

# DRONE REGULATION AND AMBIT OF IPC ON DRONE CRIMES<sup>1</sup>

*Abstract – Drones or Unmanned Aerial Vehicles were initially used in war, as their ability to be lethal, at the consequence of no man was desirable. It slowly, with some alterations, came to the knowledge of a common man as a technological gadget. These gadgets came into the light in society, when they were used for making spectacular shots in the field of Multi-Media. Since then, these gadgets have been the highlight in every commercial industry, as these machines could possibly be used for almost everything, spanning from surveillance, farming, multi-media, etc. The possibility of the use of these machines is not exhaustive, as their functioning enables creativity due to their remote maneuverability and ability to hold a recording device. The devices' limitless capabilities have negative aspects as well, as they pose a great threat not just to the safety of public at large but also negatively impact the air traffic. Therefore in 2014, the Office of Directorate General of Civil Aviation (DGCA) gave out a public notice banning these technological machines from take-off until further policy/notice by the Authorities. The blanket ban on the use of these machines necessitated swift redressal by the authorities, which resulted in the issuance of a draft circular by the DGCA.*

*This Paper seeks to review this policy for its efficiency and its role in protecting the public at large. The primary objective is to identify the policy and analyse its various clauses, to understand their practicality in light of the policy's objective. The paper also analyses other laws, to identify their ambit on the subject.*

## INTRODUCTION

Drones may seem to be products of modern technology, however, they have been in use for a long time. Early Unmanned aerial vehicles (UAV) had simple routes and could perform limited tasks, but with the far outreaches of modern technology and the vast achievability of the concept of Drones, we today have created multi-purpose drones with high capabilities and utility. One of the main features, of a drone which makes it immensely relevant to modern technology is its ability to function without actual human existence. Thus, experimenting with these devices can have no human causalities, leading to vast investment in research and development of technology in this sector. These machines being compact and unmanned, have gained immense commercial recognition. With the increase in demand of these compact, high-utility machines, also came a threat to the safety of the civil society. This paper seeks to discuss the role of the Regulating Authorities, in controlling the production of these machines and use of it while simultaneously maintaining status quo, preventing its misuse.

## HISTORY OF DRONES

The first drone aircraft was intended to be used as bombers, developed during World War 1 but was unreliable and crashed often. In the mid-1930s the Royal Air Force, seeking to use a plane for target practise without killing pilots developed a radio-controlled biplane called the 'Queen Bee', it seems that the word 'drone' grew out of this name, partly through an analogy to lowly drone bees that lacked stingers and eventually were killed by other bees.'

The Second World War saw drones being used in several ways, including as assault weapons. The United States developed a new generation of drones for target exercises. One of the most popular drones for target practise was the OQ-2 Radioplane and its successors.<sup>2</sup>

In addition to drones used for target practise, the U.S Navy also had a drone in arsenal that would do some targeting on its own. <sup>3</sup> The TDR-1, introduced in combat in 1944, was guided by a primitive television camera and radar system and was capable of carrying an explosive of up to two thousand pounds, <sup>4</sup> however just after eight days of being introduced, the navy cancelled the program.<sup>5</sup>

Interest in aerial drones rose again in the early 1960s. After multiple manned U-2 spy planes were shot down, the US Military explored the possibility of an unmanned spy plane'. <sup>6</sup>One of the drones developed was called the Lightning Bug. It was the first used for surveillance purposes in China in 1964.<sup>7</sup> The Lightning Bugs' spying was not limited to China; they also flew 3,435 missions in the Vietnam War.<sup>8</sup>

In the Gulf War of early 1990s, the United States used drones in a variety of ways.<sup>9</sup> The drone of choice was the Pioneer, which was a result of collaboration between the US and Israeli companies.<sup>10</sup> These drones played an important role in helping the various military branches identify targets.

The most prominent drone of today is 'The Predator' developed by General Atomics. This drone was further developed and saw combat in the war in Afghanistan, Pakistan, the NATO intervention in Bosnia, Serbia, the Iraq War, Yemen, the 2011 Libyan civil war, the 2014 intervention in Syria, and Somalia.

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<sup>2</sup> Radioplane RP-5A Target Drone

<sup>3</sup> Zaloga, *Unmanned Aerial Vehicles*, 8.:

<sup>4</sup> "TDR Assault Drone," *The Pacific War Online Encyclopedia*, accessed August 27, 2018.

[http://pwencycl.kgbudge.com/T/d/TDR\\_Assault\\_Drone.htm](http://pwencycl.kgbudge.com/T/d/TDR_Assault_Drone.htm)

<sup>5</sup> Newcome, *Unmanned Aviation*, 69

<sup>6</sup> Zaloga, *Unmanned Aerial Vehicle*, 11-12

<sup>7</sup> ibid

<sup>8</sup> Newome, *Unmanned Aviation*, 83.

<sup>9</sup> Supra Note 5 26-28

<sup>10</sup> Supre Note 5 25-26

As of December 2015, only the United States, Israel, China, Iran, Italy, India, Pakistan, Russia and Turkey are at present known to have manufactured operational Unmanned Combat Aerial Vehicle.<sup>11</sup> However there are several countries that possess such Aerial Vehicles. India possesses the IAI combat drones provided by Israel.

In the Recent years there has been a rise of Civilian Drones. In fact civilian UAVs vastly outnumber the Military UAVs, with estimates of over a million sold by 2015. The civilian drone market is dominated by Chinese companies. Chinese drone manufacturer DJI alone has 75% of civilian-market share in 2017 with \$11 billion forecast global sales in 2020.<sup>12</sup> Followed by French company 'Parrot' with \$110m and US company '3DRobotics' with \$21.6m in 2014.<sup>13</sup> Civilian UAV market is relatively new compared to military. Companies are emerging in both developed and developing nations at the same time.

These Civilian Drones have the capability of being used for various purposes, being commercial or personal. This capability arises from its functioning, ie. Remote maneuverability and ability to record.. The innate ability of Drones have made them into a 'Limitless Technological Device', this is clearly evident as recently Amazon was issued a patent for delivery drones that could react to human gestures.<sup>14</sup> Their feature of being unmanned lead to fast and quick development as experimentation had no human consequences. The cost of experimentation/ Trial and error proved to be way more efficient than any other modern technological device with such high-utility.

#### DRONE REGULATION IN INDIA

Drones were initially new to the law, and the authorities were unaware as to the legal intricacies involved. This is evident from the incident reported in Jaipur when two Ukrainian tourists were rounded up for flying drones over the Amber Fort<sup>15</sup>. However the authorities were in a dilemma as they were unaware of the offence and the area traffic control and air force officials denied to press charge as they stated, that this wasn't under their jurisdiction. Finally, these tourists were left-off with Rs.100 fine for photography of prohibited archaeological sites. This incident was a strong alarm to the Concerned officials regarding the lack of effective regulation.

In order to answer this, the Office of the Director General of Civil Aviation (DGCA) gave out a public notice dated 7<sup>th</sup> October, 2014<sup>16</sup>. The notice stated about the rise of interest in unmanned aerial vehicles and its threat to public safety and in this light, placed a complete ban on the launch of the Unmanned Aircraft Systems (UAS), until DGCA formulated regulations.

This public notice placed a complete ban on the use of these UAS, restricting the right of public to use these high utility devices. Placing this blanket ban meant that DGCA had to formulate regulations as mentioned in the Public Notice quickly, to make available this device for the public. The import/export of these drones were also prohibited, however the sale of these drones are not restricted. One can avail these machines with ease, on any online platform.

Finally, the DGCA put out a Draft Policy which attempts to regulate these drones. The jurisdiction of the DGCA has to be looked into. There are other authorities who can regulate on the subject-matter; however it is important for any relevant authority to have taken the call.

The Central Government has the power to make rules by virtue of Section 5 of the Aircraft Act, 1934 regarding the subject-matter.

The Directorate General Civil Aviation (DGCA) is a statutory body under the Ministry of Civil Aviation (MCA). The primary objective of this regulatory body is to regulate air transport within Indian and is concerned with safety measures in the same faculty. It also sets standards to be complied in this field. The DGCA also formulates its regulations in accordance with the International Civil Aviation Organisation (ICAO).

Thus, Union of India through this Ministry is responsible for formulation of National policies for the regulation in the Civil Aviation Field concerning the subject-matter.

The DGCA having the jurisdiction and as explicitly mentioned in the Public Notice by DGCA that it would formulate policies, released its draft of Air Transport Circular XX of 2016 (draft dated 21st April 2016). This Civil Aviation Requirements (CAR)/Circular provided Guidelines for issuance of Unique Identification Number (UIN) and Operation of Civil Unmanned Aircraft System (UAS). In the introduction of this Circular, DGCA has expressly stated that the said guidelines have been issued pursuant to ICAO Circular 328 and Doc 10019 AN/ 507.

On brief consideration of the Circular, The we understand that the third clause provides for categories of Remotely Piloted Aircraft (RPA). They have been classified based on Maximum Take-off Weight (MTOW), as indicated below.

- Nano: Less than or equal to 250 grams.
- Micro: Less than two Kg
- Mini: Greater than two kg and less than 20 kg
- Small: Greater than 20 kg and less than 150 kg
- Large: Greater than 150 kg.

Clause 4 of the CAR provides for applicability. This clause expressly states that Model Aircraft below MTOW up to 2kg flown in educational premises need not require Unique Identity Number (Herein referred to as UIN) and/or Unmanned Aircraft Operator Permit (Herein referred to as UAOP).

Clause 5 of the CAR provides for the application process for obtaining the UIN, UAOP and/or import clearance.

Clause 6 of the CAR/Circular provides for the procedure for issuance of UIN. It expressly states that RPA falling under the Nano category with an intent to fly up to 50ft Above Ground Level (Herein referred to as AGL) and those owned and operated by Government Security Agencies need not avail UIN. This clause also provides as to who can apply to obtain UIN and the necessary documents required.

<sup>11</sup> Baykar Technologies (17 August 2018). "17 Aralık 2015 – Tarihi Atis Testinden Kesitler" – via YouTube

<sup>12</sup> Bateman, Joshua (17 August 2018). "China drone maker DJI: Alone atop the unmanned skies". News Ledge

<sup>13</sup> The consumer Drone Market: Trend Analysis. E,berify Blog.

<sup>14</sup> Amazon issued patent 22<sup>nd</sup> March 2018, [https://www.washingtonpost.com/news/the-switch/wp/2018/03/22/amazon-issued-patent-for-delivery-drones-that-can-react-to-screaming-flailing-arms/?noredirect=on&utm\\_term=.d99fa5611c10](https://www.washingtonpost.com/news/the-switch/wp/2018/03/22/amazon-issued-patent-for-delivery-drones-that-can-react-to-screaming-flailing-arms/?noredirect=on&utm_term=.d99fa5611c10); Retrieved: 02-09-2018

<sup>15</sup> Now, Flying a drone can land you in prison, Times of India Feb 15, 2016. <https://timesofindia.indiatimes.com/city/jaipur/Now-flying-a-drone-can-land-you-in-prison/articleshow/50990613.cms>; Retrieved: 1-09-2018

<sup>16</sup> File No. 5-13/2014-AED

Clause 7 of the CAR/Circular gives the requirements for the issuance of Unmanned Aircraft Operator Permit (UAOP). This clause expressly states that UAOP is not required for entities operating Nano RPA under 50ft AGL, Micro RPA under 200ft AGL in uncontrolled airspace and RPA owned and operated by Government Security Agencies.

Clause 8 of the CAR/Circular addresses the security and safety aspect. The circular provides for few limitations on the operation of RPA.

Clause 9 of the Circular, provided for training requirements for remote pilots. Pilots must undertake practical training on the control of RPA to avail UAOP. However, the clause exempts training for operators, operating the Micro and Nano category RPA.

Clause 10 of the civil aviation requirements provides for the maintenance of the RPA. The clause states that the maintenance of the RPA needs to be carried out in a manner as prescribed by the manufacturer and also that the pilot shall not fly the RPA unless he/she is reasonably satisfied that the RPA controls are in working condition.

Clause 11 and 12 of the Civil Aviation Requirements provides for the equipment and Operational Requirements. RPAs must have certain equipment's attached to them for take-off as mentioned in this clause, however this clause excludes NANO category RPAs and to an extent MICRO category RPAs. The rules for operation are mentioned in clause 12 of the CAR. This clause requires the filing of flight plan, by the operators however NANO and MICRO Category RPAs need not file any such plans, or adhere to few other requirements mentioned in the clause.

Clause 13 of the Civil Aviation Requirements provides for legal obligations. This clause states that issuance of UIN or UAOP doesn't restrict or prejudice anyone from seeking any right or remedy against any injury caused directly or indirectly by the RPA. This clause is very important as this indicates that the CAR doesn't restrict the Operators liability. Thus, widening the ambit of jurisdiction to seek remedies with respect to injuries caused by RPA.

Clause 14 of the CAR provides for insurance. This clause just states that Operators must have insurance for the liability that might incur for any damage to third party resulting from any accident/incident. However this clause doesn't mandate or provide any consequence for not insuring and neither does it provide any guidelines regarding the same, therefore being a vague clause.

Clause 15 of the CAR provides for enforcement action. This clause allows the DGCA to cancel the UAOP if in the opinion of the, the performance of the pilot is no longer acceptable. Also breach of compliance to any requirements mentioned in clause 12 will attract penal action as mentioned under Indian Penal Code. Furthermore, any other breach if noticed shall allow the state authority to take necessary action for the imposition of penalties under the applicable statutory provisions.

The Circular on several aspects exempts Micro and Nano category RPAs, thus failing to regulate the Drones which are actually used for commercial or personal purposes. Thus the Draft circular fails to attain its primary objective of providing for the safety of the public. The classification of RPAs according to their weight doesn't suffice. A better method of classification would be to base it on the demarcated/predetermined flight path and purpose of the RPA. This is granted and regulated by the DGCA, keeping in mind the vertical and horizontal limit(s) in which it can operate from the point of take off to the point of landing. RPAs depending on their respective design and flight capability can only fly in a specific way and manner, solely dependent on its aerodynamic and other related nuances, thus it is reasonable to classify RPAs on the basis of their flight path or purpose.

RPAs irrespective of being flown indoors or for recreational purposes, within confined limits, regardless of the vertical limit, should be issued an UIN. Even these RPAs can be used for destructive/hazardous purposes and could jeopardise the safety and security of the public at large. Also, it would be effective to impose an alternate safety mechanism in these RPAs to ensure safety in case of any accident or unforeseeable mishap. Further, the exemption of UAOP for Micro and Nano category RPAs, could prove to be damaging. These drones are capable of causing injury, thus there is a need for even these entities to have basic training. Their exemption could lead to rookie pilots operating these category RPAs posing a threat to the public's safety.

On the contrary, the policy doesn't restrict the liability but opens the actions of the operators to other statutory laws, such as the IPC, thus not restraining the liability. The circular also gives the state authorities the right to cancel any UAOP on reasonable grounds and to initiate any other action for imposition of penalties.

To conclude the draft circular only achieves to regulate drones in public airspace where manned aircraft systems operate. The Draft excludes any registration of Drones used within private airspace. This divide/limit could affect the safety of the public. Thus, the Draft circular fails to completely regulate the use of civilian drones in airspaces where it is likely to be used, but however the policy doesn't restrict the liability of the Operator.

Thus, there is a need to look into other statutes or laws, and whether the ambit of drone crimes could fall under them. For this we shall look into a few sections of IPC.

## PENAL PROVISIONS

The vital reason to analyse the Indian Penal Code is because of the Clause 13 and 15 for the CAR. The circular clearly and explicitly mentions that the issuance of UIN and UAOP which the circular primarily tries to achieve doesn't not prejudice or restrict the liability of the Operator for injuries caused to a third party. Moreover, Clause 15 states and gives the state the power to institute action for imposition of penalties for any act violating any law at the time. Thus, the actions of an operator could attract any law, and criminal acts most certainly will attract the provisions of the penal code. A person flying a drone without the required permissions will be committing crimes under sections 188, 286, 287, and 336 of the Indian Penal Code, 1860 (IPC). Moreover other criminal acts could attract various other sections of the Penal Code.

To start with, **Section 188** of the penal code ensures that no person acts against any order promulgated by any public servant. This section safeguards the policy of the DGCA and penalises any use of unregistered drone in prohibited airspace. Moreover, it is important to note that the circular does fall under the ambit of this section, thus penalising anyone who doesn't adhere to the any of the clauses mentioned in the Circular, thus, protecting the Circular. This section at the moment would penalise anyone who take-offs a drone without the permission of the authorities with respect to the Public Notice issued by the DGCA in 2014.

**Section 268** of the IPC talks about public nuisance. This section penalises the illegal act of any person which causes some common injury, danger or annoyance to the public. Two important elements of this section is that the act has to be illegal and that it must necessarily cause injury, danger or annoyance to the public. This section penalises any conduct of drone outside the permissible limits which causes any nuisance to the public. It is important to note here that the penalty from this section can be imposed only upon illegal use of the Drones.

**Section 287** of the IPC talks of "Negligent conduct on machinery." When anyone uses any machine in a rash or negligent manner which endangers human life, they will be held liable for, "Negligent conduct with respect to machinery." This section will be applicable in

situations where a person is flying a drone and there occurs a technical failure because of which the drone crashes, thus causing risk to others. The punishment under this section is an imprisonment for six months with a fine of INR 1000. However, though this section does protect human life against negligent conduct of the pilot but punishment in this context seems inefficient, as one can imagine the scope of damage it could inhibit on the public.

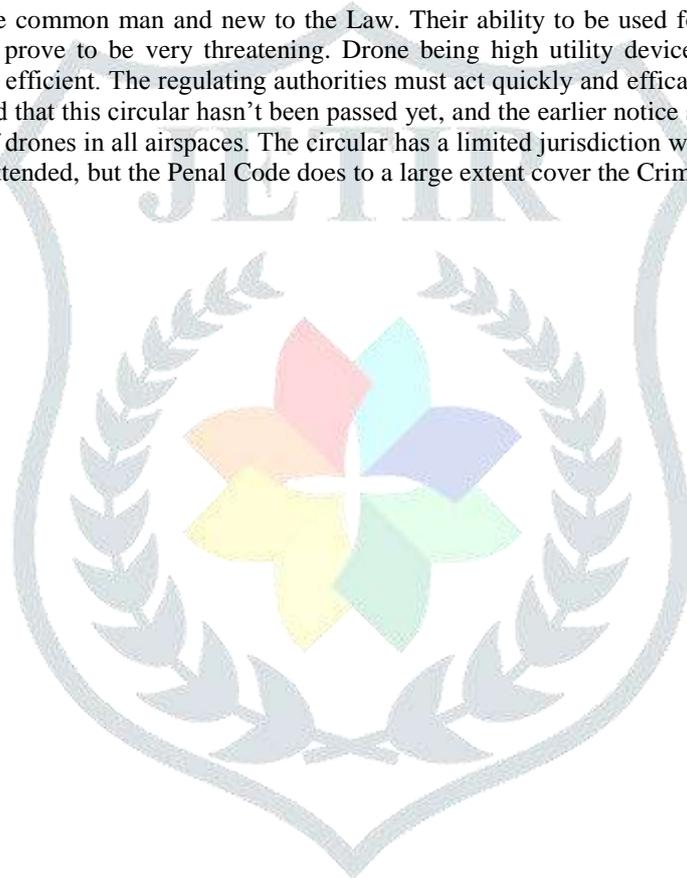
**Section 336** of the IPC talks of “Act endangering life or personal safety of others”. This section protects the life or personal safety of one from any rash or negligent act. However, the punishment provided for this crime is imprisonment of a term upto three months or fine of two hundred and fifty rupees, this seems inadequate, although this section only criminalises the act which endangers and the injury here is irrelevant. This section could apply to negligent/rash use of drones that could endanger the personal safety of another.

**Section 345C**<sup>17</sup> of the Penal code Provides for Voyeurism. This section penalises any man who captures image of a woman in a private act with imprisonment and/or fine. This section also provides punishment for subsequent conviction. What is important to note in the context of this paper is the word ‘captures’. The use of this word indicates that any recording/capturing device used by the perpetrator would expose him to this section. Drones which include any cameras that could record, and if misused, fulfilling the elements mentioned in this section, could attract conviction under the said section. This section is important in light of this device as leading back to its functioning, it is quite evident that this device due to its remote controlling ability has high potential for misuse with regards to the subject of this section.

**Section 441** of the Penal code provides for Criminal Trespass. This section penalises anyone who enters unauthorizedly with intent to commit crime. The word ‘whoever enters’ indicates that in order to constitute an offense under this section, there must be an actual physical entry, and not constructive entry. Drones’ entry would be constructive entry and could not attract this section of the Penal Code.

## CONCLUSION

Drones are modern technology to the common man and new to the Law. Their ability to be used for multiple purposes could seem to be very beneficial, however, could also prove to be very threatening. Drone being high utility devices must be reasonably and effectively restricted. A complete restriction isn’t efficient. The regulating authorities must act quickly and efficaciously, similar to their issuance of the Draft Circular. It must be further noted that this circular hasn’t been passed yet, and the earlier notice still prevails. Furthermore the Circular, doesn’t completely regulate the use of drones in all airspaces. The circular has a limited jurisdiction with regard to usage drones, making one believe that drone crimes could go unattended, but the Penal Code does to a large extent cover the Criminal Acts.



<sup>17</sup> Criminal Law (Amendment) Act, 2013