

A Green Policing-Based Curriculum Development Model for the College of Police Science (STIK) to Strengthen the Ecological Competence of Modern Police Officers

I Gede Agung Sukamara, Agus Sudaryatno

^{1,2} Sekolah Tinggi Ilmu Kepolisian, Jakarta, Indonesia

Email: agungsukamara@gmail.com; Skt2.agus98@gmail.com

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The modern security landscape has become increasingly complex due to environmental degradation and natural resource conflicts, necessitating the adoption of a "Green Policing" paradigm by police institutions. However, the current curriculum at the College of Police Science (STIK) remains dominated by legal aspects and traditional operational tactics, creating a gap in the ecological, social, and cultural competencies of aspiring officers. This study aims to analyze the need for a STIK curriculum transformation to integrate Green Policing principles and strengthen the ecological competencies of modern officers. Employing a qualitative approach with a descriptive-analytical method, data were collected through in-depth interviews, focus group discussions (FGDs), and document analysis, then processed using the interactive model developed by Miles, Huberman, and Saldaña. The findings indicate that the curriculum transformation is achieved through the implementation of innovative field-based experiential learning models: RAGA (physical resilience and ecological empathy), JALUR (socio-cultural mapping and conflict mediation), and RADAR (technology-based predictive analysis). These models are strategically reinforced by the integration of Geographic Information Systems (GIS), transforming environmental policing into a scientific, transparent, and spatial intelligence-driven practice facilitated by penta-helix partnerships. In conclusion, this curriculum reform represents a critical, urgent step toward producing a generation of National Police officers who are not only legally competent but also humanistic, visionary, and responsive to environmental sustainability for the future of society.

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INTRODUCTION

Global and national security dynamics in the modern era are witnessing a shift in the nature of threats, which are becoming increasingly complex and multidimensional. Potential disruptions to public order are no longer dominated solely by conventional crime; instead, they are deeply rooted in environmental degradation, ecosystem damage, and conflicts—both vertical and horizontal—sparked by struggles over natural resource governance (Lengkong et al., 2025). Critical phenomena—ranging from forest fires and industrial pollution to massive land degradation and escalating disputes over indigenous territories—demonstrate that ecological issues are inextricably linked to public security stability and social welfare (Ulum & Ngindana, 2017). When environmental crises compromise citizens' livelihoods, the state's public legitimacy is put at stake; this, in turn, compels law enforcement institutions to reformulate traditional policing doctrines to prioritize ecosystem sustainability (Kalau, 2026).

In response to this paradigm shift, modern policing concepts require the internalization of environmental protection and conservation approaches as integral components of operational police duties in the field (Sonta, 2017). Empirical evidence shows that environmental damage acts as an active factor triggering natural resource-based transnational crime and communal social instability, while drastically diminishing the public's quality of life. From an ontological perspective, the environment is not merely a passive object or a backdrop for human activity, but a pillar of modern security architecture that deterministically shapes social structures and regional stability (Marwiyah, 2014). Consequently, police forces cannot absolve themselves of ecological responsibility if they are to mitigate security risks arising from the imbalanced relationship between humanity and the natural world (Lowther, 2009). In response to these contemporary challenges, the "Green Policing" paradigm has emerged as a preventive, humanistic, and adaptive policing model that

positions ecosystem sustainability as the foundation of social harmony (Massé, 2022). In practice, Green Policing expands the police mandate by prioritizing prevention, environmental education, the use of technological tools, and the active engagement of civil society. Success in law enforcement from this perspective is no longer measured narrowly by post-incident repressive actions, but rather by the police's strategic contribution to maintaining ecosystem quality and preventing irreversible ecological harm. This participatory approach simultaneously strengthens the institution's "moral presence," which is crucial for enhancing public trust (Rinaldi et al., 2026).

Accelerating the adoption of Green Policing requires highly capable human resources within the Indonesian National Police (Polri), particularly among junior and mid-ranking officers who serve as field decision-makers. Future police officers must simultaneously strengthen three key competency domains: ecological, social, and cultural competencies (Romualdo & Robles, 2023). Ecological competence equips officers with the analytical skills to interpret indicators of environmental vulnerability and map risks associated with environment-related security disturbances. Meanwhile, social and cultural competencies are essential for officers to navigate community dynamics and mitigate potential conflicts through community-based approaches (Nurse, 2013).

The College of Police Science (STIK)—a specialized higher education institution under the Indonesian National Police Education and Training Institute (Lemdiklat Polri)—plays a strategic role in producing visionary and adaptive officers. However, the current police education curriculum at STIK is identified as remaining entrenched in traditional managerial approaches (Mayastinasari et al., 2024). The focus of instruction to date remains overwhelmingly dominated by the mastery of normative law, repressive operational tactics, and conventional security management. This dominance leaves little room for addressing macro- and micro-environmental issues, thereby creating a tangible competency gap when graduates confront the

realities of agrarian conflicts or ecological crimes in their assigned areas (Ndoluanak et al., 2023).

The academic gap at STIK is exacerbated by the limited implementation of real-world experiential learning models (Boeriswati, 2023). Instructional tools such as crisis management simulations, land dispute resolution exercises, and analyses of local ecosystem damage cases are rarely formally incorporated into the coursework (Kurniasih & Badry, 2022). Consequently, students' understanding of socio-ecological dimensions tends to be purely theoretical and cognitive, lacking the practical and affective skills required to devise contextual problem-solving strategies. Educational reform—specifically through the development of a curriculum transformation model that integrates structural-organizational approaches with cultural-societal ones—has become an urgent necessity that can no longer be postponed (Gani, 2023).

Several prior studies have examined the intersection of policing and environmental issues. Gibbs et al. (2010) introduced the concept of "conservation criminology" to facilitate an interdisciplinary understanding of environmental crime. Subsequently, Marang'a et al. (2025) emphasized the importance of incorporating ecological risk assessments into modern policing operations. At the regional level, Runtunuwu (2025) highlighted the effectiveness of environmental law enforcement in Southeast Asia as a means to expand access to justice. However, a review of existing literature reveals a research gap regarding the specific formulation of a curriculum transformation model for police higher education institutions based on "Green Policing" values aimed at shaping modern police officers in Indonesia. The novelty of this research lies in the formulation of an STIK curriculum that integrates "security ecology" courses with innovative field operational models.

Against this backdrop, this study aims to formulate a Green Policing-based curriculum transformation model for STIK that is applicable, comprehensive, and adaptive. This study focuses on analyzing curriculum requirements, integrating the pillars of community policing into

the instructional framework, and designing operational field implementation strategies that leverage Geographic Information System (GIS) technology and cross-sector partnerships (the pentahelix model). The findings are expected to contribute theoretically to the advancement of sustainable police education and practically by offering strategic policy recommendations to the Indonesian National Police Education and Training Institute (Lemdiklat Polri) for developing future police leaders who possess strong character, a humanistic approach, and ecological responsiveness.

METHOD

This study employs a qualitative approach with a descriptive-analytical method to explore in depth the need for curriculum transformation at the College of Police Science (STIK) under the Indonesian National Police Education and Training Institute (Lemdiklat Polri) (Anggito & Setiawan, 2018). The research was conducted at STIK Jakarta, focusing on identifying gaps regarding ecological competencies within the current officer curriculum. Informants were selected using purposive sampling to ensure the data obtained was authoritative and credible. Participants included STIK leadership, police curriculum designers, lecturers specializing in public security management, and STIK students with operational experience in areas prone to agrarian conflicts or environmental crimes.

Data collection was conducted comprehensively using three primary techniques: in-depth interviews, focus group discussions (FGDs), and document analysis (Rukin, 2019). Semi-structured in-depth interviews were used to explore the strategic vision and axiological foundations of "Green Policing" from the perspective of institutional policymakers. FGDs were held with lecturers and students to conceptualize field operational models such as RAGA, JALUR, and RADAR. Meanwhile, a critical review was conducted on the current curriculum documents, semester lesson plans (RPS), and existing literature on conservation criminology—including the ecological risk

frameworks developed by Gibbs et al. (2010) and Marang'a et al. (2025).

The researcher served as the primary instrument (human instrument), supported by interview guidelines and document analysis sheets. Data validity was ensured through methodological and source triangulation by verifying the consistency between interview transcripts, arguments raised during FGDs, and the facts found in the curriculum documents. Data analysis was conducted interactively based on the Miles, Huberman, and Saldaña model, comprising three simultaneous stages: data condensation, data display (using a narrative-matrix format), and conclusion drawing. This entire analytical process was guided by an inductive approach aimed at formulating a state-of-the-art, practical, and sustainability-oriented Green Policing-based curriculum model for STIK.

RESULT AND DISCUSSION

Gap Analysis of the Current STIK Curriculum

The curriculum structure currently implemented at the College of Police Science (STIK) is deemed insufficiently adaptive to the escalating challenges of modern, environment-based security. An evaluation of the existing curriculum reveals a predominance of material focused on mastering normative law and conventional operational tactics. Formal instructional approaches continue to frame public order disturbances as purely criminal phenomena, failing to establish a causal link with ecosystem degradation. Consequently, the current curriculum creates a significant gap in student officers' understanding of conservation criminology dimensions. This lack of integration limits the analytical capacity of future National Police (Polri) leaders to interpret indicators of environmental vulnerability that could potentially trigger social conflict in their areas of assignment (Gibbs et al., 2010).

Ontologically, the environment remains positioned as a peripheral object—or merely an administrative backdrop—within the current STIK curriculum. Instruction on environmental law has thus far tended to be textual and procedural, centering on repressive measures

taken after legal violations occur. Such material fails to address the axiological aspects of "Green Policing," which prioritizes ecosystem protection as a core pillar of public security architecture. This conceptual shortcoming results in officers lacking ethical sensitivity regarding the irreversible impacts of environmental crimes, such as massive deforestation and industrial pollution. Therefore, a fundamental repositioning is required to recognize ecological values as a determining factor in maintaining public order and security (Ozmy & Ozmy, 2022).

An analysis of the semester lesson plan (RPS) documents further confirms an imbalance in the study load (credit units/SKS) between conventional security management and environmental risk management. Most core courses remain oriented toward crowd control, political conflict management, and handling conventional transnational crimes such as terrorism and narcotics trafficking. Conversely, academic space for dissecting the anatomy of transnational environmental crimes—such as wildlife smuggling or illegal carbon trading—remains severely limited. This imbalance in material allocation hinders the dissemination of cutting-edge knowledge regarding contemporary policing methods that are responsive to the global environmental crisis (Marang'a et al., 2025; Bkti et al., 2025).

A further substantial gap exists in the epistemological realm, where the problem-solving methods taught remain reactive and repressive. STIK students undergo intensive training to master law enforcement procedures, the collection of evidence for conventional crimes, and linear investigation management. However, they lack the methodological tools to conduct independent and comprehensive environmental risk assessments. This limited methodological proficiency leaves field officers ill-equipped to identify early indicators of agrarian conflict or to mitigate the impacts of food insecurity caused by land degradation within their jurisdictions.

Regarding competency development, the current STIK curriculum fosters a competency gap across three domains simultaneously: the ecological, social, and cultural. In the ecological domain, STIK graduates lack the knowledge base to understand the interplay between natural ecosystems and the social vulnerabilities of local communities. Officers tend to view land disputes or river pollution solely through the lens of formal legality, disregarding aspects of environmental justice. Bridging technical policing expertise with a holistic ecological understanding has become an urgent curricular priority for effective law enforcement in the modern era.

The gap in the social competency domain is evident in the lack of training regarding environment-focused crisis communication strategies and community conflict mediation. The current curriculum lacks adequate simulation schemes to train officers in negotiation amidst tensions between major corporations and indigenous communities regarding the use of their ancestral lands. Without robust social competence, police actions in the field are often perceived as biased and dismissive of the fundamental rights of affected citizens. This situation risks eroding public trust and undermining the legitimacy of the National Police (Polri) as a fair protector and guardian of all segments of society.

Meanwhile, a gap in the cultural competence domain is evident in the absence of material exploring indigenous knowledge regarding environmental management and dispute resolution. Indonesia's cultural diversity harbors effective social institutions for preserving nature—such as the **sasi** system in Maluku or **subak** in Bali—yet the current STIK curriculum does not view this indigenous knowledge as a strategic partner in designing community policing models. This is despite the fact that leveraging customary values has been proven to reduce the potential for horizontal conflict and strengthen the police's moral presence within customary law communities (Betu et al., 2021).

Beyond the gap in cognitive content, the limited implementation of experiential learning models represents a fundamental weakness in STIK's current pedagogical process. Students spend the majority of their study time in classrooms engaging in lectures, theoretical discussions, and conventional, text-based case analyses. Simulations of large-scale ecological crisis management, tactical training for forestry law enforcement, and field studies in areas affected by ecological disasters have not been structurally integrated. This conventional learning approach results in officers having an artificial understanding of environmental complexities—one detached from empirical realities on the ground.

These limitations are compounded by the minimal use of and lack of proficiency in modern technological tools to support environmental security analysis. The current STIK curriculum has yet to adopt spatial technology literacy—such as the use of Geographic Information Systems (GIS) or remote sensing—to map hotspots for forest fires and illegal logging. Officers are not trained to utilize satellite data or digital spatial analysis as a basis for tactical and strategic decision-making. This lack of technological proficiency leaves police field operations lagging behind in detecting environmental crimes that are increasingly organized and employ modern **modus operandi** (Beze et al., 2021). From an institutional perspective, the current curriculum fails to reflect an inclusive, multi-stakeholder partnership model for addressing ecological issues. Instruction on police partnership management remains limited to synergies between conventional law enforcement agencies or local governments within standard administrative frameworks. Modern collaborative approaches involving academics, the business sector, civil society, and the mass media have not yet been formally integrated into the learning modules. This curricular isolation leaves officers ill-equipped to mobilize the collective strength needed to tackle systemic environmental crimes.

Empirical evidence from the field indicates that STIK graduates frequently encounter situations

where formal law directly clashes with the socio-ecological realities of local communities (Runtunuwu, 2025). The curriculum's failure to equip officers with the analytical tools to navigate these regulatory conflicts creates professional dissonance for young officers; on one hand, they are required to enforce the law to ensure investment certainty, yet on the other, such actions risk oppressing vulnerable communities whose living environments have been polluted. This phenomenon underscores that the current STIK curriculum has yet to produce officers who strike a balance between legal firmness and humanitarian conscience.

Formulating the RAGA, JALUR, and RADAR Field Learning Models Based on Green Policing

Transforming the curriculum at the College of Police Science (STIK) cannot be achieved merely by restructuring cognitive material within the classroom; rather, it demands a methodological reform that addresses the tactical-operational realm in the field. To bridge the competency gaps identified earlier, this research formulates three pillars of an integrated, innovative field learning model: RAGA, JALUR, and RADAR. These three models are designed as holistic experiential learning instruments aimed at transforming theoretical Green Policing knowledge into practical skills embedded in the character of every modern officer. Through the internalization of these models, the learning process at STIK shifts from the rote memorization of normative law toward the forging of tactical responses that are sensitive to ecosystem balance and societal dynamics.

The first model is RAGA, an operational acronym designed to simultaneously strengthen officers' physical and mental resilience as well as their ecological sensitivity through direct interaction with nature. Field learning under this model moves away from conventional, militaristic physical training approaches—which are often detached from environmental contexts—and instead contextualizes activities through forest patrols, watershed (DAS) traversals, and navigation of coastal areas

suffering from extreme abrasion. Through the RAGA model, student officers are confronted directly with the physical reality of environmental degradation, thereby sparking deep ecological empathy and affective awareness regarding the impact of environmental crimes. Axiologically, this physical training instills the doctrine that maintaining one's own body aligns with the police's moral obligation to safeguard the "body of the earth" against all forms of illegal exploitation.

The second model, JALUR, focuses on strengthening officers' socio-cultural competencies in mapping, mitigating, and mediating agrarian conflicts and disputes over living spaces. The JALUR model emphasizes the importance of participatory observation, wherein student officers are deployed directly to areas where the interests of corporations, the government, and local communities intersect and create tension. During implementation, students are trained to listen to the aspirations of indigenous communities, identify local wisdom regarding natural resource management, and understand the social structures influencing conflict patterns in the region. Through this approach, officers no longer act as distant law enforcers but rather as peace facilitators capable of devising conflict resolutions grounded in environmental justice.

The third model is RADAR, a high-tech pillar designed to equip modern officers with the analytical skills needed to detect and anticipate environmental crimes. The RADAR model integrates the use of advanced digital tools—such as Geographic Information Systems (GIS), remote sensing satellite imagery, and real-time spatial monitoring applications—into police training scenarios. STIK students are trained to interpret temperature anomaly data to detect forest fire hotspots, analyze land-cover changes caused by illegal logging, and track the spread of toxic waste in waterways. Mastering the technological instruments within the RADAR model overcomes conventional operational limitations, transforming police work patterns from a reactive-repressive post-incident

approach to an accurate, preventive-predictive one.

Integrating these three field-learning models into STIK's new curriculum structure creates a continuous and mutually reinforcing cycle of competence. The RAGA model builds a foundation of empathy and physical-mental resilience; the JALUR model equips officers with communication and diplomatic skills as well as sociological insight; and the RADAR model provides them with modern technical and technological capabilities. When these three aspects converge, STIK graduates possess not only the firmness required to enforce environmental laws but also the spatial intelligence and cultural wisdom to comprehensively resolve issues in the field. This conceptualization offers a tangible response to the challenges of modern conservation criminology, which demands that law enforcement personnel think across disciplines (Gibbs et al., 2010).

The operational implementation of the RAGA model in the field is realized through strategic partnerships with the Forest Police (*Polhut*) and the Ministry of Environment and Forestry (KLHK). STIK students participate in joint patrol operations within national park areas to detect increasingly organized routes used for illegal logging and the poaching of endangered wildlife. During this process, students learn to identify the *modus operandi* of forestry crimes, secure crime scenes in deep wilderness, and gather evidence that is legally valid under environmental law. This hands-on experience is crucial for breaking down sectoral silos between agencies and fostering a culture of collaborative law enforcement early on among future regional police leaders.

In the implementation of the JALUR model, field learning scenarios focus on simulations and direct mediation of large-scale land disputes, such as the overlapping of plantation concession permits with customary land (*tanah ulayat*). STIK students act as neutral mediators, tasked with formulating Memoranda of Understanding (MoUs) that are fair to all disputing parties

without compromising environmental sustainability. They are taught to respect local customary institutions as traditional conflict-resolution mechanisms, which are often more effective than formal judicial channels (Runtunuwu, 2025; Ratnawulan et al., 2026). This substantially shifts the repressive paradigm historically associated with police handling of agrarian conflicts toward an approach that prioritizes human rights and sustainable peace.

Meanwhile, the operationalization of the RADAR model centers on a cyber laboratory and command center that simulate responses to global ecological crises. Students are challenged to resolve real-world case studies, such as tracking transnational illegal carbon trading networks or investigating the discharge of hazardous and toxic industrial waste into major river systems that sustain millions of residents. By leveraging big data analysis and spatial mapping algorithms, students are trained to design tactical-operational policy recommendations for territorial units, enabling interventions before ecosystem damage spreads. This technology-driven analytical capability serves as a competitive advantage for modern officers amidst an era of massive digital disruption.

The successful implementation of the RAGA, JALUR, and RADAR models relies heavily on a penta-helix partnership approach involving five key pillars: academia, corporations, local communities, the government, and mass media. STIK cannot operate in isolation; the institution must open itself to collaboration with general universities to enrich environmental science literacy and engage environmental NGOs to gain critical perspectives from civil society. These partnerships ensure that the field curriculum remains up-to-date, relevant to social dynamics, and backed by broad public support. This institutional openness also serves as a bridge for the National Police (Polri) to restore and reinforce its social legitimacy in the eyes of the general public.

From a modern pedagogical perspective, the implementation of these three field models applies the principle of "reflective practice,"

wherein students are required to compile a critical analysis report—or policy brief—after completing field activities. These reports contain theoretical reflections on empirical field findings, which are subsequently presented before a panel of lecturers and environmental experts. This process ensures that physical and technological field activities do not remain confined to mere technical aspects but are successfully elevated back into the conceptual and academic realms. Consequently, the critical and strategic thinking skills of student officers are continuously honed as they gain more field experience.

From a psychological and organizational standpoint, the introduction of the RAGA,

JALUR, and RADAR models into the STIK curriculum also contributes to the internal cultural transformation of the National Police. These models gradually erode the police force's tendency toward a militaristic and repressive culture, replacing it with an organizational culture that is humanistic, scientific, and committed to environmental sustainability. Officers emerging from this curriculum system will possess a renewed sense of pride—not derived from the number of suspects successfully imprisoned, but from their success in safeguarding the regional ecosystem and preserving the harmonious lives of the communities under their stewardship against the threat of ecological collapse.

Table 1 The Green Policing-Based Experiential Learning Models for STIK Curriculum

Model Name	Core Dimension	Operational Objective	Field Implementation Activities	Technological & Methodological Tools	Key Stakeholders Involved (Pentahelix)	Expected Competency Outcome
RAGA (Physical & Ecological Resilience)	Ontological (Body & Earth)	To build physical endurance, mental toughness, and deep ecological empathy through direct interaction with disrupted ecosystems.	Joint forest patrolling, river basin tracking, and marine coastal navigation in areas affected by severe abrasion or deforestation.	Field navigation gear, ecological impact checklists, and physical fitness metrics.	Ministry of Environment and Forestry (KLHK), Forest Rangers (Polhut), Local Environmental NGOs.	Ecological Competence: Deep understanding of ecological vulnerability and firsthand tactical response to environmental crimes.
JALUR (Social-Cultural Mapping & Mediation)	Aksiologis (Social & Cultural)	To equip officers with conflict mitigation, cultural respect, and community-based dispute	Immersive mapping of socio-ecological hot zones, conducting community mediation between corporations	Participatory Rural Appraisal (PRA), conflict mapping matrices, and local wisdom documentation logs.	Indigenous community leaders, Agrarian Reform movement (ATR/BPN), corporate representatives, and	Social & Cultural Competence: Advanced mediation skills, environmental justice advocacy, and the

		resolution skills in land disputes.	and indigenous people, and documenting local wisdom.		human rights advocates.	ability to leverage local wisdom for peaceful resolutions.
RADAR (Technological & Predictive Analysis)	Epistemology (Data & Technology)	To master advanced geospatial technology and digital analytics for proactive, predictive, and preventive environmental policing.	Remote sensing labs, tracking transnational carbon trading frauds, analyzing satellite data for forest fires (hotspots), and tracking industrial waste dumping.	Geographic Information System (GIS), satellite remote sensing, big data predictive analytics, and digital command center software.	Geospatial Information Agency (BIG), environmental data analysts, tech startups, and academic researchers.	Technological Competence: Spatial intelligence, predictive analysis capabilities, and high proficiency in digital environmental law enforcement.

Integrating Geographic Information Systems (GIS) into a Green Policing-Based Curriculum Transformation

The transformation of the Police Science College (STIK) curriculum toward the era of Green Policing necessitates the adoption of modern technological tools capable of shifting the law enforcement paradigm from a reactive approach to a predictive one. Integrating Geographic Information Systems (GIS) into the new curriculum structure serves as a strategic move to equip student officers with spatial intelligence. Through GIS-based methodology, environmental crime phenomena are no longer analyzed using conventional textual methods but are instead visualized via dynamic, multi-layered digital mapping. Mastery of this technology overcomes spatial and temporal constraints, enabling future regional police leaders to scientifically and accurately interpret ecological patterns, trends, and anomalies.

In the reformed curriculum, GIS is designed as a mandatory operational expertise course that combines remote sensing theory with cyber-laboratory practice. STIK students are trained to process spatial data from various primary sources, such as satellite imagery, drone data, and land surface temperature sensors. Mastering these technical competencies aims to reduce the institution's reliance on manual public reports, which are often delayed. With the ability to operate GIS software, modern officers can independently monitor high-risk areas, allowing tactical field decisions to be made based on valid, academically defensible data.

The primary application of GIS in this curriculum focuses on developing skills in mapping ecological crime hotspots. Students learn to layer data by combining information on corporate land concessions, customary land boundaries, fire hotspot distributions, and historical illegal logging locations. Overlaying this data produces "red zone" visualizations that highlight areas with

the highest vulnerability to agrarian conflicts and environmental degradation. This predictive map serves as a crucial tool for regional police forces to devise efficient, targeted preventive patrol strategies before ecosystem degradation spreads.

Beyond its preventive function, the integration of GIS into the STIK curriculum aims to strengthen repressive law enforcement capabilities, particularly regarding the substantiation of environmental crime cases in court. Student officers are equipped with spatio-temporal analysis skills to track year-to-year land cover changes in conservation areas. Digital records visualizing forest degradation caused by illegal mining or unauthorized palm oil plantation expansion can serve as robust, objective circumstantial evidence. This data-driven, geospatial scientific approach substantially minimizes the risk of evidence tampering in the field and bolsters the position of National Police investigators when confronting organized crime (Gibbs et al., 2010).

GIS instruction at STIK is directly integrated with the previously formulated RADAR field operational model. Students do not merely map data at their desks; they validate digital maps through field verification (ground-truthing). In crisis simulation scenarios, students are challenged to respond to reports of industrial hazardous and toxic waste (B3) pollution in river systems, utilizing spatial hydrological analysis within GIS to pinpoint the exact coordinates of the discharge source. This synergy between digital proficiency in the laboratory and tactical agility in the field cultivates officers who are adaptive and capable of devising solutions for complex, real-world problems.

Accelerating the mastery of this technology within the STIK curriculum also supports the implementation of the "Intelligence-Led Green Policing" strategy. This strategy prioritizes the collection and analysis of geospatial intelligence as the driving force behind all environmental policing operations. By leveraging big data analysis algorithms embedded in modern GIS systems, officers can predict the timing and location of high-probability forest fire events

based on variables such as wind direction, land dryness levels, and the socio-economic activities of local communities. This data-driven scientific approach positions the Indonesian National Police (Polri) as a visionary and modern law enforcement institution amidst the dynamics of global climate change.

To maintain the relevance and currency of the technological data taught, STIK has established strategic partnerships with the Geospatial Information Agency (BIG) and the National Research and Innovation Agency (BRIN). This institutional collaboration ensures that the learning modules, software, and access to high-resolution satellite imagery utilized by students keep pace with cutting-edge geospatial technology developments. Furthermore, the involvement of external geospatial experts—serving as guest lecturers or final report examiners—fosters a healthy, transparent, and inclusive academic environment (Runtunuwu, 2025). This simultaneously breaks down the barriers of isolation typical of conventional service-oriented curricula, which tend to remain insulated from broader scientific advancements.

From an axiological perspective, integrating GIS into STIK's "Green Policing"-based curriculum model demonstrates that environmental protection and modern law enforcement are mutually reinforcing endeavors. This spatial technology provides a robust empirical foundation for National Police officers to carry out ecological protection duties with high transparency and measurable accountability. STIK graduates who possess geospatial literacy evolve beyond being mere enforcers of rigid, normative laws; they transform into architects of environmental security capable of safeguarding the sustainability of the Indonesian archipelago for the well-being of future generations.

CONCLUSION

The transformation of the STIK curriculum based on "Green Policing" represents a critical academic reconstruction aimed at addressing the competency gap among modern officers facing the complexities of environmental crime and agrarian conflict. Gap analysis confirms that

conventional learning structures—dominated by normative legal approaches and repressive tactics—are no longer adequate to address contemporary security challenges rooted in ecosystem degradation. Consequently, the formulation of the RAGA, JALUR, and RADAR field learning models offers a holistic experiential learning solution that simultaneously strengthens ecological, social, and cultural competency domains. The success of this model is strategically reinforced by the integration of Geographic Information Systems (GIS), which shifts the paradigm of community policing toward a scientific, predictive, and transparent approach grounded in spatial intelligence. Through an inclusive multi-stakeholder (pentahelix) partnership, this curriculum development model not only reforms service-

oriented pedagogy but also drives an internal cultural transformation within the National Police (Polri), fostering a more humanistic and visionary institution. The mastery of spatial technology and mediation techniques rooted in local wisdom—embedded within this new curriculum—has proven effective in restoring public trust and strengthening the police force's moral presence within the community. Ultimately, this curriculum overhaul at STIK serves as a cornerstone in producing a generation of modern officers who balance legal firmness with an ecological conscience. The presence of these transformative officers ensures that the National Police is not only proficient in maintaining physical security but also fully committed to environmental sustainability for the future of the Indonesian nation.

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