

# Constrain of smallholder forest management on timber legality assurance system (SVLK) certification: A case study in KTH Enggal Mulyo Lestari, Ponorogo District, East Java Province

Dinar Dara Tri Puspita Purbasari<sup>1</sup>, Mahawan Karuniasa<sup>1\*</sup>, and Yuki Mahardhito Adhitya Wardhana<sup>1</sup>

<sup>1</sup>School of Environmental Science, Universitas Indonesia, Central Jakarta, Indonesia 10440.

**Abstract.** Timber Legality Assurance System or Sistem Verifikasi Legalitas Kayu (SVLK) is implemented and recognized as a certification for timber products exported from Indonesia. SVLK applied to all the forest product chains included the smallholder Forest Management Unit (FMU). It has been a particular concern to smallholder FMU on achieving the compliance of SVLK at least at two points: 1) the capability and knowledge for the technical process; and 2) the challenges to meet the certification cost. Researches have been done on the capability, challenges and opportunity, cost and benefit, strategies, and how the absence of smallholders FMU certification on supply chain affected timber product legality uncertainty. Meanwhile, a concern on smallholder FMU's willingness to pay (WTP) certification as one of the main constraints of SVLK implementation is still unseen. A case study in KTH Enggal Mulyo Lestari aims to reveal the actual willingness to pay to fulfill the SVLK certification cost. Research conducted by Focus Group Discussion followed by a questionnaire. This study's findings illustrate that the WTP of smallholders FMU is still under the certification costs minimum standard stipulated on regulation. Some partnerships with the wood industries, local government and non-government organizations are suggested in this article.

## 1 Introduction

Deforestation and land degradation that occurred since 1950 in Indonesia has caused a decline in forests' function as a provider of wood raw materials. In the 2017-2018 periods, the Ministry of Environment and Forestry (MoEF) estimated that total deforestation inside and outside the forest area in Indonesia was 439,439.1 ha [1]. It showed a decrease in the number compared to the 2009-2013 period, which reached 1.1 million hectares/year [2,3]. This situation affected the deficiency of wood supply for forest product industries. In this article, the smallholder FMU term refers to forest managers who plant, manage, and harvest log forest products by themselves for livelihood fulfilment on private land or called private

---

\* Corresponding author: [mahawancac@yahoo.com](mailto:mahawancac@yahoo.com)

forest [4]. Smallholder FMU in Java Island has historically been part of a community-based rehabilitation effort by the Government of Indonesia that has been carried out since the reforms era in 1998 [5]. East Java Province is the largest province on Java Island with 47,799 km<sup>2</sup> with forest cover of 43%, consisting of 1,361,060 ha of permanent production forest area [6]. The development of smallholders FMU in East Java is influenced by several factors, namely the increased demand for wood that cannot be fulfilled by the supply of natural forest timber from state forests and as a long-term economic source (savings) in addition to farming and livestock for forest-farming communities [7].

The total volume of smallholder FMU production in 2019 was 3,360,565,549 m<sup>3</sup>, and in the last five years, the volume of smallholder FMU log production continued to increase at an average of 2.84% per year. The forestry sector is one of the main livelihoods for rural communities in East Java [6]. The total supply of log as the raw materials for wood industries in 2018 was 55,911,667.82 m<sup>3</sup>, with the total log originating from smallholder FMU plantations amounting to 6,012,594.82 m<sup>3</sup> [1]. The realization of the use of wood raw materials absorbed by the wood processing industry in 2018 amounted to 54,833,441.87 m<sup>3</sup> [1]. The role of smallholder FMUs in meeting the needs of the national wood is significant with the total supply of smallholder FMU logs on the second-largest supplier, as seen in Table 1 below:

**Table 1.** Five largest national log supplier in 2018 [1].

No	Source	The year 2018 (m <sup>3</sup> )
1	IUPHHK-HT (State Plantation Production Forest)	40,079,339.02
<b>2</b>	<b>Smallholders FMU plantation</b>	<b>6,012,549.84</b>
3	IUPHHK-HA (State Natural Production Forest)	4,895,796.66
4	Community Forest	1,328,862.09
5	Import	808,173.62

Actual data detailing exactly how much smallholder FMU plantation logs are absorbed for the export-oriented wood industry is not available. However, based on the table above, it is enough to illustrate that raw materials originating from smallholders FMU plantation have a significant role in fulfilling raw materials for wood product industries. MoEF data of 2018 showed that the production of plywood and lumber veneer laminated absorbed 7,110,110.22 m<sup>3</sup> of woods, while the ability of IUPHHK-HA as a woods supplier was only 4,895,796.66 m<sup>3</sup>. Those total amount also covered the needs of other primary wood and woodworking industries. The data shows that community forest logs' production contributes positively to fulfilling the industry's supply of raw materials. With the gap between demand and supply of raw wood materials, smallholder FMU group production becomes very important to meet the national raw wood material supply [5]. The high demand for raw wood materials causes the need for alternative sources of raw wood materials, other than those originating from State Forests, by optimizing smallholder FMUs.

As mentioned in many kinds of research, Indonesia was the first country to sign the bilateral Voluntary Partnership Agreement with the EU and established the first regulation with a multi-stakeholder approach to the forest certification system named Timber Legality Assurance System, locally referred to as SVLK [8, 9, 10, 11]. SVLK is one of the mandatory certification schemes which is regulated by MoEF. Forest certification has the main objectives to improve forest management in achieving sustainability goals and ensuring market access for wood certified products [12]. At present, the global market requires the certainty of legality and the origin of wood raw materials from responsible forest management, included wood originating from smallholder FMU. SVLK was set on

MoEF regulation known as "P.30/Menlhk/Setjen/PHPL.3/3/2016" mandated to all forms of forest concession permits, wood products industries, including smallholder FMU as an inseparable part of the forest industry sector. According to the agreement, SVLK certified products are attached with a FLEGT license as an exportation document, which allows them to be traded to the European market without due diligence [13].

Implementation of SVLK shows a positive contribution to forest governance, which becomes the main objective of sustainable forest management [14]. Meanwhile, the amount of certified smallholder FMU is still low because it is considered unprofitable compared to the income [15]. SVLK certification based on smallholder FMU will increase production input costs by an average of 15%, assuming there are surveillance costs every two years [16]. Smallholder FMU has not achieved sustainability in their certification due to the inability to meet SVLK certification [15, 22]. Studies related to actual willingness to pay from smallholder FMU groups to independently manage and finance their certification programs are important for the sustainability of smallholder FMU as suppliers of wood industry raw materials. KTH Enggal Mulyo Lestari was taken as a sample of a case study intended to determine the willingness to pay smallholder FMU to maintain SVLK certification. However, there is still a gap between smallholder FMU willingness to pay with the standard. It is crucial to determine the actual figure of the willingness to pay of smallholder FMU to meet certification costs.

## 2 Method

Data collection and interviews with smallholder FMU groups is carried out in KTH Enggal Mulyo Lestari. Purposive sampling is done with the smallholder FMU group criteria that are still listed as an active timber legality certificate holder at the time of the study. The Slovin formula determined the sample size in this study:

$$n = \frac{N}{1 + Ne^2} \quad (1)$$

Whereas  $n$  is the number of sample amounts;  $N$  is the total population;  $e$  is error tolerance (5%).

The study's Respondents is 65 out of 189 active members or 34,4% of the total members of KTH Enggal Mulyo. Collecting data on willingness to pay (WTP) is carried out through Focus Group Discussion (FGD), followed by WTP questionnaires. In this study, the WTP analysis emphasizes the nominal value or nominal range that small forest FMU can strive to maintain SVLK certification. The questionnaire consists of 1) the characteristics of the respondents, which contained the age, gender, and education; 2) total income and number of dependents; 3) WTP questionnaire used open-ended questions related to willingness to pay of the member. In terms of completing the data, a descriptive analysis of financing opportunities done by gathering information from key stakeholders from the district forestry agency (government) and also the representatives of KTH Enggal Mulyo Lestari.

## 3 Results and discussion

Sustainable forest management is seen as covering environmental, social, and economic benefits of forests. Thus, at the national level, sustainability requires a socio-economic development approach that preserves the ecosystem's main features and contributes to fulfilling human needs [16]. Sustainable Forest Management (SFM) involves best practice application based on current scientific and traditional knowledge that enables various goals and needs to be met without degrading forest resources and requires effective and

responsible governance and protection of forest-dependent community rights [17]. Smallholder FMU has roles and benefits in economic, social, and environmental aspects for both the landowner and the surrounding community [7].

KTH Enggal Mulyo Lestari is located in Krajan, Mrayan Village, Ngrayun Sub-District, Ponorogo District, East Java Province, with a total area 615.92 ha and 189 active members. Most of the people in Mrayan Village work as forest farmers. This is also shown in the study results that all 65 respondents have the main profession as forest farmers, followed by additional professions as pine sap tappers and breeders. Most of the land is managed with an intercropping system, which is, apart from wood plants, it is also combined with undergrowth, such as herbal plants [18]. KTH Enggal Mulyo Lestari was first certified through assistance and funding from the government in 2012. The status was withdrawn in 2014 because it did not carry out surveillance activities due to limited funds. In 2019, KTH Enggal Mulyo Lestari was again certified with funding from the government through MoEF.

Respondents' age, in general, is between 26 and 70 years old. All of the respondents are male and married. Most of the education (52.3%) is Elementary School, Junior High School (29.2%), Senior High School (15.4%), and Bachelor/equivalent (3.1%). The average income of the respondents is Rp. 1,444,000,- equivalent to 97.15 USD, which is below the minimum wage of Ponorogo District based on the Governor's Decree number 188/568/KPTS/013/2019 about the minimum wage of Ponorogo District as a reference for the standard of living eligibility in 2020 is Rp. 1,913,321 or 128.72 USD per month. However, this income is a general description of the average monthly income that does not include incidental log harvesting or what farmers usually call "*Tebang Butuh*". Cutting needs to be incidental by the community to meet urgent needs [19]. Log potential based on the independent inventory by KTH Enggal Mulyo in the sequence is Pine or *Pinus merkusii* (15,343.13 m<sup>3</sup>), Mahogany or *Swietenia macrophylla* King (3,375,231 m<sup>3</sup>), and Albizia or *Paraserienthes falcataria* (1,833,497 m<sup>3</sup>). In April to September 2019 period, the total amount of logs harvested or sold from members of KTH Enggal Mulyo was 357.85 m<sup>3</sup> consists of Pine (271.89 m<sup>3</sup>), Albizia (73.35 m<sup>3</sup>), and Mahogany (12,515 m<sup>3</sup>). Most of the harvesting done by farmers in KTH Enggal Mulyo is incidental harvesting or defined as logging that is only done when farmers need large amounts of money and buyers at prices that match the farmers' expectations. KTH Enggal Mulyo does not have an annual harvesting plan because harvesting activities are still carried out privately by landowners as needed.

At present, the global market requires legality and the origin of wood raw materials from responsible forest management. One source of alternative raw materials that can be relied upon today is log originating from smallholder FMU. Forest certification is one of the market-based systems driven by market demand, including consumer demand for certified wood products [20]. Implementing the KTH Enggal Mulyo Lestari certification activity in 2019 is part of the certification work package for 27 smallholder FMUs in East Java worth Rp. 936,857,500, - (63,029.11 USD) or equivalent to Rp. 34,698,426 (2,334.41 USD) per smallholder FMU. These costs include fees for a certification body, accommodation, and transportation, which are arranged following the MoEF regulation known as "P.1/Menlhk/Setjen/PHPL.1/1/2016" about minimum standard of sustainable forest management assessment and timber legality verification. The results showed that 65 respondents all agreed with SVLK certification activities in groups, but only 5 respondents (7.69%) were willing to collectively pay for certification fees. The main reason respondents are willing to pay certification costs is that certification could link small forest FMU to buyers/industries.

SVLK implementation is seen as an activity in which financing is beyond smallholder FMU ability to work, including annual surveillance fees [14]. The cost of implementing the

SVLK is considered high, with the largest cost components are certification and surveillance costs, which are around 80% of certification cost [10]. Meanwhile, 60 respondents stated that they were not willing to pay for the main reasons, namely 1) Certification did not increase the log price (69%); 2) Certification can not link small forest FMU to buyers/industries (19%); 3) Smallforest FMU does not have a positive impact on community independence and empowerment (12%). Certification raises additional costs for the small-scale wood sector. Still, the small-scale wood sector does not benefit from timber legality certification, both in market access and price premiums [21]. Smallholder FMU certification increases input production costs by an average of 15%. If it does not increase the log price, it is considered unattractive by forest farmers [15]. Implementation of SVLK shows a positive contribution to forest governance, which becomes the main objective in sustainable forest management [16]. In 2012 when KTH Enggal Mulyo first-time SVLK certified, there was a cooperation with the industry on pine log supply, but it last only in several months. Since then, SVLK certification has not affected increasing log price and market access for KTH Enggal Mulyo Lestari. The members still tend to harvest and sell their logs individually. This is also due to regulation "P.48/MenLHK/Setjen/KUM.1/8/2017" about transportation of cultivated wood forest products originating from the private forest that allowed logs originated from private forest to enter the supply chain for timber production by merely completing a transport note, which also acts as a supplier conformity declaration (a self-declare mechanism). On the other hand, logs in the wood products supply chain through a self-declare mechanism cannot comply with the SVLK [23].

SVLK certification is an essential part of ensuring the legality of logs originating from community forests as a unitary system. However, it is necessary to consider a more effortless and affordable mechanism for forest owners. Current financial assistance is insufficient to support smallholder FMU to maintain SVLK certification [23]. Certification costs can be attempted by smallholder FMU itself if a certified log's selling price can provide more benefits to be allocated for the costs of the certification process and its maintenance [24]. So far, the fulfillment of the surveillance (maintenance) costs of community forest certification can be done through funding by the government or other parties that are not binding on community forests. This is also stated in MoEF regulation "P.30/Menlhk/Setjen/PHPL.3/3/2016". In contrast, Another mechanism to fulfill certification costs can be done in collaboration with the private sector, government forestry programs, and donor agencies [24].

## 4 Conclusion

SVLK certification is expected to maintain smallholder FMU business not to be converted into non-forest land uses. The result showed that the forest farmer's financial condition was still under the standard living eligibility, so they had a low willingness to pay for SVLK certification. The funding for certification and maintenance of certification is not sufficient to maintain smallholder FMU certification status. Other efforts are needed, such as increasing market access by linking wood industries (private sectors) with smallholder FMU. These incentives can increase the selling value of certified logs or collaboration with donor agencies/non-governmental organizations through community forest business development activities, which are expected to enhance forest farmer income.

## Acknowledgements

This research is funded by Hibah Skema Publikasi Internasional Terindeks Mahasiswa Sosial Humaniora (PUTI SOSHUM) University of Indonesia (Contract Number NKB-2561/UN2.RST/HKP.05.00/2020). Authors also would like to thank Mr. Hery Pramudya Wijaya (Forestry Agents of CDK Pacitan, East Java) and Mr. Hariyoko (KTH Enggal Mulyo Lestari) for the assistance during data collection.

## References

1. Kementerian Lingkungan Hidup dan Kehutanan, MoEF, Statistik lingkungan hidup dan kehutanan tahun 2018 (Pusat data dan informasi KLHK, Jakarta, 2019)
2. Forest Watch Indonesia, FWI, Potret Keadaan Hutan Indonesia periode 2009-2013 (FWI, Bogor, 2014)
3. Forest Watch Indonesia, FWI, Potret Keadaan Hutan Indonesia periode 2000-2009 (FWI, Bogor, 2011)
4. J. T. Erbaugh, D. R. Nurrochmat, H. Purnomo, Regulation, formalization, and smallholder timber production in northern Central Java, Indonesia, *Agroforestry Systems*, 91, 5, 867–880 (2017) <https://doi.org/10.1007/s10457-016-0037-6>
5. A. A. Nawir, Murniati, L. Rumboko, Rehabilitasi hutan di Indonesia (CIFOR, 2008)
6. BPS, Provinsi Jawa Timur dalam Angka 2020 (BPS Provinsi Jawa Timur, ISBN: 978-623-7521-16-7, 2020)
7. T. Puspitojati, F. Eva, M. Y. Mile, D. Darusman, Hutan rakyat Sumbangsih Masyarakat Pedesaan Untuk Hutan Tanaman (2010)
8. K. Obidzinski, A. Dermawan, A. Andrianto, H. Komarudin, D. Hernawan, The timber legality verification system and the voluntary partnership agreement (VPA) in Indonesia: Challenges for the small-scale forestry sector, *Forest Policy and Economics*, 48, 24–32 (2014) <https://doi.org/10.1016/j.forpol.2014.06.009>
9. A. Fishman, K. Obidzinski, Verified Legal? Ramifications of the EU Timber Regulation and Indonesia's Voluntary Partnership Agreement for the Legality of Indonesian Timber, *International Forestry Review*, 17, 1, 10–19 (2015) <https://doi.org/10.1505/146554815814725095>
10. S. Nurkomariyah, M. Firdaus, D. R. Nurrochmat, transformasi regulasi sertifikasi legalitas kayu, 3, 3, 262–272 (2016)
11. A. Setyowati, C. L. McDermott, Commodifying Legality? Who and What Counts as Legal in the Indonesian Wood Trade, *Society and Natural Resources*, 30, 6, 750–764 (2017) <https://doi.org/10.1080/08941920.2016.1239295>
12. M. G. Gómez-Zamalloa, A. Caparrós, A. S. Ayanz, 15 years of Forest Certification in the European Union. Are we doing things right? *Forest Systems*, 20, 1, 81 (2011) <https://doi.org/10.5424/fs/2011201-9369>
13. EU-Commission, EU and Indonesia Celebrate Cooperation Milestone in Sustainable Management of Forests (2016). <https://sustainabledevelopment.un.org/sdg15>
14. Y. Miniarti, Keberhasilan SVLK Dalam Mendukung Perbaikan Tata Kelola Kehutanan, *Jurnal Analisis Kebijakan Kehutanan*, 15, 1, 55–66 (2018)
15. S. Astana, K. Obidzinski, W. F. Riva, G. Hardiyanto, Implikasi Biaya Dan Manfaat Pelaksanaan SVLK Terhadap Sektor Perakayuan Skala Kecil (Cost and Benefit Implications of SVLK Implementation to Small- Scale Timber Sector ) (August 2017) (2014) <https://doi.org/10.20886/jsek.2014.11.3.175-198>
16. Y. E. Suryandari, D. Djaenudin, S. Astana, I. Alviya, I, Dampak implementasi sertifikasi verifikasi legalitas kayu terhadap keberlanjutan industri kayu dan hutan rakyat, *Jurnal Penelitian Sosial dan Ekonomi Kehutanan*, 14, 1, 19–37 (2017)

17. D. G. Brand, Criteria and Indicators for The Conservation and Sustainable Management of Forests: Progress to Date and Future Directions, *Biomass and Biogeoenery*, 9534, 97 (1997)
18. ITTO, Criteria and indicators for the sustainable management of tropical forests, ITTO Policy Development Series No. 21 (2016)  
[https://www.itto.int/direct/topics/topics\\_pdf\\_download/topics\\_id=4872&no=1&disp=inlin](https://www.itto.int/direct/topics/topics_pdf_download/topics_id=4872&no=1&disp=inlin)
19. KTH Enggal Mulyo Lestari, Profil Kelompok Tani Hutan Enggal Mulyo Lestari (2019)
20. F.A.U. Hamdani, D. Darusman, T. Tiryana, Evaluasi Praktik Tebang Butuh di Hutan Rakyat Kabupaten Ciamis Provinsi Jawa Barat, *Jurnal Risalah Kebijakan Pertanian dan Lingkungan* 2, 1, 33-41 (2015)
21. E. Rametsteiner, M. Simula, Forest certification - An instrument to promote sustainable forest management?, *Journal of Environmental Management*, 67, 1, 87–98 (2003) [https://doi.org/10.1016/S0301-4797\(02\)00191-3](https://doi.org/10.1016/S0301-4797(02)00191-3)
22. G.D. Lallo, M. Maesano, M. Masiero, G. S. Mugnozza, M. Marchetti, Analyzing Strategies to Enhance Small and Low Intensity Managed Forests Certification in Europe using SWOT-ANP, *Small-scale Forestry* 15, 393-411 (2016)  
<https://doi.org/10.007/211842-016-9239-y>
23. D. Susilawati, P. Kanowski, A. B. Setyowati, I. A. P. Resosudarmo, D. Race, Compliance of smallholder timber value chains in East Java with Indonesia's timber legality verification system, *Forest Policy and Economics*, 102, 41–50 (2019)  
<https://doi.org/10.1016/j.forpol.2019.02.005>
24. H. Thi, N. Hoang, S. Hoshino, K. Onitsuka, T. Maraseni, Cost analysis of FSC forest certification and opportunities to cover the costs a case study of Quang Tri FSC group in Central Vietnam Cost, *Journal of Forest Research*, 24, 3, 137–142 (2019)  
<https://doi.org/10.1080/13416979.2019.1610993>