TCBMs for A Sustainable Outer Space

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Outer space currently governed by:

- UN COPUOS
- OST
- PAROS
- GGE
- PPWT
- Inadequate for a variety of reasons
- Time to promote TCBMs to close the loopholes and weaknesses as an intermediate step
Need for TCBMs

- Outer space challenges significant
- Development of legal measures could be a lengthy and time-consuming process
  - Start with the least controversial and minimally acceptable set of measures – TCBMs as a half way home to legal and verifiable measures
- Meanwhile...
  - TCBMs could instill greater trust and confidence between nations that might help in mitigating the political difficulties while working on fuller treaties

What are TCBMs?

- Means to strengthen dialogue, interactions while encouraging openness, greater transparency, information-sharing
- Voluntary, non-legal measures – enable better understanding, potentially reducing wariness, competition and rivalry
- Gaining criticality – critical number of countries supporting but all critical players required to be part of it make them meaningful
- Multiple levels of dialogue and interaction for broader understanding of what others are doing, different orientations of their space programmes
  - Reduction of misperception, wariness and miscalculations
- No guarantee but TCBMs could promote good behaviour because not being part of it or violating commitments after signing on to it makes one a pariah state
Functions of Outer Space TCBMs

- Important for tackling challenges – space debris, collision avoidance, promoting SSA, planetary defence
  - SSA ability to monitor, understand, and predict the changing physical environment
- What an effective SSA would do:
  - Tracking of space objects, debris, space weather, including predicting collisions in orbit, detecting launches of new space objects, predicting re-entry of space objects into the atmosphere, and detecting threats and attacks on spacecraft
- Existing SSAs – US, the largest network (Space Surveillance Network), Russia, EU
- Planetary Defence: meteor hit in Russia and Asteroid 2012 DA 14’s close miss – reality of threat from asteroids and meteors

Why Support Space TCBMs?

- Need for binding and non-binding instruments debated without much success
- States recognize the importance of the challenge
- Go a long way in the normative exercise
- In the absence of treaties and binding agreements, norms are the next best thing
- A bridge between an effective instrument and its fruition
- A forum for discussion and confidence-building
Support for TCBMs, Contd.

- GGE – promotes mutual trust, encourage cooperation and openness while reducing tensions and misperceptions
- GGE – explores voluntary and pragmatic TCBMs in space to ensure space security and space sustainability
- CoC – good initiative
  - Useful in codifying certain principles, rules, best practices while contributing to TCBMs and complimenting existing arrangements on outer space activities
  - The EU-proposed code ran into rough weather - more on the process than the content
  - But process important too – gives countries ownership, ensuring better compliance and thereby longevity

Merits of Space TCBMs

- Advantages
  - Voluntary commitments and therefore easier to reach agreement
  - Less complicated – what needs to be enforced and verified
  - No extended technical decisions given that these are political commitments
- Disadvantages
  - If it is a declaratory commitment, what is the efficacy?
  - Because it is non-verifiable, it could be broken with no penalties
  - With no verification mechanism, how do we know countries are not breaking commitments?
- Evolution of regimes: technical, political and legal stages
- Excellent measures targeting political aspects of addressing challenges, reducing wariness and misperception
Way Forward

- Strengthen efforts to establish norms of behaviour, regulating activities and capabilities while reducing mutual wariness, rivalry
- TCBMs are the first step towards a legal instrument
- Vital that we develop TCBMs and practical means of cooperation when deterrence model not yet policy for any state re. space, so possible to prevent it

Specific TCBMs

- Space Traffic Management Measures
  - Pre-launch notifications
    - Notification measures for ballistic missile and space launches (HCoC)
  - Standards for small-sats to ensure tracking
  - Space Situational Awareness (SSA) data exchange
- “No First Placement of Weapons in Outer Space” pledge
  - Solemn but unilateral pledge
  - With no clear definition on space weapon, important to focus on intentions – no attack on each other’s assets or not to have an arms race in outer space (be it thru’ placement of weapons or ground-based)
- ASAT test guidelines/ intentional orbital breakups rules
  - The UNIDIR proposal – no debris, low debris, notification
Specific TCBMs; Contd.

- Planetary Defence cooperation (SMPAG)
  - Meteor hit in Russia and Asteroid 2012 DA 14’s close miss – reality of threat from asteroids and meteors
  - Space Mission Planning Advisory Group (SMPAG) with UN OOSA as the permanent secretariat
    a useful initiative – “an international response to a NEO impact threat through the exchange of information, development of options for collaborative research and mission opportunities, and NEO threat mitigation planning activities.”
- Space Resource Utilization coordinating body
  - Establishing claims priority
  - Define safety zones
- Not the First to Act beyond the scope of Article 51
  - Exercising the right to self-defense on an imminent threat, before the attack has occurred – dangerous trend
  - Many developing countries see this as particularly troubling because they see this clause as further opening the door to conflict in space and a pretext to weaponize their capabilities