



Enforcing Environmental Law Against Ecosystem Degradation in the Kasintuwu Protected Forest, Luwu Timur

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Abstract

Indonesia governs its protected forests through a dense body of legislation, yet ecosystem degradation caused by illegal logging continues largely unchecked. This article asks why environmental law enforcement fails in the Kasintuwu Protected Forest, Mangkutana District, Luwu Timur Regency, South Sulawesi. Applying an empirical legal method, it combines interviews at four institutions, examination of their case registers, and statutory analysis, in order to trace where forestry cases are lost along the enforcement chain. Between 2017 and 2023 residents lodged ninety-four reports of illegal logging, while only ten case files reached the public prosecutor and nine cases were registered at the district court, and enforcement clustered almost entirely in a single year. Three obstacles explain this attrition: evidentiary difficulty produced by imprecise forest-boundary designation and overlapping licensing; institutional incapacity, with three forest rangers responsible for 163,283.30 hectares; and alleged informal levies that terminate reports before investigation. The article argues that the enforcement deficit is structural rather than normative, and recommends boundary re-demarcation with legal certainty, a minimum ranger-to-area ratio, independent oversight of pre-investigation screening, and community-based conservation incentives.

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1. Introduction

Indonesian forestry law treats the forest not as a stock of timber but as an ecological unit. Article 1(1) of Law No. 41 of 1999 on Forestry defines a forest as a unity of ecosystems in the form of a stretch of land containing biological natural resources, dominated by trees in their natural environment, neither of which can be separated from the other.¹ From that definition the statute derives a functional classification – state forest, customary forest, production forest, conservation forest and protected forest – each carrying its own legal regime.² Article 46 provides that forest protection and nature conservation are directed at safeguarding forests, forest areas and their environment so that the protective, conservation and production functions are attained optimally and sustainably.³

Among these categories the protected forest (*hutan lindung*) bears the heaviest ecological burden and yields the smallest direct economic return. Its statutory purpose is to sustain the life-support system: regulating water, preventing flooding, controlling erosion and sedimentation, and maintaining soil fertility. Precisely because it generates no licensed timber revenue and is normally distant from administrative centres, it is also the category most exposed to encroachment.

The scale of the resource is considerable. Drawing on the Food and Agriculture Organization's *Global Forest Resources Assessment 2020*, Indonesia holds some 51.7 million hectares of forest under protection status, the second largest area in the world and roughly seven per cent of the global total, behind Brazil (149.57 million hectares, or twenty-one per cent) and ahead of Venezuela (45.6 million hectares), Zambia (31.8 million hectares) and the United States (31.7 million hectares).⁴ Since Law No. 23 of 2014 on Regional Government removed forestry from the affairs of regencies and municipalities, the management of this estate rests with provincial governments and is exercised on the ground through Forest Management Units (*Kesatuan Pengelolaan Hutan*, KPH).⁵

Estimates of how quickly that estate is being lost diverge sharply. Official figures put annual forest damage at approximately 1,315,000 hectares, environmental non-governmental organisations at between 1,600,000 and 2,000,000 hectares, Greenpeace at as much as 3,800,000 hectares, and forestry academics at about 1,080,000 hectares, most of it attributable to illegal logging.⁶ The divergence is itself significant: a more than threefold spread between the lowest and highest published estimates indicates that the state does not possess an agreed measure of the very phenomenon its law is meant to control, and that enforcement is therefore being conducted without a reliable baseline.

Luwu Timur Regency in South Sulawesi illustrates the gap between norm and practice. Protected forest there covered 238,589.52 hectares in 2014, and encroachment has been

¹ Undang-Undang Nomor 41 Tahun 1999 tentang Kehutanan, Lembaran Negara Republik Indonesia Tahun 1999 Nomor 167, art. 1(1).

² Ibid., art. 1(4)–(9).

³ Ibid., arts. 1(8) and 46.

⁴ Vika Azkiya Dihni, "10 Negara dengan Area Hutan Lindung Terluas (2020)," Databoks, 13 January 2022, accessed 20 December 2022, <https://databoks.katadata.co.id/datapublish/2022/01/13/indonesia-miliki-kawasan-hutan-lindung-terluas-ke-2-di-dunia>, reporting Food and Agriculture Organization, *Global Forest Resources Assessment 2020*.

⁵ Undang-Undang Nomor 23 Tahun 2014 tentang Pemerintahan Daerah.

⁶ Dinas Lingkungan Hidup dan Kehutanan Provinsi Banten, "Kerusakan Hutan Indonesia," accessed 13 January 2023, <https://dlhk.bantenprov.go.id/upload/article/>.

recorded at 673.59 hectares in Burau, 343 hectares in Malili and 302.27 hectares in Mangkutana. Between 2009 and 2020 approximately 41,000 hectares of forest in the regency changed function.⁷ Enforcement is not absent: on 23 January 2020 a patrol by the forest rangers of KPH Kalaena intercepted a truck carrying timber without a valid certificate of legality (*Surat Keterangan Sahnya Hasil Hutan*, SKSHH) on the Trans-Sulawesi road at Kasintuwu Village, Mangkutana; the Sulawesi Environmental and Forestry Law Enforcement Agency completed the file against the suspect JM, who was tried at the Makassar District Court on 27 April 2020.⁸ Yet reports of encroachment continue from Tarabbi and Pongkeru in Malili, Kasintuwu in Mangkutana, Parumpanai in Wasuponda, Bone Pute in Burau and Mahalona in Towuti.⁹

The existing scholarship addresses parts of this picture. Senoaji examined the socio-economic condition of communities living around the Bukit Daun protected forest in Bengkulu and established the depth of their dependence on forest resources.¹⁰ Rahmadi situated deforestation within the broader structure of Indonesian environmental law.¹¹ Saleh, Saleng and Lahae analysed the use of protected forest land by customary law communities, local communities and outsiders, and documented the conversion of 41,000 hectares in Luwu Timur.¹² Hasyim conducted a juridical review of illegal logging in the limited production forest of the same regency.¹³ Taken together, these studies establish two propositions: that the socio-economic drivers of encroachment are well understood, and that the statutory framework is, in normative terms, largely adequate.

What they do not do is follow a single protected-forest unit through the whole enforcement chain – from a report by a villager, to a forest ranger, to the police or civil-service investigator, to the public prosecutor, and finally to the district court – and measure where cases disappear. The unresolved question is therefore not whether the law is adequate but why an adequate law produces so few completed prosecutions. This article addresses that gap. Its contribution is socio-legal and empirical: it reconstructs the enforcement chain of one protected forest using the case registers of four institutions – the South Sulawesi Provincial Forestry Service, KPH Kalaena, the Luwu Timur Public Prosecution Office and the Luwu Timur District Court – and reads the resulting attrition against the components of legal enforcement identified in Indonesian legal theory.

Two research questions follow. First, what factors obstruct the enforcement of environmental law against ecosystem degradation in the Kasintuwu Protected Forest? Second, how is environmental law actually enforced against such degradation, and how

⁷ Sri Rahayu Muh. Saleh, Abrar Saleng, and Kahar Lahae, “Pemanfaatan Lahan Kawasan Hutan Lindung oleh Masyarakat Hukum Adat, Masyarakat Lokal, dan Masyarakat dari Luar Kawasan” (master’s thesis, Faculty of Law, Universitas Hasanuddin, 2022), 128.

⁸ Balai Penegakan Hukum Lingkungan Hidup dan Kehutanan Wilayah Sulawesi, “Kasus Kayu Ilegal di Kabupaten Luwu Timur,” 27 April 2020, accessed 13 January 2023, <http://sulawesi.gakkum.menlhk.go.id/index.php/2020/04/27/>.

⁹ A. Miftahuddin A. Hasyim, “Tinjauan Yuridis terhadap Tindak Pidana Illegal Logging di Kawasan Hutan Produksi Terbatas Kabupaten Luwu Timur” (thesis, Faculty of Sharia and Law, Universitas Islam Negeri Alauddin Makassar), 12, 20.

¹⁰ Gunggung Senoaji, “Kondisi Sosial Ekonomi Masyarakat Sekitar Hutan Lindung Bukit Daun di Bengkulu,” *Sosiohumaniora* 13, no. 1 (2009): 13.

¹¹ Takdir Rahmadi, *Hukum Lingkungan di Indonesia* (Jakarta: Rajawali Pers, 2015), 3–5.

¹² Saleh, Saleng, and Lahae, “Pemanfaatan Lahan Kawasan Hutan Lindung,” 128.

¹³ Hasyim, “Tinjauan Yuridis terhadap Tindak Pidana Illegal Logging,” 12.

effective is that enforcement in practice? The objective is to identify the point in the enforcement chain at which forestry cases fail and to explain that failure in terms of legal substance, legal structure and legal culture. The significance of the study lies in its diagnostic value: if the deficit is normative, the remedy is legislative; if it is structural, legislative reform will change nothing, and resources, oversight and institutional design must be addressed instead.

2. Method

This is empirical legal research, which treats law as a social fact and examines its operation in practice alongside its formulation in statute.¹⁴ The approach is appropriate because the research questions concern the working of enforcement institutions rather than the interpretation of a contested norm.

The research site is Kasintuwu Village, Mangkutana District, Luwu Timur Regency, South Sulawesi. The village was selected purposively: it lies on the western edge of the regency, its protected forest adjoins the Faruhumpenai conservation area and the Central Sulawesi provincial boundary, and it was the location of the January 2020 interception that produced the regency's best-documented illegal-logging prosecution.

Primary data were obtained through field research at five institutions selected for their position in the enforcement chain: the South Sulawesi Provincial Forestry Service, KPH Kalaena, the Kasintuwu village administration, the Luwu Timur Public Prosecution Office and the Luwu Timur District Court. Data collection took two forms. Semi-structured interviews were conducted with officials directly responsible for the matters under study, namely the Head of the Forest Planning and Utilisation Section of KPH Kalaena on 28 March 2023, a forest ranger of KPH Kalaena on 27 March 2023, the Head of the Special Crimes Section of the Luwu Timur Public Prosecution Office on 31 March 2023, and the Head of the Provincial Forestry Service Technical Implementation Unit on 8 May 2023. In addition, the case registers held by each institution were examined and tabulated, which permits the volume of community reports to be compared directly with the volume of case files and court registrations for the same period.

Secondary data were collected through library research covering primary legal materials (the 1945 Constitution, Law No. 41 of 1999, Law No. 32 of 2009, Law No. 23 of 2014, Law No. 18 of 2013 and their implementing regulations), secondary legal materials (monographs, journal articles and theses) and tertiary materials. Analysis is qualitative and descriptive. Statutory provisions are read against the institutional data, and the findings are organised using the components of law enforcement long recognised in Indonesian legal scholarship — legal substance, enforcement apparatus, facilities and infrastructure, community and legal culture — so that each obstacle can be attributed to an identifiable component rather than to enforcement failure in general.¹⁵

Two limitations should be stated. The case registers supplied by the prosecution office and the district court record institutional activity, not incidents; a report and a case file in the same year do not necessarily concern the same event, so the comparison indicates the

¹⁴ Irwansyah and Ahsan Yunus, *Penelitian Hukum: Pilihan Metode dan Praktik Penulisan Artikel*, rev. ed. (Yogyakarta: Mirra Buana Media), 298.

¹⁵ Soerjono Soekanto, *Faktor-Faktor yang Mempengaruhi Penegakan Hukum* (Jakarta: UI Press, 1983), 35.

throughput of the system rather than the fate of individual reports. Second, allegations of informal levies rest on interview evidence from a single institutional source and are treated in this article as reported perception requiring independent verification, not as established fact.

3. Obstacles to the Enforcement of Environmental Law in the Kasintuwu Protected Forest

3.1. The Research Setting: Luwu Timur and KPH Kalaena

Luwu Timur Regency was established as a division of Luwu Utara by Law No. 7 of 2003.¹⁶ It comprises eleven districts — Malili, Angkona, Tomoni, Tomoni Timur, Kalaena, Towuti, Nuha, Wasuponda, Wotu, Burau and Mangkutana — with Malili as its seat, and covers 6,944.88 square kilometres, or about 11.14 per cent of South Sulawesi.¹⁷ Its principal forest product is timber from natural forest, supplemented by community plantations of *gmelina* and *albizia*. Under the Forest Land Use by Consensus (*Tata Guna Hutan Kesepakatan*, TGHK) classification, forest in the regency is distributed as shown in Table 1.

Table 1. Forest Area in Luwu Timur Regency by Function (TGHK Classification)

No.	Forest Function	Area (hectares)
1	Protected forest	235,998.34
2	Nature reserve and recreational forest	183,624.08
3	Limited production forest	88,252.57
4	Ordinary production forest	7,940.13
5	Conservation forest	21,748.28
6	Forest for special purposes	744.30

Source: KPH Kalaena, Luwu Timur (interview, 28 March 2023).

Protected forest is thus the single largest category, accounting for more than two-fifths of the classified forest estate in the regency. It is also the category with the fewest personnel assigned to it, as the following sections show.

Government Regulation No. 6 of 2007 in conjunction with Government Regulation No. 3 of 2008 assigns to Forest Management Units the operational tasks of forest management at site level — forest arrangement and management planning, forest utilisation and the monitoring and control of licence holders, rehabilitation and nature conservation, and forest protection — while the provincial forestry service retains administrative stewardship.¹⁸ KPH Kalaena was established at Malili on 31 December 2011 by the Regent of Luwu Timur. Its working area spans nine districts across both Luwu Utara and Luwu

¹⁶ Undang-Undang Nomor 7 Tahun 2003 tentang Pembentukan Kabupaten Luwu Timur di Provinsi Sulawesi Selatan.

¹⁷ Pemerintah Kabupaten Luwu Timur, “Geografis,” accessed 15 February 2016, www.luwutimurkab.go.id.

¹⁸ Peraturan Pemerintah Nomor 6 Tahun 2007 jo. Peraturan Pemerintah Nomor 3 Tahun 2008 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan, serta Pemanfaatan Hutan; see also Peraturan Menteri Kehutanan Nomor P.6/Menhut-II/2010.

Timur and totals 163,283.30 hectares. Its establishment instrument staffs it with nineteen personnel in total: a head of unit, a head of administration, section heads, functional forest rangers, functional forestry extension officers, a functional archivist, general staff and non-civil-service personnel.¹⁹ The distribution of its working area is set out in Table 2.

Table 2. Working Area of KPH Kalaena by Administrative District

No.	District	KPHL area (ha)	Share of KPHL area (%)
1	Burau	12,814.52	7.85
2	Mangkutana	69,056.77	42.29
3	Tomoni	16,164.67	9.90
4	Wotu	4,033.73	2.47
5	Bone Bone	12,523.96	7.67
6	Mappadeceng	5,243.04	3.21
7	Masamba	17,310.04	10.60
8	Rampi	17,255.58	10.57
9	Sukamaju	8,880.45	5.44
Total		163,283.30	100.00

Source: Processed from data of BPKH Region VII Makassar and BPS, 2017.

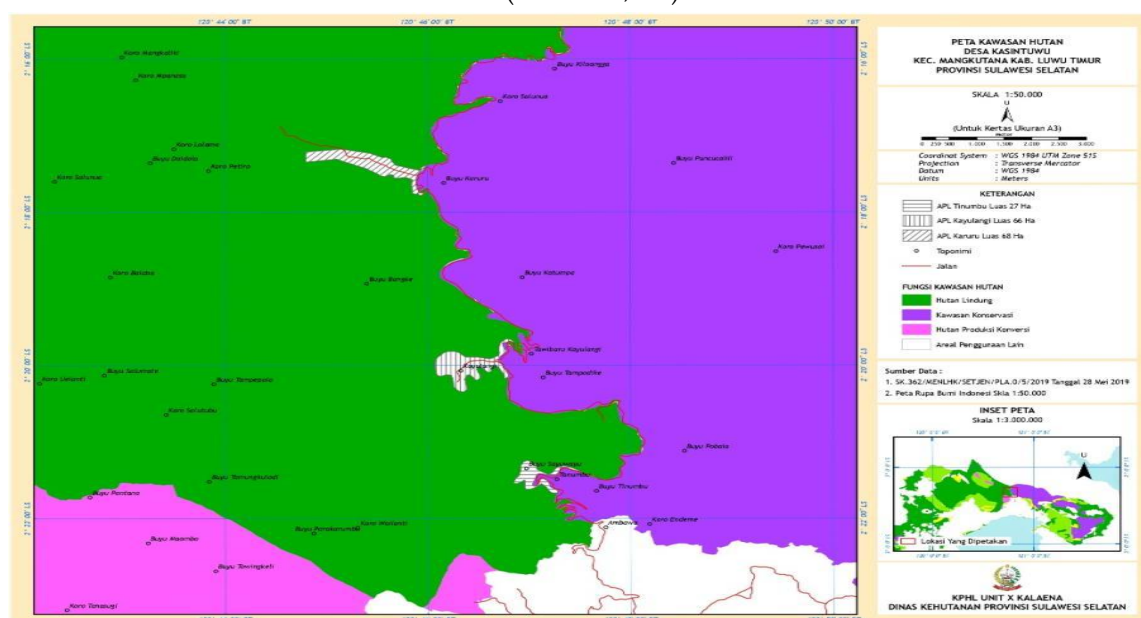
3.2. The Kasintuwu Protected Forest

The Kasintuwu Protected Forest lies at the western extremity of Luwu Timur. It is bounded to the west by Rampi District and to the south by Bone Bone District, both in Luwu Utara Regency; to the east by protected forest in Central Sulawesi Province; and to the north by the Faruhumpenai conservation forest in Luwu Timur. As of the end of 2010 the regency recorded 235,998.34 hectares of protected forest, 117,940.98 hectares of production forest and 183,624.08 hectares of conservation area, with round logs the dominant timber product at 44,297.84 cubic metres.²⁰ The forest is a mosaic of primary stands and secondary growth that has replaced areas already cleared for settlement or degraded by unlicensed felling.

¹⁹ Jumhari, Head of the Technical Implementation Unit, South Sulawesi Provincial Forestry Service, interview, Provincial Forestry Service Office, 8 May 2023.

²⁰ Pemerintah Kabupaten Luwu Timur, "Kehutanan," accessed 15 February 2016, www.luwutimurkab.go.id.

Figure 1. Forest area map of Kasintuwu Village, Mangkutana District, Luwu Timur Regency, South Sulawesi (scale 1:50,000).



Source: KPHL Unit X Kalaena, South Sulawesi Provincial Forestry Service, based on Decree No. SK.362/MENLHK/SETJEN/PLA.0/5/2019 of 28 May 2019 and the Indonesian Topographic Map 1:50,000.

Ecologically the area comprises lowland and hill dipterocarp forest, open freshwater swamp forest and riparian forest. Commercially valuable and increasingly scarce species recorded there include *Calophyllum* spp. (bintangur), ebony, *Elmerrillia tsiampacca* (cempaka) and *Dipterocarpus* spp. (keruing), alongside *Shorea* sp., *Swietenia macrophylla*, *Alstonia scholaris* and *Tectona grandis*. Protected or restricted fauna include the anoa (*Bubalus* sp.), long-tailed macaque (*Macaca fascicularis*), wild boar (*Sus scrofa*), monitor lizard (*Varanus* sp.) and jungle fowl (*Gallus* sp.). These characteristics are legally material and not merely descriptive: the presence of protected species and of hydrological functions serving downstream settlements is what brings the area within the protective function defined in Article 1(8) of the Forestry Law, and it is the loss of precisely these attributes that constitutes the ecosystem degradation at issue in this study.

3.3. Socio-Economic Drivers

The first cluster of obstacles is socio-economic and lies within what legal theory classifies as the community component of enforcement. Three factors emerge consistently from the interview data.²¹

The first is economic. Household income in the settlements bordering the forest is low, employment opportunities are narrow, and poverty is widespread. Under these conditions residents are recruited as felling labour by timber financiers, who advance modest sums for trees cut without any licence from the competent authority. The villager who fells the tree bears the criminal risk; the financier who commissions and sells the timber does not.

²¹ Kaiser, Head of the Forest Planning and Utilisation Section, KPH Kalaena, interview, KPH Kalaena Office, 28 March 2023.

The second is educational. Levels of formal schooling and of awareness of forest law are low. Residents who lack certificates and qualifications have few alternative livelihoods, which makes them both economically available for recruitment and legally unaware of the consequences of participating.

The third is the weakness of supervision, which in turn encourages a broader pattern of land conversion. Felling is undertaken not only for timber but to open land for estate crops, agriculture and settlement, and the absence of a visible enforcement presence makes such conversion effectively costless. Each of these factors is reported by the enforcement institutions themselves, which is significant: the agencies responsible for enforcement identify the demand side of the offence, yet the cases that reach court, as Section 4 shows, concern almost exclusively the supply of labour rather than the demand for timber.

3.4. Obstacles in Legal Substance: Boundaries and Overlapping Licences

The second cluster concerns legal substance, and specifically the difficulty of proving a forestry offence. Two problems recur.

The first is the imprecision of forest-area designation. The procedures historically used to establish forest areas — the TGHK classification, the subsequent harmonisation exercise (*paduserasi*) and designation by ministerial instrument (*penunjukan*) — frequently produced boundaries that were unmarked on the ground, inaccurate, or absent altogether. The consequence in a criminal proceeding is direct: where the boundary cannot be established with certainty, it cannot be proved beyond reasonable doubt that the *locus delicti* lay inside a protected forest, and the prosecution's case fails at its most elementary point. The problem is doctrinal as well as practical. Bambang Pamulardi observes that Indonesian forestry law recognises no horizontal separation between the land and what stands upon it, and that a forest exists in two registers at once — *de facto*, as an actual physical condition, and *de jure*, by government designation — with the statutory scheme allowing land bearing no trees to be designated as permanent forest.²² Where the *de jure* designation is not securely mapped onto the *de facto* landscape, the criminal norm has nothing determinate to attach to. The Constitutional Court addressed this precise defect in Decision No. 45/PUU-IX/2011, holding that a forest area acquires legal status only through full gazettment (*penetapan*) rather than mere designation (*penunjukan*); more than a decade later, the field data from Kasintuwu indicate that the practical consequences of unfinished gazettment have not been resolved.²³

The second is overlapping licensing. Because authority over forest areas is divided between central, provincial and regency levels — and was redistributed again by Law No. 23 of 2014 — permits issued at one level may conflict with the classification maintained at another, leaving it unclear which decision is to be followed. Weak inter-agency coordination and an inadequate spatial database aggravate the problem, so that the harmonisation exercise has in places erased the designated function of areas that had earlier been designated or gazetted in part. The legal effect is that activity which was lawful when begun may become unlawful, or appear so, without any change in the

²² Bambang Pamulardi, *Hukum Kehutanan dan Pembangunan Bidang Kehutanan* (Jakarta: Raja Grafindo Persada), 234–235.

²³ Putusan Mahkamah Konstitusi Nomor 45/PUU-IX/2011.

conduct of the person concerned. For an enforcement officer this converts a straightforward prohibition into a contested administrative question, and contested administrative questions are rarely pursued to trial.

3.5. Obstacles in Legal Structure: The Capacity of KPH Kalaena

The third cluster concerns the enforcement apparatus and its facilities, and it is here that the data are most stark. KPH Kalaena employs three forest rangers. They are responsible for nine districts distributed across Luwu Utara and Luwu Timur, comprising 163,283.30 hectares within the unit's working area, against protected forest of 580,274.56 hectares in Luwu Utara and 163,283.30 hectares in Luwu Timur.²⁴ Within the unit's own working area alone, the ratio is one ranger to approximately 54,428 hectares – an area larger than most districts they are required to patrol.

The staffing figure should be read alongside the unit's total complement of nineteen. Fewer than one in six of the unit's personnel performs the enforcement function; the remainder are engaged in planning, extension, administration and archiving. The deficiency is not merely one of numbers but of the facilities that would allow a small force to be effective. Guard posts are situated far from the forest areas they are meant to cover, and transport is inadequate for terrain that in the interior cannot be entered by motor vehicle at all.

The operational consequences are examined in Section 4.2, but the structural point can be stated here. An enforcement ratio of one officer to more than fifty thousand hectares does not merely reduce the probability of detection; it makes routine deterrence impossible in principle. Where the risk of interception is negligible, the criminal sanction, however severe on paper, exerts almost no influence on the decision to fell. This is the clearest instance in the data of a defect that legislative amendment cannot repair.

3.6. Allegations of Informal Levies

The Head of the Special Crimes Section of the Luwu Timur Public Prosecution Office reported that informal levies by individual officers are suspected of contributing to the attrition of illegal-logging cases, and that a number of incidents of unlicensed felling, timber theft and transport of timber without documents within the protected-forest area do not proceed to the investigation stage.²⁵ This is a serious allegation and it is recorded here as reported perception, not as established fact; it requires independent verification by the institutions concerned before it can support any finding of misconduct against a named officer.

Its analytical importance, however, does not depend on individual culpability. Whatever its cause, a pattern in which reports terminate before investigation locates the principal loss of cases at the pre-investigation stage – that is, at the point of least procedural visibility, where no register, no docket and no judicial supervision applies. That is precisely what the throughput data in the following section show.

²⁴ Mapeasse, Forest Ranger, KPH Kalaena, interview, KPH Kalaena Office, 27 March 2023.

²⁵ Sahwal, Head of the Special Crimes Section, Luwu Timur Public Prosecution Office, interview, Malili Public Prosecution Office, 31 March 2023.

3.7. The Enforcement Funnel: Reports, Case Files and Court Registrations

The central empirical finding of this study emerges from placing the three institutional registers side by side. Between 2017 and 2023 the community of Kasintuwu Village lodged ninety-four reports of forestry and environmental offences, principally unlicensed felling and timber theft.²⁶ Over the overlapping period the Luwu Timur Public Prosecution Office recorded ten case files (*Surat Pemberitahuan Dimulainya Penyidikan*, SPDP), all classified as felling of trees and all reaching *inkracht* status.²⁷ The Luwu Timur District Court registered nine forestry and environmental cases, all classified as timber felling.²⁸ Table 3 sets the three series against each other.

Table 3. Community Reports, Prosecution Case Files and District Court Registrations, Kasintuwu and Luwu Timur, 2017–2023

Year	Community reports	Prosecution case files (SPDP)	Cases registered at the District Court
2017	12	0	1
2018	10	0	0
2019	18	0	0
2020	21	7	6
2021	16	1	2
2022	10	2	0
2023	7	0	0
Total	94	10	9

Source: Processed from the registers of KPH Kalaena, the Luwu Timur Public Prosecution Office and the Luwu Timur District Court. Reports and case files recorded in the same year do not necessarily concern the same incident.

Two findings follow, and they are analytically distinct.

The first concerns volume. Across the full period, nine court registrations correspond to ninety-four community reports — a completion rate of approximately one in ten. Since every case file that reached the prosecution service was ultimately decided and acquired binding force, the loss occurs upstream of the prosecutor, not in court. The enforcement chain does not fail at trial; it fails before a file is ever opened. This corroborates, from the institutional side, the account given in Section 3.6.

The second concerns distribution over time, and it has not previously been observed. Enforcement activity is not spread across the period but concentrated overwhelmingly in a single year: of ten case files, seven date from 2020, and of nine court registrations, six were entered in 2020. In 2018, 2019 and 2023 not a single case file was opened, although residents lodged ten, eighteen and seven reports respectively in those years. Enforcement in Luwu Timur is therefore episodic rather than continuous — it takes the form of a campaign, plausibly connected to the January 2020 interception operation and its aftermath, rather than of a standing capability. This is consistent with a force of three

²⁶ Register of forestry and environmental reports from the community of Kasintuwu Village, 2017–2023, KPH Kalaena.

²⁷ Register of forestry and environmental cases, Luwu Timur Public Prosecution Office, 2017–2022.

²⁸ Register of forestry and environmental cases, Luwu Timur District Court, 2017–2021.

rangers: an intensive operation is possible, but only by suspending routine coverage, and it cannot be sustained.

The implication for legal policy is significant. A campaign produces a visible spike in prosecutions without altering the underlying probability of detection in any given year, and offenders can rationally treat the intervening years as unpoliced. Deterrence requires consistency rather than intensity, and consistency is a function of establishment strength, not of statutory severity.

4. The Practice of Enforcement and Its Effectiveness

4.1. The Applicable Legal Framework

The protection of forests is not a discretionary activity but a statutory component of forest management: Article 2 of Government Regulation No. 45 of 2004 on Forest Protection expressly provides that forest protection forms part of forest management, to be carried out within the framework of forest management units.²⁹ The substantive prohibitions are contained in Article 50 of the Forestry Law, the criminal provisions in Article 78, and additional penalties in the form of compensation and administrative sanctions in Article 80.³⁰ From these provisions the elements founding criminal liability may be extracted: a natural or legal person; who commits a prohibited act, whether intentionally or negligently; causing forest damage – by damaging protection infrastructure, by acting outside the terms of a licence, by breaching statutory riverbank, ravine or coastal limits, by felling without a licence, by receiving, purchasing, selling, exchanging, accepting for safekeeping, storing or possessing forest products known or reasonably suspected to be of illegal origin, by transporting, controlling or possessing forest products without a certificate of legality, or by bringing in heavy equipment without a licence.³¹

The term *illegal logging* does not appear as such in the Forestry Law. Presidential Instruction No. 5 of 2001 on the Eradication of Illegal Logging and the Circulation of Illegal Forest Products refers to unlawful felling, and the forestry lexicon defines the two components separately: *illegal* denoting an act performed by a legal subject outside the applicable rules and contrary to forestry legislation, and *logging* denoting the felling of trees for the extraction of forest products.³² Forest Watch Indonesia distinguishes two forms: violations of licence conditions by an otherwise lawful operator, and outright timber theft by persons holding no felling right at all.³³ Sukardi's formulation – felling timber and conveying it to a sawmill in a manner contrary to law – captures both.³⁴ It should be noted that the offences at issue are also addressed by Law No. 18 of 2013 on the Prevention and Eradication of Forest Destruction, which was enacted precisely to

²⁹ Peraturan Pemerintah Nomor 45 Tahun 2004 tentang Perlindungan Hutan, art. 2; Supriadi, *Hukum Kehutanan dan Hukum Perkebunan di Indonesia* (Jakarta: Sinar Grafika, 2011), 385.

³⁰ Undang-Undang Nomor 41 Tahun 1999, arts. 50, 78 and 80.

³¹ Moeljatno, *Asas-Asas Hukum Pidana* (Jakarta: Rineka Cipta, 2009), 23.

³² Instruksi Presiden Nomor 5 Tahun 2001 tentang Pemberantasan Penebangan Kayu Illegal dan Peredaran Hasil Hutan Illegal di Kawasan Ekosistem Leuser dan Taman Nasional Tanjung Puting; Alam Setia Zein, *Kamus Kehutanan* (Jakarta: Rineka Cipta, 2003).

³³ Suriansyah Murhaini, *Hukum Kehutanan* (Yogyakarta: Laksbang Grafika, 2011), 29–30.

³⁴ Supriadi, *Hukum Kehutanan dan Hukum Perkebunan di Indonesia* (Jakarta: Sinar Grafika, 2010), 298.

reach organised felling and the financiers behind it; the absence of any recorded charge under that statute in the Luwu Timur registers is itself a finding, and is discussed below.

4.2. Operational Practice: Patrol and First Response

Within these constraints, the forest security unit of KPH Kalaena maintains routine patrols along the Kasintuwu protected forest in two distinct modes.

Perimeter patrols cover the outer edge of the forest area, inspecting the boundary fence where it adjoins the public road, watercourses and settlements. The barrier is barbed wire of approximately adult height and is readily cut to create access, so patrols verify its integrity and confirm that no one has entered without authorisation. These patrols are conducted by trail motorcycle, can be completed quickly, and provide the unit's only rapid-response capability when a report is received.

Interior patrols cover the forest itself and are undertaken by teams of three to four officers, drawn from the forest management body and from personnel seconded to it, entering through several access points. Because the terrain admits no motor vehicle, these patrols are conducted on foot and take three to four days, with officers overnighing at the nearest guard post or camping within the forest. Weather can delay or terminate a patrol entirely. Their operational purposes are to detect signs of forest destruction or unlicensed hunting, and to verify the condition of supporting infrastructure – boundary fencing, guard posts and, importantly, boundary markers, which are frequently obscured by vegetation. The last point connects directly to the evidentiary problem identified in Section 3.4: persons intercepted inside the area routinely plead that they did not know they were within a protected forest, and an unmarked or overgrown boundary marker makes that plea difficult to rebut.

Where an offence is detected, the unit follows a settled sequence: it receives the report, whether from residents or from officers on patrol; proceeds immediately to the location, both to verify the report and to intercept those leaving with felled timber or resin; apprehends the suspects; collects the physical evidence; takes statements from suspects and witnesses and tests them against that evidence; prepares a report which is transmitted to the police investigator with jurisdiction and retained by the forest management body as an archival record; and finally appears as a witness at trial, in which capacity the unit is often the principal source of evidence about conditions at the scene.³⁵

This sequence is procedurally sound. Its weakness is not one of design but of reach: with three rangers, the perimeter can be patrolled and reports can be answered, but the interior of 163,283.30 hectares cannot be covered, and detection therefore depends overwhelmingly on reports from residents – the same residents whose economic position, as Section 3.3 shows, makes them the labour supply for the offence.

4.3. The Effectiveness of Enforcement

Law enforcement is the effort to translate the ideas of justice, legal certainty and social utility into reality, and it is a process in which many elements participate.³⁶ Measured

³⁵ Mapeasse, interview, 27 March 2023.

³⁶ Shanty Dellyana, *Konsep Penegakan Hukum* (Yogyakarta: Liberty, 1988), 3.

against that standard, enforcement in the Kasintuwu Protected Forest is deficient in three respects, each of which the data above make specific.

First, enforcement does not reach the level of the offence at which the conduct is organised. Illegal logging in the area is not an isolated act but an organised enterprise with an intellectual actor and a material actor. The material actor may be a wage labourer; behind him stand the financier, the buyer and the seller, and in some accounts individual officials and community figures, working in coordinated fashion. The consequence is that prosecutions, where they occur, reach the labourer rather than the financier. Every one of the ten case files recorded at the prosecution office is classified as felling of trees, and every one of the nine district court registrations is classified as timber felling; the registers contain no case classified as receiving, financing or trading in illegal timber, and none brought under Law No. 18 of 2013. Enforcement is thus directed at the least culpable and most easily replaced participant, which explains why successful prosecutions have not reduced the volume of reports.

Second, enforcement is discontinuous. The concentration of seven of ten case files and six of nine court registrations in 2020 shows that the system is capable of operating effectively when mobilised, and that it is not mobilised in most years. A sanction that is applied in one year out of seven does not function as a sanction; it functions as an occasional cost of doing business.

Third, the loss of cases occurs at the stage of least visibility. Ninety-four reports produced ten case files, and all ten case files produced binding decisions. Where every case that enters the formal process is completed, the constraint plainly lies at the entry point, not in the capacity of the prosecution service or the court. Attention directed at judicial performance is therefore misdirected; the decisive stage is the screening that occurs between a resident's report and the opening of an investigation, and that stage is presently unrecorded and unsupervised.

It follows that the substance of the law is not the binding constraint. Law No. 41 of 1999, Law No. 32 of 2009 on Environmental Protection and Management, and Law No. 18 of 2013 supply prohibitions, sanctions and institutional mandates sufficient to address the conduct observed in Kasintuwu. What is absent is the enforcement apparatus, the facilities and the procedural visibility required to apply them. Four measures follow from the findings, in descending order of what the data support. Boundary re-demarcation and completion of gazettment would remove the evidentiary defect identified in Section 3.4 at its source. A minimum ranger-to-area ratio, together with guard posts located within rather than remote from the areas they cover and transport suited to the terrain, would convert episodic enforcement into routine deterrence. A recorded and independently reviewable register of the disposition of every community report would make the pre-investigation stage visible and would allow the allegations discussed in Section 3.6 to be tested rather than merely suspected. Finally, conservation extension and reforestation programmes that attach an economic return to standing forest would address the labour supply on which the offence depends, and are the only measure among the four capable of reducing the incidence of the offence rather than its impunity.

5. Conclusion

This study set out to identify the factors obstructing the enforcement of environmental law against ecosystem degradation in the Kasintuwu Protected Forest, and to assess how that law is enforced in practice.

On the first question, the obstacles are not normative. In terms of legal substance the regulatory framework governing protected forest is adequate; the defects lie in its implementation. Three obstacles are identifiable and each is attributable to a distinct component of enforcement. Within legal substance, the imprecision of forest-boundary designation and the overlap of licences issued across administrative levels make it difficult to prove that an offence occurred within a protected forest at all. Within the enforcement apparatus, KPH Kalaena maintains three forest rangers for a working area of 163,283.30 hectares – approximately 54,428 hectares per officer – with guard posts remote from the areas they cover and transport inadequate to the terrain. Within legal culture, the low economic and educational position of communities bordering the forest supplies the labour on which organised felling depends, while informal levies are reported to terminate cases before investigation begins.

On the second question, enforcement is real but ineffective, and the registers show precisely why. Ninety-four community reports between 2017 and 2023 produced ten prosecution case files and nine court registrations, a completion rate of roughly one in ten; yet every case file that entered the formal process was decided and acquired binding force. The constraint therefore lies before the opening of an investigation, not in the courts. Enforcement is also episodic: seven of the ten case files and six of the nine court registrations fall in 2020 alone, with no case files at all in 2018, 2019 or 2023. And it is misdirected by level of culpability: every recorded case concerns felling, none concerns financing, receiving or trading illegal timber, and none was brought under Law No. 18 of 2013 on the Prevention and Eradication of Forest Destruction, notwithstanding that the offence is organised and the intellectual actors are identified in the field data.

The general finding is that the enforcement deficit in Luwu Timur is structural rather than legislative. Amending the Forestry Law would not alter any of the three obstacles identified. What the findings support instead are four measures: completing the gazettment and physical demarcation of protected-forest boundaries so that the evidentiary defect is removed at source; establishing a minimum ranger-to-area ratio with posts and transport appropriate to the terrain, so that deterrence becomes continuous rather than episodic; instituting a recorded and independently reviewable register of the disposition of every community report, so that the pre-investigation stage ceases to be invisible; and developing conservation extension and reforestation programmes that attach an economic return to standing forest, which alone addresses the labour supply on which illegal logging depends. Without these measures, the ecological consequences of continued deforestation in Luwu Timur will fall on the biodiversity and the livelihoods that the protective function of the forest exists to secure.

Two directions for further research follow from the limitations of this study. The reported allegation of informal levies requires independent institutional verification before it can support any finding of misconduct. And the comparison of registers measures the throughput of the system rather than the fate of individual reports; a study tracking a

defined cohort of reports through each stage would establish with precision where, and on what grounds, particular cases are discontinued.

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