indonesia

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SUMMARY

Indonesia is a main tropical timber-producing country and is a leader in implementing Forest Law Enforcement, Governance and Trade Voluntary Partnership Agreements (FLEGT-VPA) with the European Union (EU). In 2015, as a part of the FLEGT-VPA process, the government began a timber legality assurance system called *Sistem Verifikasi Legalitas Kayu* (SVLK), which is mandatory for all timber product businesses. Since November 2016, Indonesia has issued FLEGT licenses for timber products exported to the EU. This study shows that the SVLK scheme has added value for the public in controlling timber legality, eradicating illegal logging and illegal timber trading, enhancing sustainable forest management and contributing to legal timber trading. The scheme also has added value in providing legal certainty for businesses. However, it contributes less to product marketing and its use as a standard to assess sustainable forest management needs to be evaluated.

Keywords: certification, FLEGT, Indonesia, timber, trade

Mouvement vers une gestion forestière améliorée: évaluation de la valeur ajoutée du système de vérification légale du bois en Indonésie

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L'Indonésie continue à être l'un des principaux pays producteurs de bois tropical au monde, et un leader dans la mise en application des accords de partenariat dans l'application des réglementations forestières, dans la gouvernance et dans les échanges commerciaux (APV-FLEGT) avec l'Union Européenne (EU). En 2015, le gouvernement commença à mettre en place son système de vérification de la légalité du bois, nommé *Sistem Verifikasi Legalitas Kayu* (SVLK). Depuis le 15 novembre 2016, l'Indonésie a commencé à délivrer des permis FLEGT pour les produits à base de bois exportés vers l'EU. Ce papier montre que le schéma SVLK apporte une valeur ajoutée aux bénéficiaires publics, en contrôlant la légalité du bois, en supprimant la coupe et le commerce illégaux du bois, en soutenant la gestion forestière durable et en contribuant au commerce légal du bois. Malgré cela, son schéma possède moins de valeur ajoutée dans le domaine de la commercialisation des produits et son standard pour estimer la gestion forestière durable doit être évalué.

Hacia un mejor desempeño forestal: evaluación del valor añadido del sistema de verificación garantías de la madera en Indonesia

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Indonesia sigue siendo uno de los principales países productores de madera tropical del mundo y un líder en la aplicación de los Acuerdos Voluntarios de Asociación (AVA) de FLEGT (Aplicación de Leyes, Gobernanza y Comercio Forestales) con la Unión Europea (UE). En 2015, como parte del proceso AVA-FLEGT, el gobierno comenzó a establecer su propio sistema de verificación de garantías de la madera denominado *Sistem Verifikasi Legalitas Kayu* (SVLK). Desde el 15 de noviembre de 2016, Indonesia ha comenzado a expedir licencias FLEGT para los productos de madera exportados a la UE. Este artículo muestra que el esquema SVLK tiene un valor añadido para el público en el control de la legalidad de la madera, la erradicación de la tala ilegal y el comercio ilegal de madera, la mejora de la gestión forestal sostenible y la contribución al comercio legal de madera. El sistema también ha añadido valor para las empresas al proporcionarles una seguridad jurídica para sus operaciones comerciales. Sin embargo, el sistema tiene menos valor añadido en la comercialización de los productos y es necesario evaluar su estándar para la evaluación de la gestión forestal sostenible.

BACKGROUND

Indonesia is a leading tropical-timber-producing country and it seeks to increase the confidence of timber buyers in the legality of its timber products. To this end, the Indonesian government has implemented a Forest Law Enforcement, Governance and Trade Voluntary Partnership Agreement (FLEGT-VPA). The VPA seeks to reduce illegal logging and associated trade, which have had a range of negative impacts on Indonesia's environment, economy and society (Nurrochmat 2005, Marwa *et al.* 2010, Hoisington 2010, Goncalves *et al.* 2012, Nurrochmat *et al.* 2012). Both are major contributors to deforestation and forest degradation (World Bank 2006, CIE 2010, Lawson and MacFaul 2010).

A partnership between the Government of Indonesia and the European Union agreed in September 2013 (*Jakarta Post* 2013) signified international recognition of the *Sistem Verifikasi Legalitas Kayu* (SVLK) as a timber legality assurance system. From 2015, timber product exporters and domestic suppliers had to adopt the SVLK scheme. Export-oriented businesses were most responsive to SVLK implementation. Large-scale businesses responded positively; verification costs were relatively affordable, most timber came from state forests, as there was a need to maintain market share in the face of illegal logging and illegal timber trading (Obidzinski *et al.* 2014). In 2015, timber products exported to EU still required due diligence to confirm legality. However, after the FLEGT-VPA ratification came into force on 15 November 2016, this was no longer required: Indonesia could issue FLEGT licenses for verified legal timber products exported to the EU.¹ In order to obtain a FLEGT license, companies have to comply with the SVLK scheme.

The SVLK scheme involves independent institutions in its verification processes, with routine annual inspections for certain business practitioners (Nurrochmat *et al.* 2014). The question is whether the scheme can encourage a shift towards sustainable forest management and prevention of illegal logging and trading, while improving product marketing. Nurrochmat *et al.* (2014) contest the effectiveness of SVLK and the other existing forest governance mechanisms in Indonesia. In response, this study evaluates the added value of the SVLK scheme with reference to voluntary schemes, i.e. the Indonesian Ecolabelling Institute (*Lembaga Ekolabel Indonesia*, LEI) and Forest Stewardship Council (FSC).

ANALYTICAL FRAMEWORK, METHODS AND DATA

This study evaluates the added value of SVLK as a mandatory scheme with reference to the added value of voluntary certification or verification, i.e. LEI and FSC schemes. In this paper, we use the term added value to describe the additional values provided by certification or verification schemes. We classified the added value of verification and certification

schemes, including the SVLK scheme, into two categories: added value to the company (AVC) and added value to the public (AVP) (Figure 1). AVP is the added value received indirectly by the public from verification or certification adoption. We analyse its impact on: (i) timber legality control, (ii) illegal logging and timber trading, (iii) sustainable forest management, and (iv) legal timber trading. AVC is the added value directly received by the business from verification or certification adoption. We analyse its impact on: (i) legal certainty for business and (ii) product marketing. Legal certainty is based on legality standards, i.e. all compulsory legal requirements for timber to be legal, and market standards, i.e. all requirements demanded by markets. Product marketing added value was based on increased market access and premium prices.

Data were collected on the SVLK scheme for timber legality and production forest management performance, LEI and FSC scheme standards (Figure 1). The *Forest Certification Assessment Guide* developed by World Wide Fund for Nature (WWF) and World Bank (2006) was used to evaluate the credibility of certification schemes. To evaluate volumes of verified or certified timber from natural forests, data on numbers of business units and natural forest timber production, including logs from timber utilisation permits (IPKs), were analysed, along with the volumes of logs produced from natural forests verified or certified by each scheme.

To verify the analyses, interviews were held with various stakeholders. These included representatives from FSC and LEI, the Ministry of Environment and Forestry, the Forestry and Environment Research, Development and Innovation Agency (FOERDIA), the Indonesian Wood Panel Producers Association (APKINDO), the Association of Indonesian Furniture and Handicraft Industries (ASMINDO), the Association of Indonesian Forest Concession Holders (APHI), the UK's Department for International Development's (DFID) Multistakeholder Forestry Programme and the Center for International Forestry Research (CIFOR). We also interviewed representatives from natural and plantation forest management businesses and wood-processing companies.

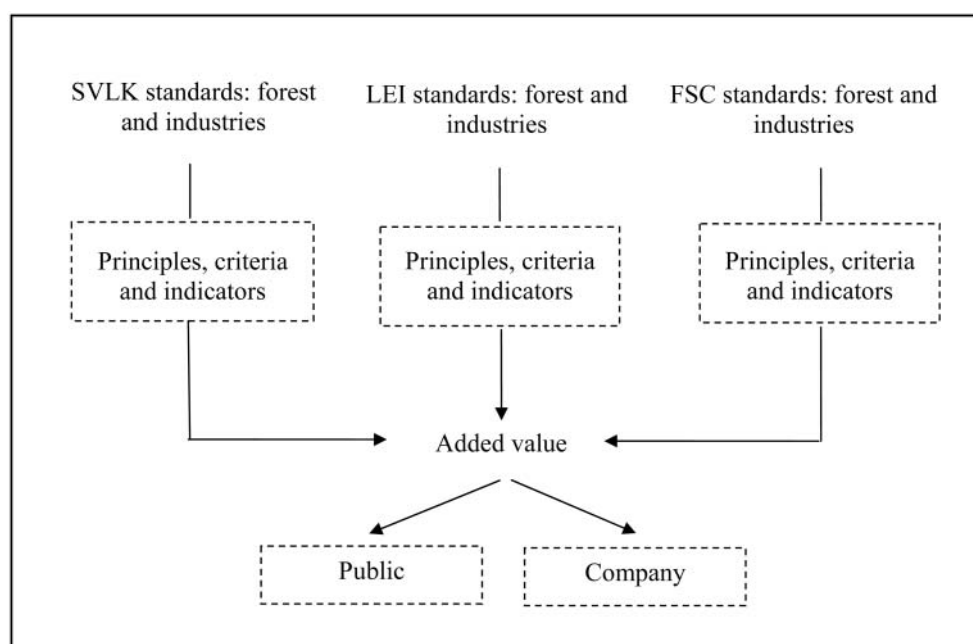
SVLK IMPLEMENTATION

Sistem Verifikasi Legalitas Kayu (SVLK) is "Indonesia's national timber legality assurance system, which is a mandatory legality and sustainability certification system built on a national multistakeholder consensus."² Under the FLEGT-VPA process, the standards and guidelines of the SVLK scheme have been ratified and implemented. As a result, a SVLK certificate is needed to issue a FLEGT license verifying legal timber products for export, particularly to the EU; due diligence no longer needs to be conducted for timber products with a FLEGT license. VPA negotiations started in March 2007 and were concluded with agreement on 4 May

¹ <http://www.euflegt.efi.int/indonesia>.

² <http://www.flegtlicence.org/svlk-indonesia>.

FIGURE 1 Analytical framework for evaluating the added value of SVLK for the public and the company



2011. In September 2013, a VPA was signed, which was then ratified in April 2014. On 1 May 2014, the VPA entered into force and in November 2016, FLEGT licensing started.

Indonesia's logs and processed logs come from state and community-based forests. State forests produce the majority of Indonesian timber. In 2016, 68.8 million ha were under state production (table 1). Of this, 19.3 million ha were utilised under natural production forest concession permits (NPFCEP); 10.8 million ha under industrial plantation forest concession permits (IPFCEP); and 0.6 million ha under ecosystem restoration concession permits (ERCP). The area of

community-based forests in 2010 reached 3.6 million ha (Media Persaki, 2010). By this, Java and Madura covered 2.80 million ha (78%). With an increase of 200,000 ha/year (Nugroho, 2010), Java and Madura covered about 4.2 million ha in 2017.

As a mandatory scheme³, SVLK is used to control timber legality and the performance of sustainable production forest management of state and community-based forests. This comprises: (i) SVLK standards of timber legality (SVLK-TL), which control the legality of logs entering national markets, and processed logs entering national markets and international

TABLE 1 State production forest areas, 2016

No.	Type of uses	Area (million ha)
1	Exploited forest areas	31.1
	a. Natural Production Forest Concession Permit (NPFCEP)	19.3
	b. Ecosystem Restoration Concession Permit (ERCP)	0.6
	c. Industrial Plantation Forest Concession Permit (IPFCEP)	10.8
	d. Other uses	0.4
2	Unexploited forest areas	37.7
	a. Forest areas with directions for the utilization	11.8
	b. Forest areas without directions for the utilization	25.9
	Total	68.8

Source: Ministry of Environment and Forestry, 2017a

³ Endorsed under Peraturan Menteri Lingkungan Hidup dan Kehutanan (Regulation of Minister of Environment and Forestry) No. P.30/Men-LHK/Setjen/PHPL.3/3/2016 (Ministry of Environment and Forestry, 2016a). Its standards are arranged under Peraturan Direktur Jenderal Pengelolaan Hutan Produksi Lestari (Regulation of Director General of Sustainable Production Forest Management) No.P.14/PHPL/SET/4/2016 (Directorate General of Sustainable Production Forests Management, 2016).

markets, especially within the EU markets' jurisdiction. (ii) Standards of sustainable production forest management performance (SVLK-FM), which are used to manage Indonesia's sustainable production forests that supply national markets.

A SVLK-FM certificate has to be obtained by large-scale forest concession permit holders: NPFCP, ERCP, IPFCP or forest management rights (FMR, *Perum Perhutani*).⁴ To obtain this certificate, the holders have to fulfil the standards of their SVLK-FM. These standards have four criteria:⁵ pre-requisites, production, ecology and social aspects. A criterion has indicators, and an indicator has verifiers. The NPFCP, IPFCP and FMR use the same criteria and indicators but have different verifiers. The ERCP uses the same criteria as NPFCP, IPFCP and FMR but has different indicators and verifiers. The fulfilment of the four criteria indicates that the standards of SVLK-FM have been met and, hence, the permit holder is eligible for SVLK-FM certification.

Moreover, an SVLK-TL has to be obtained by three types of permit holders. The first type includes the permit holders that produce logs. It includes the permit holders of large-scale forest concessions (NPFCP, ERCP, IPFCP and FMR)⁶ and the permit holders of small-scale forest concessions⁷. The other permit holders that produce logs are the holder of IPK (timber utilization permits) and the holder of PPKH (forest area lending-use-permits), besides the owners of community-based forests⁸. The second type includes the permit holders that process logs and/or make timber products. It consists of the business permit holders from large⁹- and small¹⁰-scale primary wood-processing industries, TDI (small-scale secondary wood industries)¹¹, and IRT (home and crafting industries)¹². The third type includes the permit holders that trade timber. It consists of the business permit holders for non-producer-exporters and TPT (collection-site for logs and/or processed timber originating from one or more sources)¹³.

To obtain an SVLK-TL certificate, applicants have to fulfill certain standards. These include 3–5 principles,

depending upon the type of business making the application. Five principles are applied to the permit holders of large-scale forest concession.¹⁴ They are: certainty of area and utilization rights; fulfilment of legal system and procedure of logging; legality of timber trading or timber transfer; fulfilment of environment and social aspects related to logging; and fulfilment of labour regulations. If these five principles are fulfilled an SVLK-TL certificate can be issued. However, only four principles are used for the permit holders of small-scale forests concessions:¹⁵ certainty of area and utilization rights; fulfilment of legal system and procedure of logging; fulfilment of environment and social aspects related to logging; and fulfilment of labour regulations. Three principles apply to community-based forests¹⁶: timber ownership can be legally proved; fulfilment of labour regulations; and fulfilment of environment and social aspects related to logging. Three principles apply for IPK and PPKH¹⁷: they possess a legal permit for forest product utilization; compliance with systems and procedures for logging and timber transportation; and fulfilment of labour regulations.

Moreover, 3–4 principles are applied to the permit holders that process logs and/or make timber products, and trade timber.¹⁸ The four principles are: permit holders support legal timber trading; business unit owns and implements a timber tracking system that ensures timber traceability from its origin; legality of trading or transfer of its production; and fulfilment of labour regulations. With different criteria, indicators and verifiers, the four principles are used to assess the timber legality of large-scale primary wood processing industry (PWPI), small-scale PWPI, TDI, IRT and TPT. However, the timber legality of non-producer-exporter (NPE) are assessed according to three principles: permit holders' support for legal timber trading; legality of trading or transfer of its production; and fulfilment of labour regulations, using different criteria, indicators and verifiers.

⁴ Ministry of Environment and Forestry, 2016a, *Op. Cit.*, Article 5, sub-article (1).

⁵ Directorate General of Sustainable Production Forests Management, 2016, *Op. Cit.*, Article 2, sub-article (1) abcd.

⁶ Ministry of Environment and Forestry, 2016a, *Op. Cit.*, Article 5, sub-article (3), and article 15, sub-article (3)b.

⁷ There are four schemes introduced by the government: (1) IUPHHK-HTR/small-scale plantation forests concession permit, (2) IUPHHK-HK/community forests concession permit, (3) IUPHHK-HD/village forests concession permit and (4) IUPHHK-HTHR/concession permit of small-scale plantation forests from reforestation.

⁸ Community-based forests are the forests located outside the state forests, owned and managed by communities.

⁹ Directorate General of Sustainable Production Forests Management, 2016, *Op. Cit.*, Article 2, sub-article (2)e: Capacity > 6000m³/year and/or with investment value > IDR 500million/year excluding land and building.

¹⁰ *Ibid.*, Article 2, sub-article (2)f: Capacity ≤ 6000m³/year and/or with investment value ≤ IDR 500million excluding land and building.

¹¹ Ministry of Environment and Forestry, 2016a, *Op. Cit.*, Article 1, sub-article 6: TDI is a business permit for advanced wood-processing industries with a total investment value of up to IDR 200 million excluding land and building.

¹² *Ibid.*, Article 1, sub-article 2: IRT = household industry/craftsperson, is a small-scale household industry with investment value up to Rp 5 million excluding land and building and/or with a workforce of 1–4 people.

¹³ *Ibid.*, Article 1, sub-article 2: TPT is a collection site for logs and/or processed timber originating from one or more sources, owned by a business entity or an individual designated by a competent authority in accordance with the provisions of laws and regulations.

¹⁴ Directorate General of Sustainable Production Forests Management, 2016, *Op. Cit.*, Article 2, subarticle (2)a.

¹⁵ *Ibid.*, Article 2, subarticle (2)b.

¹⁶ *Ibid.*, Article 2, subarticle (2)c.

¹⁷ *Ibid.*, Article 2, subarticle (2)c.

¹⁸ *Ibid.*, Article 2, subarticle (2)efghij.

EVALUATING THE ADDED VALUE OF THE SVLK SCHEME WITH REFERENCE TO LEI AND FSC SCHEMES

Added Value for the Public

Timber legality control

Before the SVLK scheme, the legality of Indonesia's timber was formally controlled through the Timber Forest Products Administration (TFPA), which is still running. There are three TFPAs for natural production forests, plantation forests and community-based forests. For natural production forests and plantation forests, TFPA is defined as recording and reporting production planning, harvesting or logging, measuring and testing, marking, transportation/distribution, and processing of timber forest products, carried out through information system called SIPUHH (*Sistem Informasi Penatausahaan Hasil Hutan*/Information System of TFPA or ISTFPA).¹⁹ ISTFPA is a web-based set of electronic instruments and procedures that prepare, collect, process, analyse, store, display, publish, transmit and disseminate information on administration of timber forest products.²⁰ The aim of ISTFPA is to ensure the legality and orderly distribution of timber forest products and make data and information on them available.²¹ TFPA is simplified for community-based forests, focusing only on timber transport.²²

In Indonesia, illegal logging generally occurs within natural forests, rather than plantation forests and community-based forests. Only ISTFPA issues relating to natural production forests are discussed here.²³ ISTFPA is an important instrument to verify and control timber legality. It provides data and information on pre-logging stock inventories with 100% sampling intensity conducted as the basis for the preparation of a logging plan.²⁴ Using ISTFPA, for example, all trees to be harvested are given an IDBarcode label, containing information on forest function, number of logging blocks, number of trees, tree species, tree diameter, tree height on clear bole and tree position.²⁵ This is recorded in a cruising report. In addition, ISTFPA also provides data and information on the trees harvested (log production) labelled with the same IDBarcode

and information used to mark trees planned to be harvested, recorded in log production report. In other words, the stump of every tree cut down is marked indelibly with the same IDBarcode and information as that recorded in the cruising and production reports. In this way, all timbers (logs) harvested can be traced back their stump in the forests. ISTFPA also contains data and information related to the legality of the forest concessioners and their activities, including forest planning, harvesting and log transport to buyers (traders and industries).

At the log production level, ISTFPA can be used for the administration of timber legality verification. With the ISTFPA system in place, the SVLK-TL is redundant at this level. The implementation of SVLK-TL re-verifies the timber legality requirements. This is also the case for the SVLK-TL applied to community-based forests (see Nurrochmat *et al.* 2014). Of the five principles of SVLK-TL used to control the timber legality of large-scale log producers, the first three (certainty of area and utilization rights; fulfil legal system and procedure of logging; legality of timber trading or timber transfer) are fulfilled by ISTFPA. The remaining principles (fulfilment of environment and social aspects related to logging; fulfilment of labour regulations) are only needed by forest concession holders who have not passed the SVLK-FM. These two principles are covered within the sustainable forest management standards of the SVLK (SVLK-FM), LEI (LEI-FM) and FSC (FSC-FM) schemes (Table 2). The forest concession holders can only hold the SVLK-TL certificate for a certain period before they must obtain an SVLK-FM certificate.²⁶ According to their regulations, the SVLK scheme (SVLK-TL/FM) is considered more transparent than ISTFPA in ensuring timber legality, as independent observers are involved in monitoring implementation plans, timber legality verification processes and issuing certificates, and the results are made public.

At the processing level, ISTFPA still controls Indonesia's timber legality, especially log legality. This is because timber must be accompanied by a transport document called SKSHHK (*Surat Keterangan Sahnya Hasil Hutan Kayu*/Legal Certificate of Timber Forest Product/LCTFP).²⁷ LCTFP applies

¹⁹ Article 1, subarticle 1 of Peraturan Menteri Lingkungan Hidup dan Kehutanan (Environment and Forestry Ministerial Regulation) No. P43/2015 for natural forests (Ministry of Environment and Forestry, 2015a) and article 1, sub-article 1 of Peraturan Menteri Lingkungan Hidup dan Kehutanan No. P42/2015 for plantation forests (Ministry of Environment and Forestry, 2015b).

²⁰ Ministry of Environment and Forestry, 2015a, *Op. Cit.*, Article 1, subarticle 2 for natural forests and Ministry of Environment and Forestry, 2015b, *Op. Cit.*, Article 1, sub-article 2 for plantation forests.

²¹ Ministry of Environment and Forestry, 2015a, *Op. Cit.*, Article 2, subarticle (2) for natural forests and Ministry of Environment and Forestry, 2015b, *Op. Cit.*, Article 2, sub-article (2) for plantation forests.

²² Currently, such ATFP of community-based forest is regulated under Peraturan Menteri Lingkungan Hidup dan Kehutanan No. P85/2016 (Ministry of Environment and Forestry, 2016b) and Peraturan Menteri Lingkungan Hidup dan Kehutanan No. P48/2017 (Ministry of Environment and Forestry, 2017b).

²³ The ATFP for natural production forests is regulated under Peraturan Menteri Lingkungan Hidup dan Kehutanan No. P43/2015 (Ministry of Environment and Forestry, 2015a) and Peraturan Menteri Lingkungan Hidup dan Kehutanan No. P60/2016 (Ministry of Environment and Forestry, 2016c).

²⁴ Ministry of Environment and Forestry, 2015a, *Op. Cit.*, Article 3, sub-article (1).

²⁵ *Ibid.*, Article 3, subarticle (2).

²⁶ Ministry of Environment and Forestry, 2016a, *Op. Cit.*, Article 5, subarticle (3).

²⁷ Ministry of Environment and Forestry, 2015a, *Op. Cit.*, Article 10, subarticle (1).

TABLE 2 Two principles of the SVLK-TL covered within the sustainable forest management standards of SVLK, LEI and FSC for natural production forests management case

SVLK-TL	SVLK-FM	LEI-FM	FSC-FM
The fulfilment of environment and social aspects related to logging The fulfilment of labour regulations.	Management and monitoring of forest utilization impacts on water and soil. Implementation of corporate social responsibility in accordance with the applicable regulations. Protection, development and upgrading of labour welfare.	Implementation of reduced impact logging. Guarantee of human rights. Existence and implementation of collective labour agreement. Guarantee of occupational health and safety (OHS).	Environmental impact: Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest. The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services. Community relations and worker's rights: Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.

Source: Directorate General of Sustainable Production Forests Management (2016), LEI (1999) and FSC (1996)

to two categories of timber:²⁸ logs from stock sites in forest concession areas, outside of forest concession areas, legal log collection sites and primary wood-processing industries; and processed timber, in the form of sawn timber, veneer and chips from primary wood-processing industries. The LCTFPs of logs at the end destination are verified by ISTFPA,²⁹ but the LCTFP of processed timbers are only verified by manual recording.³⁰ ISTFPA has no control on the legality of the downstream actors (i.e. those processing logs into timber and those trading logs and/or processed timber). Although four principles are used to control the legality of timber produced by downstream actors, ISTFPA can only support the second principle (i.e. business unit owns and implements a timber tracking system that ensures timber traceability from its origin). Therefore, the SVLK-TL has a significant role in controlling timber legality at the downstream level.

However, there are competing standards from voluntary certification schemes. The SVLK-TL used to assess the timber legality at the downstream level, especially wood-processing industry, can be found in chain of custody (CoC) standards of LEI and FSC schemes with different expression, in particular principle 2 (i.e. business unit owns and implements a timber tracking system that ensures timber traceability from its origin) and principle 3 (i.e. legality of trading or transfer of its production) (Table 3). However, principle 1 (i.e. the legality of the actor operation) is not explicitly listed in the CoC standards of LEI and FSC schemes, and principle 4 (i.e. the implementation of labor regulation) is not found; the CoC standards of FSC assess occupational health and safety.

Nonetheless, principle 4 of this SVLK-TL has been routinely verified by the regency and provincial authorities responsible for employment in coordination and the direction of the Ministry of Manpower and Transmigration. Accordingly, there are actually no significant differences between the SVLK-TL and the CoC standards of the LEI and FSC schemes for the wood-processing industry.

Illegal logging and illegal timber trading

Walhi (2011) describes two perpetrators of illegal logging – forest corruption mafia and companies – that undertake four forms of illegal logging: in protected areas, excessive, unlicensed and with illegal permits (Schloenhardt 2008). Based on these typologies, Table 4 evaluates³¹ of the added values of SVLK, LEI and FSC schemes in preventing illegal logging and timber trading practices by companies. Table 5 evaluates the added values of the same schemes in preventing illegal logging and timber trading practices by forest corruption mafia. Table 4 shows that all three schemes have systems and standards to directly prevent illegal logging by companies. Moreover, through their chain of custody (CoC) standards of forest and industry, the SVLK, LEI and FSC schemes can indirectly prevent re-logging and felling of trees outside licensed felling blocks. However, only the SVLK scheme can directly prevent felling of trees with diameters under permitted limits³².

Table 5 shows that the SVLK, LEI and FSC schemes can indirectly prevent illegal logging by forest corruption mafia. As a mandatory scheme, SVLK should be able to suppress the

²⁸ *Ibid.*, Article 11, subarticle (1).

²⁹ *Ibid.*, Article 14, subarticle (1).

³⁰ *Ibid.*, Article 14, subarticle (3) and (4).

³¹ Depending on the strength of the certification system in the face of the effects of fraud and corruption, forest certification can help resolve the problem of illegal logging and trade (Purbawiyatna and Simula 2008).

³² Logging below the diameter limit is permitted only for the purpose of planting with intensive silvicultural techniques, along a 3 m wide planting path on logged-over areas.

TABLE 3 *Evaluating the SVLK-TL with reference to the CoC standards of LEI and of FSC schemes for the wood-processing industry*

SVLK-TL	CoC of LEI scheme	CoC of FSC scheme
Permit holders support legal timber trading	Not listed explicitly	Not listed explicitly
Business unit owns and implements a timber tracking system that ensures timber traceability from its origin	Complete documents tracking wood origin Node structure and timber movement in the node Processed timber report in the node consisting of input, output, waste and conversion factors The documentation adequacy of the forest product movement system, as measured by the evidence of the documentation that has consistency, controllability, ability to accommodate processed timber and the ability to present timber balance sheets Evidence of the documentation of the sequences of forest product movements.	CoC management system: procedures in place to ensure that any non-conforming products are identified and controlled Material sourcing: up-to-date information about all suppliers; procedures in place to check the supplier's sale and/or delivery documentation Material handling: segregation methods Material and products records: identify the main processing steps involving a change of material volume or weight and specify the conversion factor(s); a consistent methodology for calculating conversion factor(s).
Legality of trading or transfer of production	Purity of logs/no timber originating from illegal sources Segregation of wood originating from certified (sustainable) sources from other sources At least 70% content of timber products from an LEI certified source.	Sales: ensure that products sold have an FSC 100%, FSC Mix, or FSC; Recycled claims on sales documentation do not carry any labels from other forestry certification schemes; Timber legality legislation: conform to all applicable timber legality legislation.
Fulfillment of labor regulations.	Not in standard	Commit to occupational health and safety.

Source: Directorate General of Sustainable Production Forests Management (2016), LEI (2002) and FSC (2017)

TABLE 4 *The added value of SVLK, LEI and FSC schemes in eradicating illegal logging and timber trading by companies*

No.	Form of illegal logging*	Added value according to scheme		
		SVLK	LEI	FSC
1	Logging in protected areas			
	• Felling trees on riversides and sharply sloping areas	+	+	+
2	Excessive logging			
	• Tree felling not in accordance with the annual work plan	+	+	+
	• Re-logging	+	+	+
3	Unlicensed logging			
	• Felling trees during forest clearing for roads without permits	+	+	+
	• Felling trees outside of licensed felling blocks	+	+	+
	• Felling trees with diameters under permitted limits	+	-	-

* Based on typologies from Walhi (2011) and Schloenhardt (2008)

distribution of illegal logs over the whole country, because processed logs must have an SVLK-TL certificate, under CoC standards³³, or an SVLK-FM certificate³⁴. However, it is still ineffective in preventing the circulation of illegal timber in the country (Astana *et al.* 2016).

Sustainable forest management

The added value of the verification and certification schemes was analysed according to their role in maintaining the sustainability of forest management. This includes three elements: environmental sustainability, economic sustainability

³³ Directorate General of Sustainable Production Forest Management (2018): Per October 2018, the number of NPFCP holders with an SVLK-TL certificate was 30 out of 254.

³⁴ *Ibid.*, Per October 2018 the number of NPFCP holder having SVLK-FM certificate was 95 out of 254.

TABLE 5 *The added value of SVLK, LEI and FSC schemes in eradicating illegal logging and timber trading by forest corruption mafia*

No.	Form of illegal logging*	Added value according to scheme		
		SVLK	LEI	FSC
1	Logging by obtaining permits illegally			
	Logging through provision of oil palm permits where planting is not realised	+	+	+
	Using legal documentation and companies for legalising illegal wood	+	+	+
	Legalising illegal timber through auctions	+	+	+
2	Excessive logging			
	Timber production potential stated in annual work plan not being based on proper inventory of forest potential	+	+	+
3	Unlicensed logging			
	Logging forest without permits for oil palm areas by mobilising local communities	+	+	+
	Re-logging outside permitted felling blocks	+	+	+

* Based on typologies from Walhi (2011) and Schloenhardt (2008)

and social sustainability. Environmental sustainability involves the application of reduced impact logging (RIL) techniques, high conservation value forest (HCVF) management and the application of chains of custody in forests. Economic sustainability involves the sustainable production and forest reinvestment. Social sustainability involves the recognition of community land rights and management of forest areas with high social conservation value (social HCV). Activities fulfilling these elements involve public participation. Table 6 presents the added value of SVLK, LEI and FSC schemes in supporting sustainable forest management.

Table 6 shows that the SVLK-TL for forest management did not add value in promoting sustainable forest management, as it does not establish criteria and indicators to evaluate sustainable forest management performance. Its standard only functions as a tool for re-verifying ISTFPA and verifying the legality of timber products; it does not cover overall evaluation of sustainable forest management. Although the SVLK-TL includes a principle on environmental and social requirements, it is limited to logging activity. Its verification assessments only ensure the availability of complete and ratified environmental impact analysis documents. The sustainability of environmental and social aspects, covering ecology, biodiversity conservation and community rights, for instance, are not covered by the SVLK-TL in forest management.

In contrast, the standards and criteria included in the SVLK-FM, the LEI-FM and the FSC-FM assess the extent to which sustainable forest management has been achieved.

The three schemes have added value in efforts to attain sustainable forest management. Each scheme adds value in achieving environmental, economic and social elements. The FSC scheme adds more social value through recognition of community rights and social HCV management, which are less explicit in other schemes. However, the effectiveness of each scheme in implementing their standards and criteria in the field depends on how the scheme is enforced. Based on the stakeholders interviewed, the standards and criteria of the voluntary scheme, which is driven by market forces, tend to be realized in the field much better than those of the mandatory scheme, which is driven by regulation, especially when government law enforcement is weak.

Legal timber trading

The issue of timber trading legality depends on when the timber was first cut down and on the legal status of the wood-processing industry. If the felled timber is legal and is processed by a legal wood-processing industry, it can be traded as legal processed timber. If a legally felled log is processed by an illegal wood-processing industry, all the processed timber and derived products are illegal. This shows that the forest verification or certification is significant in promoting legal timber trading. Verification or the certification at the wood-processing industry gates is important when there are suspicions that the timber produced from a forest is the product of illegal logging.

TABLE 6 *The added value of SVLK, LEI and FSC schemes in supporting sustainable forest management*

No.	Sustainability elements	Added value according to scheme			
		SVLK-TL	SVLK-FM	LEI-FM	FSC-FM
1	Environmental	-	+	+	+
2	Economic	-	+	+	+
3	Social	-	+	+	+

Illegal logging generally occurs in natural forests: permanent and limited production forests, protection forests or conservation forests. The timber produced from the natural forests is considered legal and originates from natural production forests managed either by NPFCP holders, or IPK holders. Illegal logging rarely occurs in plantation forests, including community-based plantation forests, except in plantation forests located on Java Island managed by forest management rights holder (*Perum Perhutani*) (see Nurrochmat *et al.* 2014).

Between 2007 and 2011, the average annual log production from natural production forests reached 11.0 million m³, 56.1% of which originated from NPFCP holders and 43.9% from IPK holders (Table 7). Of this natural forest timber production, only 24.0% was verified or certified in 2012 (Table 8). Of this, most was thought to have originated from the NPFCP holders and been certified under SVLK-FM (14.1%), followed by the FSC-FM (4.7%) and the LEI-FM (3.8%); logs originating from the NPFCP holders and verified by the SVLK-TL only accounted for 1.4% (Table 8). Eight holders of an FSC-FM certificate also have an SVLK-FM certificate. Moreover, two holders of an LEI-FM certificate also have an FSC-FM certificate and a SVLK-FM certificate. Therefore, there are actually 10 holders of FSC-FM certificates and 46 holders of an SVLK-FM certificate (see Table 8).

However, between 2012 and 2016, the average annual log production from natural production forests dramatically dropped to 5.6 million m³ (Table 9). Based on the published statistical data of Ministry of Environment and Forestry in 2017a, the logs were all from the NPFCP (Table 9). A forestry officer in the field stated that there were still logs from the IPKs but they were not included in published statistical data. These accounted for 8–12% of the log production from natural production forests. In contrast, until October 2018, the number of NPFCP holders with certification/verification tended to increase.

The number of NPFCP holders with SVLK-FM certificates with a good score, as stated in the SVLK scheme, increased from 36 in 2012 to 71 in 2018, while the number of NPFCP holders with SVLK-TL certificates increased from only 4 in 2012 to 30 in 2018. The number of NPFCP holders holding FSC-FM certificates increased from 10 in 2012 to

TABLE 7 Logs produced from natural production forest, 2007–11

Year	Total (m ³)	NPFCP holders (%)	IPK holders (%)
2007	10 829 342	59.4	40.6
2008	7 393 032	62.6	37.4
2009	11 476 397	42.3	57.7
2010	19 739 728	26.6	73.4
2011	5 689 293	89.4	10.6
Average	11 025 558	56.1	43.9

Source: Ministry of Forestry, 2012

TABLE 8 Numbers and estimated certified log production, 2012

No.	Certificate type	NPFCP holders		
		Number (units)	Log production (m ³)	(%)*
1.	SVLK-TL scheme	4	149 781	1.4
2.	SVLK-FM scheme	36	1 550 465	14.1
3.	LEI-FM scheme	2	426 307	3.8
4.	FSC-FM scheme	8	521 894	4.7
Total		50	2 648 447	24.0

Source: Directorate General of Forestry Business Development (2012), FSC (2012) and interview with staffs of Directorate General of Forestry Business Development, LEI and Indonesia's FSC Certification Bodies.

Note: * Percentage of the average annual timber produced from natural production forest (Table 6).

26 in 2018, but none held a LEI-FM certificate (Table 10). NPFCP holders with FSC-FM certificates could also hold SVLK-FM certificates. Of 26 NPFCP holders, 24 holders have a SVLK-FM certificate with a good score, and 2 holders have a SVLK-FM with a fair score. Hence, the number of NPFCP holders with a SVLK-FM with a good score was actually 95.

Tables 8 and 10 suggest that while the log production of natural production forests has decreased, the volume of certified logs produced has increased. In 2012, of the 11.0 million m³ of logs produced from natural production forest, only 24.0% (2.6 million m³) were certified (Table 8), but in 2018 (until October), the number increased. As of October 2018, the actual log production of natural production forest was 4.4 million m³, with 88.2% (3.9 million m³) under certification/verification. Of the 3.9 million m³, 5.4% under the SVLK-TL, 46.2% under the SVLK-FM and 28.4% under the FSC-FM, but none were certified under LEI-FM (Table 10).

Before 2012, the SVLK-TL for wood-processing industries did not oblige them to only use logs from NPFCP holders with SVLK-FM or SVLK-TL certificates or from IPK holders with SVLK-TL certificates. However, now, the SVLK-TL for wood-processing industries follows the LEI and FSC

TABLE 9 Logs produced from natural production forest, 2012–16

Year	Total (m ³)	NPFCP holders (%)	IPK holders (%)
2012	6 537 195	100	0
2013	4 396 766	100	0
2014	5 848 113	100	0
2015	5 994 870	100	0
2016	5 404 609	100	0
Average	5 636 311	100	0

Source: Ministry of Environment and Forestry, 2017a

TABLE 10 Numbers and estimated certificated logs production of natural production forest, 2018 (until October)

No.	Certificate type	NPFCP holders		
		Number (units)	Log production (m ³)	(%)*
1.	S-LK	30	240 980	5.4
2.	S-PHPL			
	good	71	2 053 950	46.2
	fair	34	365 754	8.2
3.	LEI scheme	0	0	0.0
4.	FSC scheme	26	1 259 241	28.4
	Total		3 919 925	88.2

Source: Directorate General of Sustainable Forest Management (2018), FSC Indonesia (2018), and interview with staffs of Directorate General of Sustainable Forest Management, LEI and Indonesia's FSC Certification Bodies.

Note: * Percentage of total log produced from natural production forest until October 2018 (4 442 279 m³).

CoC standards. The SVLK-TL requires that all the timber should come from NPFCP holders with either SVLK-FM or SVLK-TL certificates or from the IPK holders with SVLK-TL certificates. The LEI or FSC schemes in wood-processing industries that apply the CoC standard, require all timber to come from NPFCP holders with LEI-FM or FSC-FM certificates before their products can display the LEI or FSC logos. However, the LEI scheme's CoC standard does not allow wood-processing industries to use timber from IPK holders, while the FSC scheme's CoC standard allows mixed timber products.

Accordingly, the CoC standards of LEI and FSC schemes gives each added value in encouraging the log production from NPFCP holders with LEI-FM or FSC-FM certifications. Moreover, this is also true for the SVLK-TL applied to wood-processing industries. In fact, the SVLK-TL requires that timber should come from NPFCP holders with either SVLK-FM or SVLK-TL certificates or from IPK holders with SVLK-TL certificates. Accordingly, the SVLK-TL also encourages log production from NPFCP holders with either the SVLK-FM or SVLK-TL certificates and from IPK holders with the SVLK-TL certificate.

Added Value for the Company

Legal certainty for business

NPFCP holders are obliged to have SVLK-FM certification,³⁵ but those who have no SVLK-FM certificate can have

an SVLK-TL certificate for one year before obtaining the SVLK-FM certificate.³⁶ Those who already have the SVLK-FM certificate are not obliged to have the SVLK-TL certificate. This regulation is also applied to community forests, but, they only need an SVLK-TL certificate.³⁷ If they do not have such a certificate, they are allowed to establish Declaration of Supplier Conformity³⁸ (DSC = *Deklarasi Kesesuaian Pemasok*). With this provision, the SVLK scheme (SVLK-TL/FM) has added value in providing legal certainty for business, particularly timber legality from the producer nation. Since 15 November 2016, Indonesia has been able to issue FLEGT licenses to verified legal timber products it exports to the EU.³⁹ In the 12 months following this, Indonesia issued more than 39 000 licences for shipments exported to all 28 EU Member States, with a total value of more than 1 billion euros.⁴⁰

By regulation, those with voluntary certificates such as FSC-FM and FSC-CoC certificates or LEI-FM and LEI-CoC certificates are still obliged to obtain an SVLK-FM certificate or SVLK-TL certificate, even though the former certificates are more readily recognised by the markets. However, as discussed earlier, many businesses hold both SVLK-FM and FSC-FM certificates. This suggests that the business practitioners are likely not able to rely only on a mandatory certificate, they still need a voluntary certificate in order to maintain their business. Hence, the question is whether the SVLK scheme (SVLK-TL/FM), as a mandatory scheme, can complement or synergise with the LEI and FSC voluntary schemes to provide both legal certainty and sustainability to business practitioners. The complementary or the synergistic actions between mandatory and voluntary schemes may allow the SVLK scheme to fulfil the legality requirement for producer (exporter) countries, while the voluntary schemes meet the market standards of importer countries. By adopting both schemes, business practitioners can fulfil legality and market standards at the same time, giving them legal certainty for business and a market for business sustainability. However, implementing both schemes may create a higher cost burden.

Certification or verification activities alone are additional costs for the companies. The cost of adopting a scheme may be estimated from the case of small-scale community-based forests. In adopting a voluntary or a mandatory scheme, small-scale community-based forests depend upon donors, especially for surveillance costs (Astana et al. 2014). In fact, small-scale timber businesses are reluctant to pursue certification and formalise their operations because of concerns about additional costs and uncertainty about the benefits (Obidzinski et al. 2014). Small-scale timber businesses consider the costs of certification valid for 5 years with surveillance conducted in every year to be expensive. In order

³⁵ Ministry of Environment and Forestry, 2016a, *Op. Cit.*, Article 5, subarticle (1)a.

³⁶ *Ibid.*, Article 5, subarticle (2) and (3).

³⁷ *Ibid.*, Article 6, subarticle (1)l.

³⁸ *Ibid.*, Article 7, subarticle (1)a.

³⁹ <http://www.flegt.org/>; October 30, 2018.

⁴⁰ *Ibid.*

to reduce certification costs, under certain conditions, the LEI-FM certificate expires after 15 years, with surveillance conducted in every 5 years. Under the FSC scheme for Small and Low Intensity Management Forests (SLIMF), for example, surveillance by desk audits may be conducted provided that there was no Non-Conformity Report (NCR) in the previous audit. While the SVLK-FM certificate for small-scale community-based forests expires after 10 years with surveillance conducted in every 2 years.⁴¹ Nonetheless, the negative impact of the SVLK policy implementation was still greatly felt by small-scale operators (Nurrochmat *et al.* 2016, Suryandari *et al.* 2017).

The cost of obtaining more than one certification can be estimated from NPFCP holders, who generally conduct large-scale operations. Several NPFCP holders held more than one certificate. For example, in 2012, there were 2 NPFCP holders with LEI, FSC and SVLK certificates. However, by 2018, no NPFCP holders held a LEI certificate. This indicates that the voluntary LEI scheme may not create a strong market demand and, therefore, this certificate was dropped. In contrast, by 2018, the number of NPFCP holders with FSC certificates had increased, implying a market demand for FSC timber products. Although, in general, the cost of certification for large-scale operators has a small effect on their cost of production, weak market demand for their timber products could threaten the sustainability of their business. In other words, high competition in the export markets of timber products could cause the cost of certification to become a problem. Accordingly, the legal certainty for businesses under the SVLK scheme may not be guaranteed without adopting voluntary or market-driven certificates. Nonetheless, holding two certificates could create a higher cost burden in the long term, under high pressure from the export markets of timber products. In Indonesia's case, however, a log export ban policy prevents log prices from rising significantly. Past experience shows that the export ban on logs in 2001 decreased log prices from IDR 925 000/m³ in 1998 to IDR 550 000/m³ in 2001 (Astana 2003).

WWF and the World Bank (2006) developed a Forest Certification Assessment Guide (FCAG). This provides guidance on credible certification schemes. The FCAG has 11 criteria. They include: compatibility with globally applicable

principles that balance economic, ecological, and equity dimensions of forest management and meet Global Forest Alliance requirements, certification decisions free of conflicts of interest from parties with vested interests, transparency in decision making and public reporting, reliable and independent assessment of forest management performance and chain of custody, and voluntary participation. The LEI and FSC schemes both meet all of the 11 criteria. However, there are no studies testing the SVLK scheme. Nonetheless in relation to "Chain of custody requirements", at present the SVLK-TL⁴², like LEI⁴³ and FSC⁴⁴ schemes, can also fulfil the requirement that states "the scheme has a standard for the control of chain of custody that covers production and trade from the forest of origin to the final product". However, the SVLK-FM has no such standard.⁴⁵ This, of course, makes it difficult for the SVLK scheme as a whole to be accepted by markets. Accordingly, under the SVLK, market demand for timber products may be expected to grow, as there are no issues related to its implementation in the field.

Product marketing

In this study, product marketing performance was evaluated using market access and premium price. Two groups of the NPFCP holders were investigated: those integrated with wood-processing industries, and those not integrated with wood-processing industries. The first group acted as direct suppliers for their own wood-processing industries, while the second group acted as suppliers to domestic markets. Both groups adopted SVLK-TL and FSC-FM. Interviews indicated that as direct suppliers of the first group did not receive premium prices. This was also true for the second group which supplied domestic markets. This supports Fischer *et al.* (2005), who stated that there is little evidence that suppliers of certified forest products receive higher prices (see also Nurrochmat *et al.* 2014). If this was the case, according to Simula *et al.* (2004), the premium prices received are temporary in every case, as the supply of certified products increases.

Both groups admitted to applying the SVLK scheme more to adhere to government regulations, and the FSC scheme to secure export market access for timber products. FSC-FM certified logs give a better bargaining position in terms of

⁴¹ Ministry of Environment and Forestry, 2016a, *Op. Cit.*, Article 15, subarticle (1)j.

⁴² Directorate General of Sustainable Production Forests Management, 2016, *Op. Cit.*, Article 2, sub-article (2)e (SVLK-TL for forest has no CoC standard but SVLK-TL for wood-processing industry has CoC standard i.e. P2: The business unit has and implements a timber tracking system that guarantees timber traceability from its origin).

⁴³ P2.6: The validity of the logs tracking system in the forest (LEI, 1999).

⁴⁴ Criterion 8.3: Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody."; besides each Certification Body has its own forest CoC standard (FSC, 1996).

⁴⁵ Directorate General of Sustainable Production Forests Management, 2016, *Op. Cit.*, Article 2, sub-article (1)a (In SVLK-FM standard, there is no specific timber tracking issue mentioned but, of all criteria and indicators, the closest term to timber tracking issue is at criterion 2: production, indicator 2.5: Realization of logging in accordance with the work plan of logging /harvesting /utilization in its work area. To prove this indicator, 4 verifier should exist: (1) annual work plan document based on general work plan document, (2) work map of short-term plan based on work map of its long-term plan, (3) work map implementation in the form of boundary marking on: felling block / harvested /utilized /planted /maintained along with the area set as protected area (for conservation /buffer zone / biodiversity preservation / religious /culture / facilities infrastructure and, research and development), and (4) location suitability, area, species group and harvest volume with short-term plan documents).

prices compared to uncertified timber, logs with SVLK-TL or SVLK-FM certificates. Wood-processing industries with FSC-CoC certificates have greater access to export markets compared to companies with no certificates. The importance of market access was in line with observations by Pinuji (2005), who tested the marketing impact of the FSC-CoC certification adopted by wood-processing industries oriented to export markets. The results showed positive impacts of the CoC certification on marketing aspects, such as market share, company image and market access.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

As a mandatory scheme, SVLK is divided into two categories: the SVLK standards for timber legality (SVLK-TL) and standards for sustainable production forest management performance (SVLK-FM). The scheme (SVLK-TL/FM) opens up the opportunity for the public to monitor business practitioners' adherence to rules. The SVLK-TL has a clear timber tracking system and is used to control the legality of logs entering the national market, and processed logs entering national and international markets, especially EU markets. The SVLK-FM is used to control sustainable production in forests producing logs for the national market. However, the timber tracking system is unclear.

Along with voluntary schemes such as the CoC standards of LEI and FSC, the SVLK-TL has added value for the public in introducing and verifying the legality of timber circulation at the downstream level, which the conventional ISTFPA cannot do it. Although not as effective as voluntary schemes, the SVLK scheme has also added value in eradicating illegal logging and illegal timber trading. As it is compulsory, the SVLK scheme contributes more to the legal timber trading volume than voluntary schemes. In enhancing sustainable forest management, the SVLK-FM has added a similar amount of value as voluntary schemes. The SVLK scheme has also added value for companies in providing legal certainty for business, but added less value to marketing.

Recommendations

Illegal logging generally occurs in natural forests: permanent and limited production forests, protection forests or conservation forests. It is rarely found in plantation forests, including community-based plantation forests, except in the plantation forests on Java Island managed by *Perum Perhutani* (state enterprise in forest business). Therefore, logs from natural production forests need to be considered. In addition, SVLK-FM standards, particularly for natural production forests, need to be evaluated to incorporate a clear timber tracking system.

Better implementation of the SVLK scheme is needed, especially for small-scale timber businesses. If timber businesses must apply this scheme within the set deadline, timber trading in international markets could be affected and the competitiveness of timber exports reduced. Companies will

have to bear the burden of higher costs: in addition to fulfilling domestic legality standards with the costs of implementing the SVLK scheme, they must also meet the importing countries' market standards and pay to implement voluntary schemes. To reduce the cost burden, the government should revise the regulations causing the holders of production forest concessions and wood-processing industry permits to undergo double certifications: voluntary and mandatory schemes. This policy needs to be considered in the context that there is no SVLK scheme applied for competitor countries, the SVLK scheme has lower added value than a voluntary scheme and the log export ban policy is no longer effective in decreasing domestic log prices.

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