



## New Tools of Terror: Are We Prepared?

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A recent news item on the *Asian Defence News* blog reports a foiled terrorist plot in Pakistan to attack the Pakistani Naval and Air headquarters with a Remotely Piloted Aircraft.<sup>1</sup> This is not the first time it has made news of a terrorist plot to use a small Remotely Piloted Vehicle (RPV) for a terror strike. There are numerous instances where terrorists have planned to use commercially available technologies and platforms to attack vital targets. In June this year, *Spiegel Online International* reported the busting by the German police of an alleged terror plot to use remotely operated aircraft.<sup>2</sup> The actors involved were reportedly students at the University of Stuttgart, where they are taking courses in aerospace engineering.<sup>3</sup> In light of these incidents and since India is a major victim of terrorism, it is essential to study and analyse the possibility of the use of these unconventional and sophisticated methods by terrorist and separatist organisations to attack high value targets in India.

The primary reason that enables terrorist organisations and non-state actors to have the potential to develop and use such hi-tech means is the proliferation of sophisticated commercial technologies that, with only a little application of mind, could be adapted to develop such destructive systems. The flooding of the Indian market with a

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<sup>1</sup> Pakistani Terrorists Planned To Attack Pakistan Naval and Air Headquarter with Remote Controlled Aircrafts, *Asian Defence News*, 09 October 2013. Available at: <http://asian-defence-news.blogspot.in/2013/10/pakistani-terrorists-planned-to-attack.html>

<sup>2</sup> Islamist Raids: German Police Shoot Down Model Plane Terror Plot, *Spiegel Online International*, 25 June 2013. Available at: <http://www.spiegel.de/international/germany/german-police-suspect-remote-controlled-airplane-terror-plot-a-907756.html>

<sup>3</sup>ibid

wide variety of high technology commercial gadgets presents the resources that could be exploited by terrorists. Remotely operated aircraft or pre-programmed drone could possibly be used by these organisations. These platforms can either be purchased and modified to suit their needs or could even be built using technologies and resources available in the commercial market. A lot of companies build remotely operated aircraft with significant payloads for various applications. Terrorists could buy these aircraft and load them with high explosive payloads to strike high value targets.

It is possible for the non-state actors, and even easier for such actors who enjoy state support, to build a small guided aircraft with sufficient payload. The primary requirement is the availability of technically skilled persons, who can both be canvassed and recruited by the terror organisations or their services could be obtained from electronic markets without letting them know who they are working for. The other requirement is the availability of hardware for building these systems. These two requirements can be easily sourced from electronic grey markets found in electronic hubs in major Indian cities.

For example, a smart phone and the common mobile communication: Global System for Mobile (GSM) technology can be used to develop the guidance kit for the suicide drones which is the most complex part. GSM Transmitter and Receiver (TR) modules available in the commercial electronic market can be utilised by integrating the SIM card of any mobile service provider to build the guidance kit by just adding an additional microcontroller which can be programmed to execute pre-defined control instructions sent via text messages from another GSM mobile phone. To increase the precision, small GPS receivers in the smart phones can be used to enable GPS tracking of the drone by the operator in real time. Alternatively, an entire smart phone circuit board can be integrated with a microcontroller kit (programmed to convert the phone circuit instruction signals to command signals). For this special phone applications have to be developed to process the control information received from a similar application from the operator's smart phone. This alternative method is more sophisticated and offers better flexibility and ease to the operator as the system communicates through the internet and can transmit real time video and GPS coordinates to the operator. As far as building the aircraft is concerned, it

can be improvised with easily available materials. One example would be to use helium filled balloons (aerodynamically shaped) with aerodynamic controls, electric motor for thrust, guidance kits (described above) and the explosive payload. Further, internet technology presents as a major source of knowledge required to build such systems. An enormous number of circuit diagrams with details of its working and instructions to construct it are available on the internet which can be utilised to build the guidance kit for the mini-RPV.

### **Advantages**

Terrorists could use this means to strike high value targets as it offers a lot of advantages,

1. It can be executed at standoff range without immediately exposing the attacker.
2. The psychological impact of such an attack would be immense.
3. It offers the advantage of surprise as it is hard to detect and shoot down.
4. The penetrating capacity of such flying suicide drone into a well defended target zone is very high.
5. If the payload is chemical, biological or nuclear (radiological bomb), it offers the convenience of deniability (even for a state actor).
6. The cost of building such system is very low and the Benefit: Cost ratio is high.

As all necessary resources required to build such systems are easily available, it can be said that it is well within the reach of terrorists and anti-national elements to execute such sophisticated attacks on high value military or civilian targets in India. So government agencies should study this possibility and work towards preventing any such possible attacks in the future. One effective tool against such possibility is to have credible and timely intelligence on the activities of anti-national and terrorist organisation. The government agencies should also regulate the electronic markets spread across the country

and make it more organised and transparent. These are some measures that could be undertaken towards preventing such attacks. But of course, a lot more thought is needed to be given to dealing with the security challenge posed by these new tools of terror.

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