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## Legal Loophole Related to Ensuring Civil Rights in the Use of Drones With Spying Purposes in Indonesia

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### Abstract

Education, economy, and technology are three fields that cannot be separated from the constantly evolving changes. The use of drones as one of the tangible forms of rapid technological development in Indonesia has great potential to cause losses and adverse impacts on national sovereignty. Through this research, the authors will focus on dissecting the legal loophole related to the regulation of drone use that has yet to be comprehensive and has yet to be received attention from the Indonesian people. The guarantee of rights for civil society is an important issue that has yet to be eradicated, especially in terms of the use of drones for spying purposes in Indonesia. This research is a normative juridical research, processing techniques of statutory, conceptual, and comparative approaches. The results of this study state that Indonesia has yet to formulate comprehensive drone regulations, so it is urgent to make detailed rules regarding the classification of drones for recreation and non-recreation/business in order to protect the rights of the affected communities. The research is also compared to a real case in Florida to emphasize the fact that Indonesia is very far away in terms of regulations to protect the rights of its people in terms of the use of drones for spying purposes. This research's final result and objective focuses on answering the legal vacuum related to guaranteeing civil society's rights to use drones for spying purposes. **Keywords:** Drones, Indonesia, Legal Loophole, Spying Purposes.

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## INTRODUCTION

As stated by the United States Federal Aviation Administration (FAA), an Unmanned Aerial Vehicles (UAVs), familiarly known as a drone, is a device that is used or is intended to be used for flight in the air with no onboard pilot in it (Federal Register, 2007). In short, a drone is an uncrewed aircraft remotely controlled by an autopilot or capable of controlling itself. It uses the laws of aerodynamics to lift itself for flight (Suroso, 2020). The automatic pilot system was created to replace the duties of the pilot. Without this automatic pilot, the airplane must be controlled by a pilot continuously, so for a long period, the pilot will be tired (Saroinsong et al., 2018). Due to their widespread use by various countries, drones still need to have

Hery Firmansyah, Erwin Natosmal Oemar, Nessya Monica Larasati Putri, Harshitha Harshitha special regulations in law in Indonesia. However, there has become an urgent need to study international law provisions and Indonesian law, as well as collect relevant provisions and cases. Concrete real cases have occurred in several countries that can be used as a legal basis for the use of drones, especially one real form of uncontrollable use of drones in terms of being used for spying purposes, which causes negative impacts on the privacy and rights of civil society. In Indonesia, based on the Regulation of the Minister of Transportation No. 180 of 2015, a drone is a flying machine that can be flown by remote control carried out by the pilot.

Thus, a drone can be interpreted as a vehicle through the air that is controlled remotely by someone through computer technology installed on that part of the vehicle. The biggest use of drones today is in the military field, where they are used to carry various payloads such as weapons and other military needs. In addition, the use of drones are also often used to monitor national territories. They can be used as defense equipment capable of maintaining national defense and can also be used as attack aircraft, reconnaissance, for kamikaze purposes (crashing towards the enemy), and to monitor the borders of a country. Various military organizations have used drones for over a decade, but in recent years, drones have emerged more and more in commercial and recreational capacities (McKelvey et al., 2015). Drones in the civil sector are used to observe the size and contours of the land, map areas, inspect forests that have experienced fires, make mine maps, and operate search and rescue teams. In fact, apart from that, drones are also often used in shooting, filming, and promoting tourism recreation in an area. The utilization from a scientific point of view is for learning aerodynamic laws, making mapping, researching in the air, spreading seeds by air, checking areas that are difficult to pass, monitoring and disaster management and spreading salt in the air in terms of making artificial rain (Hodgkinson & Johnston, 2018).

The use of drones often causes things that are detrimental to other parties; where even though drones can only be flown in certain areas, the remote-pilot system on drones has the potential to cause accidents or losses, especially for third parties. In comparison, plane crashes can occur due to various factors, such as human error, plane engines (technical) and weather (Sudiro, 2011). In Indonesia, drone accidents have occurred, one of which was in March 2016, when the people of the Palembang in South Sumatra operated drones. The drone was flying towards the Ampera Bridge, but it hit and injured local residents. However, when the drone passed under the Palembang Ampera Bridge tower, the drone suddenly hit the tower. The drone hit one of the local residents standing under the tower and thousands of other residents (Merdeka, 2016). Accidents like these usually arise due to laws and regulations in Indonesia that regulate legal protection and the use of less qualified drones.

The rapid development of technology also has an impactful role on the law, which is often unable to balance it. The presence of drones is indeed a positive thing when viewed in terms of technological developments. However, these technological

advances are not balanced with the positive laws that apply, resulting in a gap and a loophole that can potentially have a negative impact in the form of abuse that can disrupt the sovereignty and integrity of the nation and state. One clear example of using unmanned aircraft (drones) that can interfere with state sovereignty is for spying purposes. A sovereign state as a whole has been regulated in detail in the provisions of Article 1 of the 1944 Chicago Convention, which accepts the principle of state sovereignty based on the 1919 Paris Convention; it states that "The contracting parties recognize that every sovereign state has complete and exclusive sovereignty over the airspace above its territory". Drones used for spying purposes are a separate issue that must be the focus of the state because state sovereignty is clearly being disturbed and not respected, which is proven by several accident cases due to the use of drones.

Several studies have examined and analyzed the issue of the use of drones. First, Smith (2022) explains that drones are a collection of legal technologies. Through the arguments, it is explained that there is a formal legal debate related to the use of drones that ignores the effect of drone technology on the law of war. In the study, the argument only explains the use of drones in formal legal debates related to drone attacks and the use of drones in the law of war. There needs to be a concrete argument in the study that examines the impact of the use of drones on state sovereignty; that is what is discussed more in the argumentation of this study.

Second, Byrne (2016) explains and analyzes in more detail his research arguments related to the drone attacks. His argumentation revolves around explaining the "consent to the use of drones", i.e. the extent to which statements of consent or intervention on invitations are given as justification for drone strikes by some countries, particularly the United States in Pakistan, Yemen, and Somalia, are based on international law. Accumulated through the explanation of each section in the study, it essentially sets up. It explains the conclusion that the use of drones in certain countries can be said to be "legitimate". However, the issue related to the "approval of drone use" is something that is considered "very problematic".

Third, Schmidt & Trenta (2018) identified and examined in their research the legitimacy of police use of drones, bridging the gap between the use of drone technology and perceived justice. The research confirmed the issue that regulations and rules related to the use and operation of drones currently need to be more stable. It was explained that although regulations related to airspace safety have been operationalized and specific, the rights related to drone use and perceptions from the public are still declarative as well as abstract. The main issue is that existing regulations focus on issues and concerns related to accountability, security, and privacy. However, issues related to communication, human interaction and drones remain unanswered. It has been accumulated that the policy-making process related to the use of drones is still unfinished and more rigid, and numerous efforts are still needed to establish a sustainable normative standard in terms of drone use. Through this research, it can be concluded that there are concerns that the

Hery Firmansyah, Erwin Natosmal Oemar, Nessya Monica Larasati Putri, Harshitha Harshitha government should focus on, namely the concerns and needs of citizens. A detailed and rigorous exploration of citizen objections will promote well-informed and sustainable policies and has the potential to increase the efficiency of law enforcement, improve quality, and ensure the legitimacy of law enforcement officials.

In an effort to show the novelty between this research and previous studies that have been done before, the researchers tried to compare the various variables and the results of research that have been done relating to the use of drones that can have an impact on the sovereignty of the nation and state. Therefore, this research will focus on existing legal products and legal protection related to drones for espionage purposes in Indonesia and in international law. This article is different from other articles that discuss drones because the focus of this research is to answer the real existence of existing legal products, plus real cases that may arise in countries where there have been legal gaps in guaranteeing rights, safety, and protection of civil rights. It is important for society, the government, and the state to comprehensively understand the legal vacuum, which is being far behind by the very rapid development of technology in this era, in order to ensure the rights, safety, and protection of civil rights.

## **RESEARCH PROBLEM**

There are 2 (two) problems raised, namely:

1. What are the implications of the use of drones in Indonesia in terms of ensuring Civil Rights related to the use of Drones for spying purposes?
2. What are the regulations and limitations for the use of drones in the context of safeguarding national security?

## **RESEARCH METHODS**

This research is normative legal research, which essentially uses certain data such as laws and regulations that apply in Indonesia and those that apply internationally, valid data from government and civil society institutions, books, and journals, and also a legal thesis that is appropriate to the topic being discussed. In order to provide maximum and useful results for this research, the specification of this research is descriptive-analytical.

This research approach begins with data processing, which is carried out by reviewing statutory regulations (statute approach), namely by analyzing statutory regulations that are related to legal issues so that the compatibility between laws or regulations can be consistently understood. On the other hand, this research also takes a comparative approach by comparing drone regulations regulated in Indonesia and internationally, as well as cases that occur internationally as real forms of unreasonable use of drones, namely for espionage purposes. The results of the legal and comparative approaches will produce separate arguments to resolve the legal problems in this research.

## DISCUSSION

### **1. Implications of the Use of Drones in Indonesia in terms of ensuring Civil Rights related to the Use Of Drones For Spying Purposes**

In this stage of technological development, militaries around the world use drones for intelligence, surveillance, reconnaissance, electronic warfare, and attack missions (Smith, 2014). One of the current war equipment technologies is the use of drones, both for air monitoring and as a weapon of destruction. Drones are developed for military purposes, sending intelligence information to the battlefield in real-time, conducting reconnaissance, setting and attacking targets and ammunition as well as being a form of weapon of destruction (kamikaze); drones can also act as target firing exercises as well as communication relays such as communication satellites at certain altitudes (Utama & Anwar, 2021). One of the uses of drones by the Police was in the exchange of fire between the Police and the Armed Criminal Group (KKB) in Eromaga Village, Ilaga District, Puncak Papua (Tribunnews, 2022). The use of drones is intended to eradicate terrorist groups in forests that have terrain that is difficult to track. The use of drones for national security is also practised in Japan, in which Japanese Police have flown special drones to track and catch suspicious drones using nets that have been installed. The use of drones is intended to prevent terrorist activities carried out using drones which had hit the Japanese Prime Minister, who had been sent a drone containing radioactive cesium (Kristanti, 2015). Drones were also used by the Indonesian Army to find the location of Santoso, the leader of the East Indonesia Mujahidin, who was a highly wanted terrorist at that time (Liputan6, 2016). The data released by Detachment 88 shows that there are also terrorist groups who have been arrested who have evidence in the form of drones (Firmansyah & Puspitasari, 2021).

This incident is as stated by the Oxford Research Group that drones will be very dangerous if in the hands of terrorists because they can be used to carry explosives and weapons that aim to spread fear during bombings and become a tool to spy on targets (Firmansyah & Puspitasari, 2021). Problems related to drones are also related to human safety, which is based on AirNav Indonesia data for 2017-2019 showing that there have been 16 (sixteen) reports of manned aircraft pilots experiencing disruptions to drone flights which even in 2019, there were 8 (eight) reports of flight disturbances by drones namely in Jakarta, Batam, Surabaya and

Hery Firmansyah, Erwin Natosmal Oemar, Nessya Monica Larasati Putri, Harshitha Harshitha Denpasar. These incidents resulted in a hazardous, go around meaning that the aircraft cancelled landing on the final approach phase due to drone disturbance (fear of crashing or engine failure if the drone is sucked into the aircraft engine) and breakdown of separation, which means that manned aircraft avoiding drones met with other aircraft, resulting in a lack of standard separation between the two manned aircraft (Amin et al., 2022).

In drone accident cases which result in injury or even death to a person, then it can actually be subjected to Article 359 or 360 of the Criminal Code. At the same time, for property damage, they can be held responsible for material losses based on Article 1365 of the Civil Code. Even cases of drones falling on humans have also occurred in Australia, which resulted in Raija Odegen sustaining trauma and injury to his head (Nurfitriyanti, 2021). A drone's fall can also potentially damage a nature reserve, as happened in 2020. There was a drone without permission flying over the Borobudur temple, and it fell on the part of the temple, although fortunately, the fall of this drone did not cause any damage to the temple (detik.com, 2020), even though Article 66 of the Cultural Conservation Law stipulates that partial or complete damage to cultural heritage objects can be subject to imprisonment and/or fines.

Problems related to drones often violate the boundaries of one's privacy rights. This right to personal/privacy affairs has been regulated in Article 28G paragraph 1 of the 1945 Constitution of the Republic of Indonesia and in Article 29 paragraph (1) and Article 31 paragraph (1) of the Human Rights Law, which essentially states that everyone has the right to personal, family and residence matters. Moreover, no interference is allowed. In the international context, this has also been regulated in Article 17 of the ICCPR, which states something similar. However, the sale of spy drones (spying purposes) with cameras in Indonesia is still traded freely in various e-commerce. In Indonesia, the revenue in the 'Drones' segment of the consumer electronics market has increased from 2019 3.74 % to 2024, which increased to 7.04%. This revenue was forecast to continuously increase between 2024 and 2028, by in total, two million U.S. dollars (+28.41 percent). After the eighth consecutive increasing year, the indicator is estimated to reach 9.08 million U.S. dollars and, therefore, a new peak in 2028 (Statista Research Department, 2024). As a comparison, in the United States, drone sales began in 2009 through 2010, and the annual revenue percentage was more than 50% of the total sales in North America.

As for 2011, the percentage of annual sales proceeds increased to 280%, while the percentage of sales in North America was only about 30% of total sales. The percentage of total sales continues to increase rapidly every year, and drone sales in 2020 are expected to touch \$2.28 Billion (Prastya et al., 2020). Even the sales of these products are called “reconnaissance drones with cameras.” This act can actually be subject to criminal penalties through Article 167 paragraph (1) of the Criminal Code and civil lawsuits through Article 1365 of the Civil Code.

Despite all the advantages of the use of drones in general, the use of drones is also not free from security vulnerabilities. Even professional drones used for sensitive applications such as police or state operations and military surveillance of enemies have been shown to possess several security vulnerabilities (Rodday et al., 2016). On the other hand, another important security vulnerability of the use of drones is drones used for spying purposes on civilians, which in this case is basically any type of illegal drone activity that violates a person's privacy, including tracking of certain people, the high-resolution cameras that drones can carry may pose serious privacy hazards to the public. Numerous media stories highlight incidents of drones spying on people, often with negative consequences (Uchidiuno et al., 2018). The use of drones to spy on civilians is an increasing threat to the privacy of civil society today and is a serious concern that needs to be regulated.

In the case of America, a drone real estate agent accidentally took a picture of a woman sunbathing bare-chested in her yard, and finally, the photo was included in an advertisement for a house sale (detik.com, 2014). In another case, William H. Merideth shot down a drone that was carrying out reconnaissance of his daughter, who was sunbathing in her yard (detik.com, 2014). In the case of shooting down this drone, the US district court ruled that William H. Merideth was declared innocent and had the right to shoot down the drone because it violated a person's right to privacy. This right related to privacy is actually also related to land ownership rights as stipulated in the Basic Agrarian Law No. 5 of 1960 of the Indonesian Positive Law, which states that the right to the land includes the right to use the land, including land, water, and air space above it. Therefore, to fly a drone over someone's land, there must be an agreement with the land owner. In the case of violations in the United States, chicken farmers sued the government because military planes often flew low and frightened their livestock, which disrupted their livelihood activities.

On this basis, the Supreme Court determined that the air space owned by the owner of the land right is 83 feet; only if it is flying under 83 feet, it is a violation of one's land rights (Janzen, 2016).

Drones for spying purposes are not only intended to violate a person's privacy but are also intended to violate the sovereignty of a country. One of the real cases occurred in Indonesia, namely in 2021; it was suspected that a Sea Wing drone belonging to China for spying purposes and for researching the flow and direction of China was found to be still in Indonesian waters, precisely in the Selayar Islands, South Sulawesi. Indonesian Security Analysts said this object was most likely intended to map submarine routes. The discovery of a drone from China in South Sulawesi is the third time a drone belonging to China has been found for spying purposes (Kompas, 2015). Finally, based on the results of the investigation, it was found that the object that was considered a drone was not a drone but a sea glider aimed at finding data related to temperature and, salinity which could be used for mining activities, underwater drilling activities, military activities to determine safe hiding points for submarines because salinity and currents will affect the performance of sonar to detect submarines under the sea (Putra et al., 2022). There were also drones for spying purposes in the United States, which were seen over the South China Sea in 2020 (CNBC, 2020). The intrusion and privacy implications of the use of drones are important and well-discussed ethical issues. These issues arise in the context of various other technological developments with policing applications, such as closed-circuit television, audio sensors, and online financial transaction monitoring (Enemark, 2021).

## **2. Regulation of limitations for the Use of Drones in the context of safeguarding National Security**

The state is both the subject and object of security and is at the core of efforts to maintain the security of its country (Amaritasari, 2015). Thus, the traditional security approach is closely related to state sovereignty and territorial integrity as stipulated in Article 2 (4) of the UN Charter, which states, "All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state." The concept of national security is no longer about interstate relations but about individual security. *National security* is defined as the basic need to protect and safeguard the national interests of a



nation-state by using political, economic, and military power to deal with various threats, both from within and outside the country (Praditya, 2016). Therefore, technological developments regarding the presence of drones in civil society's lives are an important issue that must be linked and analyzed from the perspective of state security and legal protection in the applicable laws and regulations.

a. **Drone Regulation in Indonesia**

In detail, regulations regarding the use of drones in Indonesia have yet to be regulated. In fact, sadly, in Law No. 1 of 2009 concerning Aviation (Aviation Law) does not regulate drones at all. Moreover, when viewed from the negative impacts that can arise from the use of drones in the form of spying purposes, they also do not have legal protection to protect against negative implications that arise because of the use of drones in Indonesia. Drone regulations in Indonesia are only regulated in some regulations, but not specifically, namely Regulation of the Minister of Transportation No. 37 of 2020 concerning Control of the Operation of Unmanned Aircraft in the Airspace Served by Indonesia (PM 37).

PM 37 has regulated specifications related to certain areas and air spaces where it is prohibited to fly drones. The substance of PM 37, provides restrictions on areas and airspace related to the operation of drones that can be served in controlled airspace but with the approval of the Director General of Civil Aviation. This policy is a good restriction for anybody as drones cannot be used in controlled Airspace without approval from the Director General of Civil Aviation, so nobody is allowed to use drones in a Controlled Airspace for any purpose or at any time without approval. PM 37 also stipulates that drones can be operated at altitudes ranging from ground level to an altitude of 400 ft (120 m) without the approval of the Director General of Civil Aviation. However, operations at altitudes above 400 feet (120 m) must have the approval of the Director General of Civil Aviation. It also stipulated that in a restricted area (above land and/or water with restrictions that are not fixed) as well as prohibited area (Airspace over land and/or water with restrictions for all aircraft), the operations of drones must have the approval of the authorized

Hery Firmansyah, Erwin Natosmal Oemar, Nessya Monica Larasati Putri, Harshitha Harshitha agency in those areas. Thus, no one can unilaterally use drones without approval from the authorities.

PM 37 only regulates areas that are allowed to fly drones, not areas that are not allowed to fly drones. Thus, there are no clear boundaries regarding which areas drones are allowed to fly. PM 37 also regulates the imposition of sanctions based on the results of supervision under certain conditions. Some of the conditions stated in PM 37 include if anybody violates air sovereignty and security, threatens aviation safety and security, and has a threatening impact on government, economic, national vital objects and state safety. Also, sanctions are carried out based on conditions, such as if there is no approval for the operation, or the operation does not comply with the approval given. Therefore, they will be subject to criminal sanctions under statutory provisions. In this case, it is subjected to administrative sanctions in the form of revocation of approval and inclusion in the blacklist, forced to exit the area or airspace, and also termination of operations.

As drones have become more widely adopted in Indonesia and various countries, providing a solid regulatory framework specific to the technology has become increasingly important and urgent. Specific regulations on drones are urgent because, despite their usefulness, they raise a number of societal challenges and concerns, including effects on social equity, sustainability, security, and human rights (Wall & Monahan, 2011). There are no other laws and regulations that explicitly, clearly, or concretely explain the legal basis for using drones or sanctions for violating the conditions for using drones. The absence of this regulation is unfortunate because Indonesia is still very far from technological advancement. In addition to safety and security, drones usually raise significant privacy concerns, especially with the installation of cameras, which have become increasingly common as they can capture and record people or objects often without being seen and have the ability to easily cross terrestrial boundaries between private and public spaces (Clarke & Bennett Moses, 2014). Some cases abroad that are also discussed in this research should be used as a reflection by the Indonesian state that the use of drones in terms of eyesight does occur and is real. Thus, PM 37 is not enough to regulate all

sanctions and prohibitions related to the use of drones in Indonesia; even specifically, the use of drones for spying purposes is not regulated.

Legal protection is an effort to protect society from arbitrary acts by authorities that are contrary to written law and to maintain the sovereignty of society, nation, and state as a whole (Setiono, 2004). Based on regulations related to drones in Indonesia, it is clear that they are not regulated regarding spying purposes, namely legal protection on which actions must be taken and carried out if another country, or even our people in Indonesia, tries to spy on our people. Technological developments and social situations have become a momentum for the law to display its usefulness in achieving legal goals (Nasution, 2016). Therefore, it is the same as if the law in Indonesia has the potential to be empowered and used because the law is still floating in a vacuum, bound by gravity and not yet bound to be able to be used to achieve the nation's ideals, namely legal order. To ensure that civilians derive maximum benefit from the emerging use of drones, the government must introduce new measures and regulations to manage the risks associated with the use of drones (Taeihagh & Lim, 2019).

#### **b. Drone Regulation in International Law**

Related to the widespread use of drones in various countries today, until now, there has been no specific regulation that serves as legal protection for civilians affected by the improper use of drones, as well as for countries that are also affected in terms of war. Therefore, it is necessary to analyze the lack of regulations related to the operation of drones that can function for the welfare of society even though, on the other hand, they can potentially threaten national defense and security (Mustofa, 2021). The regulation of drones from an international legal perspective is related to the 1944 Chicago Convention and the 1982 UNCLOS because currently developing drones include drones that fly in airspace and underwater drones that move in the ocean. In the 1944 Chicago Convention, drone arrangements are regulated in Article 8, which states that drones/unmanned aircraft that cross or stop in other countries must have permission from that country, and the state party that flies the drone will guarantee that the drone will not harm civilian aircraft

### Legal Loophole Related to Ensuring Civil Rights...

Hery Firmansyah, Erwin Natosmal Oemar, Nessya Monica Larasati Putri, Harshitha Harshitha (Zakaria & Sasmini, 2015). Based on these provisions, the use of drones must respect the sovereignty of a country which is not permitted to violate the jurisdiction of that country. Violation of the sovereignty of a country through drones, especially those intended for spying purposes, then violates the provisions of Article 8 of the Chicago Convention. This violation of sovereignty can indeed be said to be a form of threat to the sovereignty of the country. However, this principle can only be used if the drone provides real physical attacks, as in Article 51 of the UN Charter (Zakaria & Sasmini, 2015).

Meanwhile, if drones for spying purposes do not carry out physical attacks, then based on the principle of limiting weapons, in dealing with disputes, a country must seek more peaceful means to limit the use of weapons in resolving disputes (Zakaria & Sasmini, 2015). Thus, a country whose sovereignty has been violated can protest through a diplomatic note/protest note against a country that has violated its sovereignty as stipulated in the Vienna Convention on Diplomatic Relations. However, drone arrangements cannot only examine Article 8 of the Chicago Convention. However, they must also pay attention to Article 3 letter (a) of the Chicago Convention, which states that this convention only applies to state civil aircraft and does not apply to state aircraft. In addition, Article 3 letter (b) stipulates that military, special purpose (customs), and police aircraft are included in state aircraft. In Article 3 letter (c) it is also emphasized that state aircraft are not allowed to fly over the territory of a country without special authorization through approval or other means from the country to be crossed (Prayogi, 2017b). In practice, this can be done through cooperation agreements such as cooperation agreements between the United States and Mexico in which United States drones are intended to carry out countermeasures against drug smuggling, in which information will be provided to the Mexican government. Another example is when the United States Bluefin 21 drones searched for the wreckage of a Malaysia Airlines plane; in this case, Malaysia Airlines had handed over the search to the international team, so Malaysia indirectly permitted the use of the United States drone (Zakaria & Sasmini, 2015).

Arrangements related to drones in the Chicago Convention are only based on Article 8 and Article 3, in which case, drone arrangements in the

Chicago Convention still do not have a clear portion both in terms of the definition of operating procedures (Prayogi, 2017a) to the classification of drones as civil aircraft and aircraft (Dewi & Sudiarta, 2020). As is well known, the Chicago Convention divides aircraft into civil aircraft and state aircraft. However, the regulations of drones in the Chicago Convention are still unclear, and whether they are civil aircraft or state aircraft (Dewi & Sudiarta, 2020). Based on Article 8 and Article 3 of the Chicago Convention, drones have been recognized in international law. Whereas in the implementation of its use, drones can be included in civil aircraft and state aircraft; that is, if the use of drones is intended for business or commercial activities, hobbies, or filmmaking, including photography and videography, then this is classified as a civil aircraft, but if it is used for the military, customs and police are classified as state aircraft where the use of drones for city mapping carried out by the government also includes state aircraft (Prayogi, 2017a).

The legal loophole in terms of regulating drones is due to legal delays in adapting to existing technological developments, as mandated in Article 36 Additional Protocol I to the 1997 Geneva Convention, which stipulates that the state has an obligation to regulate developing weapons technology and developing methods of war in the country. So, in this case, every country must make rules regarding drones used in military matters, including weapons and non-military activities (Putra et al., 2022). Drone regulations are still very minimal in the context of international law, making several countries try to accommodate this with factual and actual rules, namely related to the use of drones for hobbies and recreational purposes as regulated in Canada in the Interim Order Respecting the Use of Model Aircraft (Canadian Aviation Regulations). Whereas in the United States, it has been regulated in Public Law 112-95, Section 336 and the Special Rule for Model Aircraft FAA Interpretation of the Special Rule for Model Aircraft while the regulation of the use of drones for non-recreation/business as regulated in Canada in Exemption From Sections 602.41 And 603.66 Of The Canadian Aviation Regulations, and for America it is regulated in Title 14 of the Code of Federal Regulation (14 CFR) Part 107 (Prayogi, 2017a). Simultaneously, researchers and legal experts agree that existing laws related to the use of drones cannot keep

Hery Firmansyah, Erwin Natosmal Oemar, Nessya Monica Larasati Putri, Harshitha Harshitha up with technological developments in speed and scope (S. J. Fox, 2017). The regulation should mention public acceptance as the key to the proliferation of drone use. In this regard, the law should explicitly take into account the fundamental rights of citizens (in particular related to their protection), including privacy and data protection, nuisances such as noise, security risks related to malicious attacks and uses, identifiability and accountability of the operator through (S. Fox, 2022).

## **CONCLUSION**

In terms of positive implications, drones are often used by various countries in an effort to defend national sovereignty and security. On the other hand, the use of drones becomes dangerous, especially when drones are used disregarding human safety and civil rights, as in the use of drones intended for spying purposes. Unfortunately, the use of drones for spying purposes is not regulated in terms of legal protection for the sovereignty of the nation and state, as well as for ensuring civil rights in Indonesia. There still needs to be more effective regulations regarding legal protection for national and state sovereignty in terms of the use of drones in Indonesia due to legal regulations that need to catch up with the rapid development of technology. In Indonesia, regulations regarding drone operation prohibitions and legal protections still need to be completed. Therefore, Indonesia must also be able to formulate more comprehensive drone regulations by making detailed rules regarding the classification of drones intended for recreation and non-recreation/business as has been regulated in various other countries. This research has succeeded in focusing on explaining the legal vacuum related to regulations on the use of drones in Indonesia. However, this research does not have a research reference using interview techniques, so the researchers have summarized several statutory regulations so that this research can be more detailed regarding legal regulations and their implementation.

As a recommendation, we would like to understand first that the use of drones is increasingly widespread. However, the lack of regulation in the national and international context must immediately be addressed by the legal loophole and given a clear portion. Legal regulations related to the use of drones, prohibited areas, as well as legal sanctions must be regulated rigidly and concretely regarding the use of drones, which has the potential to become a boomerang for the state as well as

for civilians, namely the use of drones for spying purposes. Moreover, the existence of drones is increasingly showing its position as one of the new weapons technologies, so as mandated in Article 36 Additional Protocol I to the 1997 Geneva Convention, states are obliged to regulate the technology and methods of war that are developing in that country, drone arrangements become it is an urgency for each country to regulate in terms of its use to minimize tensions that occur between countries due to drones being flown over the territory of a country as well as ensuring civil rights in the uses of drones for spying purposes. This research has thoroughly examined existing regulations, regulations that exist but are not optimal, and regulations that must exist. The authors carried out this research by paying concrete attention to the problems that exist in the life of civil society, as well as problems that can arise and impact the sovereignty and integrity of the state. This research was carried out using desk research, which, of course, still has its shortcomings and weaknesses, namely that it was carried out without interviews. This research focuses on regulatory references still in force, legal journals, and articles that are the latest and relevant to the issues discussed, starting from legal journals and articles from 1990 to 2024.

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