LETHAL AUTONOMOUS WEAPON SYSTEMS: A SOUTH ASIAN REGIONAL SECURITY PERSPECTIVE

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ISSUES

- Discerning UAVs from UCAVs
- LAWS and Asymmetric Warfare
- Stability-Instability Paradox in South Asia
UAVs / UCAVs

- Pilotless airborne systems

Unmanned Aerial Vehicles (UAVs) / Unmanned Aircraft Systems (UAS)

- Unmanned Combat Aerial Vehicle (UCAV) / Remotely Piloted Aerial System (RPAS)

- UAS – controlled either by:
  - pilots from ground
  - autonomously following a pre-programmed mission

- Two distinct categories based on objectives:
  - 1) for real-time reconnaissance, surveillance using high-resolution optical sensors during day and
  - 1) infrared cameras & synthetic aperture radars at night (UAVs)
  - 2) armed with missiles and bombs (UCAVs / Drones)

- Unmanned HALE-class (High Altitude, Long Endurance) surveillance aircraft used only for electronic reconnaissance and is unarmed
DISCERNING UAVS FROM UCAVS

- UAVs, diverse uses far beyond military combat usage only
- Including:
  - Aerial surveillance and reconnaissance
  - Search and rescue operations – a progressively expanding sphere
  - Inspecting powerlines, pipelines in inaccessible regions / high altitude terrain
  - Surveillance and data relay during natural calamities, disaster management
  - Border patrol missions
  - Checking trans-border refugee influx, border-smuggling
  - Maritime surveillance and coast guard operations
  - Detection and monitoring of radiation leaks or oil spillage, both at sea, and along the coastline
  - Gathering activity-based intelligence leading to proactive or anticipatory action by the security forces to foil imminent terrorist/insurgent attacks
### Drone attack in Pakistan: 2005-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Incidents</th>
<th>Killed</th>
<th>Injured</th>
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<tbody>
<tr>
<td>2005</td>
<td>1</td>
<td>1</td>
<td>0</td>
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<tr>
<td>2006</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2007</td>
<td>1</td>
<td>20</td>
<td>15</td>
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<tr>
<td>2008</td>
<td>19</td>
<td>156</td>
<td>17</td>
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<tr>
<td>2009</td>
<td>46</td>
<td>536</td>
<td>75</td>
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<tr>
<td>2010</td>
<td>90</td>
<td>831</td>
<td>85+</td>
</tr>
<tr>
<td>2011</td>
<td>59</td>
<td>548</td>
<td>52</td>
</tr>
<tr>
<td>2012</td>
<td>46</td>
<td>344</td>
<td>37</td>
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<tr>
<td>2013</td>
<td>24</td>
<td>158</td>
<td>29</td>
</tr>
<tr>
<td>2014</td>
<td>19</td>
<td>122</td>
<td>26</td>
</tr>
<tr>
<td>2015</td>
<td>4</td>
<td>27</td>
<td>7</td>
</tr>
<tr>
<td>Total*</td>
<td>309</td>
<td>2743</td>
<td>343+</td>
</tr>
</tbody>
</table>

*Data till February 1, 2015*
Civilian v. Taliban/al Qaeda Deaths in US Airstrikes in Pakistan
2004 - 2015

Year
Civilian Casualties
Taliban/Al Qaeda Casualties
India shares > 9320.5 miles of land borders

Coastline = 4670.5 miles

Source: Indian Ministry of Home Affairs
INDIA

- Unstable, volatile regional set-up in South Asia
- Immediate neighbours facing internal socio-political and economic instability
- Faced 152 militant movements since 1947
- 65 still active
- Urban terrorism & Left Wing Extremism
- Insurgency in Northeastern India
- Armed insurgency in Jammu & Kashmir
- Continues to face terrorism and externally-sponsored proxy war
**Stock of Arms Seized in Jammu & Kashmir**

- Indian security forces seized massive stocks of arms and ammunition (figures till 2004-05)
  - 28,000 Assault rifles
  - 1,300 Machine guns
  - 2,000 Rocket launchers
  - 365 Sniper rifles
  - 10,000 Assorted pistols
  - 63,000 Hand grenades
  - 7 million rounds of ammunition
  - 6,200 Landmines and IEDs
  - 37,000 kg of explosives
- **India has NO ordnance factories in Jammu & Kashmir**
INDIA AND UAVs

- India maintains UAVs for civilian and paramilitary usage
- Primary aim to man India’s borders on eastern & western front
- A technology enhancer and enabler for:
  - performing reconnaissance
  - air, maritime surveillance of borders
  - gathering accurate intelligence
- Round-the-clock surveillance during elections for State Legislature in Bastar region – a stronghold of the Maoists
- Half a dozen Nethra (meaning EYE) unarmed-UAVs patrolled 40,000 sq km area
- Indigenous Nethra UAV used in disaster management tasks, during landslide in 2014 in hills of north India
COASTAL SECURITY

Broadly covers:
- law enforcement
- anti-smuggling
- coastline monitoring and border surveillance

Early warning in defence of vital installations:
- nuclear sites
- power generation centres
- major grid installations
- dams, reservoirs, airports
Regions with UAVs—Long-range Offshore Missions by Indian Navy and Air Force

Line of Control (India-Pak)

India-China Border Western Sector

India-China Border Eastern Sector

PORBANDAR (Gujarat)
   Squadron of Searcher Mark II, & Heron UAVs

KOCHI (Kerala)
   Squadron of Searcher Mark II, & Heron UAVs

ANDAMAN & NICOBAR ISLANDS
   Two more Squadrons Planned
India and UAVs

- IAF has shifted latest Heron UAVs to the Line of Actual Control between India and China
- Heron operates at altitude 30,000 ft
- Ideal for surveillance missions in mountains
- In Kashmir...
- Seek to use UAVs featuring electronic sensors, on-board camera & re-chargeable batteries
- Since increasing ceasefire violations along Jammu and Kashmir’s border
- UAVs provide excellent inputs on intrusions
UAV Regulations in India

- Unmanned Systems Association of India regulates unmanned systems industry
- Need for creation of a regulated policy for unmanned aviation
- Manufacturing of UAVs are licensable as per notified Defence Products List
- Director General, Civil Aviation, does not permit launch of UAVs, even for civil applications by any non-government agency, organisation, or individual in Indian Civil Airspace, for any purpose
  - -- Indian Defence Minister Manohar Parrikar
  - Lower House, Indian Parliament
STABILITY-INSTABILITY PARADOX IN SOUTH ASIA

- Proliferation of asymmetric warfare in South Asia
- Heightens stability-instability paradox in the strategic spectrum
- Counterbalancing nuclear capabilities creates further instability, risk and vulnerability
- Danger of nuclear escalation
- Unlawful, criminal acts of non-state actors must be “attributable” to the state with credible evidence, in the event of the state failing to rein in these groups
- Customary international law and UNGA resolution 2625:
  - Clearly establishes state responsibility to refrain from supporting acts of terrorism, failing which the injured state(s) can exercise the right of self-defence to protect its interest and citizens
- Also specified by Article 51 of the UN Charter
- ICJ ruling: The state must do everything in its capacity to rein in these groups ... mere denial of state involvement is not sufficient
IN CONCLUSION...

- In counter-insurgency, unconventional, asymmetric warfare, combatants are often only identifiable through interpretation of conduct – the rule of distinction, thus, is most critical
- Presents a significant barrier to the capabilities of LAWS to distinguish civilians from combatants
- Need to use technology as an enabler/enhancer
- Attempt to regulate the use of lethal weapons, rather than ban entire technology per se
- Rein in the lethality aspect with appropriate regulatory framework