

# A CRITIQUE OF THE DRAFT SPACE ACTIVITIES BILL, 2017

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In November 2017, a draft regulatory bill directed at commercial space activities in India was made public by the Department of Space of the Government of India to seek comments from stakeholders. The intent of the Government, as expressly stated in the Bill, is to encourage the growth of private commercial space activities in the country. This article aims to critically examine the key clauses of the Bill with a view to assess whether it can effectively achieve its ambitious mission. The findings of the analysis reveal that the draft Bill, in its present form, is not conducive to the growth of private commercial space activities in India. due to vague and faulty drafting, and the inclusion of certain provisions that are detrimental to the interests of prospective private investors in the space sector. The draft Bill can be improved to meet its intended objective of promotion of space activities in India by enhancing clarity and precision in drafting, and taking cues from commerce oriented domestic space legislations of other established space faring nations, such as the United States and Australia, to reform the cumbersome regulatory procedure and reduce excessive governmental interference in the working of private enterprises.

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## Introduction

The first space activity in India was its first rocket launch in 1963 and since then there has been tremendous advancement in Indian space research and technology, which has transformed India into a global space superpower alongside countries like the United States and Russia<sup>1</sup>. India is a party to the Outer Space Treaty, under which states are required to authorize and exercise continuing supervision over activities of non-governmental entities in outer space, including the Moon and other celestial bodies, to ensure that such activities are undertaken in conformity with the provisions of the treaty, and states bear international responsibility for all national space activities, whether governmental or private<sup>2</sup>. However, India does not have a comprehensive national legislation regulating space activities and the legal regime relating to space activities comprises of the Constitution of India, which allows for the implementation of international treaties, the Satellite Communications Policy, 2000 and the Revised Remote Sensing Data Policy, 2011<sup>3</sup>. This is in contrast with many established space faring nations which have meticulously put together an extensive legal regime to regulate national space activities. The Indian Government thus felt that there was a need to formulate a national legislation to regulate and support the growing space activity in India. In November 2017, a draft regulatory bill was prepared and made public for seeking comments from stakeholders<sup>4</sup>.

Since the early days of India's space programme, the entities of the Indian Government have enjoyed a position of monopoly in the space

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<sup>1</sup>Senjuti Mallick, *Why India needs a space law*, THE HINDU (Mar. 15, 2018, 6:32 P.M.), <http://www.thehindu.com/opinion/open-page/why-india-needs-a-space-law/article19094453.ece>.

<sup>2</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, art.7, 610 UNTS 205.

<sup>3</sup> *Supra* note 1.

<sup>4</sup> *Ibid.*

sector<sup>5</sup>. A government organisation, Indian Space Research Organisation (ISRO), is responsible for the conduct of research and development activities of the space programme. Involvement of private industry was limited to manufacture and supply of components for use by government entities in their space activities. It is only recently that the possibility of public private partnerships is being considered seriously and core activities like satellite manufacturing and launch of spacecrafts is being outsourced. The Government seems inclined towards the idea of solely private commercial space projects, as is evident from the title of the Draft Bill of 2017<sup>6</sup>, but the road to realisation of such a scenario is ridden with challenges which must be resolved by the contemplated law. Although, the draft bill is a step in the right direction, it remains to be seen whether it can secure its intended objective of enhanced participation of private or non-governmental entities to further the growth of space commerce in India.

The primary concern of private entities desiring to enter the commercial space market in India is cost effectiveness, and considerable growth of space commerce in India will not be possible if the Draft Space Activities Bill, 2017 does not provide economic stability<sup>7</sup>, or if the cost of compliance with the law is too high. Entering the space sector is an expensive affair as costs are quite high and profit margins are low, especially in case of commercial space launches undertaken by private companies. Of critical importance to ensuring economic stability is laying down clear, orderly, predictable and uncomplicated procedures for licensing and oversight by an identifiable and accountable regulatory authority, which has perhaps not been achieved entirely by the current draft of the bill under discussion as there are significant anomalies in this

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<sup>5</sup> *Ibid.*

<sup>6</sup> Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>.

<sup>7</sup> *Ibid.*

area. The tendency of private companies is to invest in countries that have the most favourable space legislation and therefore India has to compete with countries like the United States, whose domestic space law limits liability in certain cases<sup>8</sup>. It is therefore vital for the draft bill to regulate the space industry in India in a non-intrusive manner so that the immense potential of the commercial space sector can be harnessed for the nation's progress in times to come.

### **Objectives and Content of the Draft Space Activities Bill**

The Indian space programme is controlled and directed by the Government of India through the Indian Space Research Organisation (ISRO), which is entrusted with the mission of promoting space technology, space science research and planetary exploration for the socio-economic development of the nation<sup>9</sup>. Since the beginning of space activities in India in 1963, the Indian space programme has developed into an extensive, and systematic endeavour to develop low cost indigenous space capabilities for peaceful purposes, comprising of space research and development; manufacture of reliable, low cost launch vehicles and placing payloads into orbit; manufacture and operation of satellites for communication, navigation and meteorological purposes; as well as missions to the Moon and Mars<sup>10</sup>.

The Antrix Corporation was established in 1992 as a corporate commercial arm of ISRO to internationally market its space products; conduct commercial space launches; aid the commercialisation of its other products and services such as manufacture of satellites; encourage private sector participation to nurture the growth of space commerce and industry in India; and to facilitate the import and export of space

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<sup>8</sup> *Supra* note 7, at 2.

<sup>9</sup> Vision and Mission Statement, ISRO (Mar. 15, 6:45 PM), <https://www.isro.gov.in/about-isro/vision-and-mission-statements>.

<sup>10</sup> National Regulation of Space Activities 154 (R.S. Jakhu ed., Springer 2010).

technology<sup>11</sup>. Antrix successfully collaborated with global industries in the field of remote sensing leading to the establishment of international ground stations for Indian remote sensing satellites, enabling the commercial lease of capacity from Indian communications satellites to VSAT, DTH, and cable & satellite TV service providers, facilitating joint manufacture and marketing of communications satellites, and offering launch services from the Polar Satellite Launch Vehicle (PSLV) for a large number of international customers in a cost-effective and reliable manner<sup>12</sup>.

Although the Indian space programme is largely the domain of the Government, ISRO has been encouraging private industry to deliver products for use in its space projects from the 1970s which resulted in many enterprises becoming the subcontractors of ISRO and the economic reforms of the Government in the early 1990s liberalized the entry of private companies in space activities related to telecommunications and television broadcasting<sup>13</sup>. In the present day, ISRO is actively seeking collaboration of private industry to augment its manpower, infrastructure and financial capacity in order to meet its annual satellite launch targets and explore new research areas<sup>14</sup>. ISRO has realised that it possesses the competitive advantage of offering satellite launches that are economical by international standards, but it cannot tap into the lucrative multibillion dollar satellite launch industry, in which it commands a meagre 0.5% share<sup>15</sup>, without the involvement of the private sector, and it thus plans to

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<sup>11</sup> *Ibid*, at 155.

<sup>12</sup> K.R. Sridhara Murthi & Mukund Kadursrinivas Rao, *India's Space Industry Ecosystem: Challenges of Innovations and Incentives*, 3 *New Space* 166 (2003).

<sup>13</sup> *Ibid* at 167.

<sup>14</sup> Arup Dasgupta, *Is India's Space Activities Bill as good as it is made out to be?*, GEOSPATIAL WORLD ( Mar. 15, 2018, 7:50 PM) <https://www.geospatialworld.net/blogs/isro-private-sector-in-indian-space/>.

<sup>15</sup> Staff Reporter, *Four reasons India is going big on space*, BBC (Mar. 15 2018, 7:50 PM), <http://www.bbc.com/news/world-asia-india-40175268>.

privatise the operations of the Polar Satellite Launch Vehicle(PSLV) entirely by the year 2020<sup>16</sup>.

Despite the willingness of the ISRO and the Indian Government to commercialise space activities in India, the absence of a comprehensive legal framework for the balanced development of the space industry is a major obstacle, given that it is a high investment and high-risk industry<sup>17</sup>. Space activities in India are regulated by the SatCom Policy,1997 and the Remote Sensing Data Policy,2011 which only deal with specific types of space activity, namely satellite communications and remote sensing, and do not cover commercial space launches by private parties. The intent of the draft Bill is to exploit commercial opportunities in space services available at the national and international level by encouraging participation of private sector organisations<sup>18</sup>. It aims to harness the interest shown by start-ups in investing in space activities under a legislation for the authorization and supervision of such initiatives, ultimately supporting the overall growth of space activities in India. Another objective of the draft Bill is to discharge India's international obligations under the major space treaties by enacting a domestic legislative mechanism. It was recognised that India would have to bear international responsibility and liability for damages caused by space activities and space objects even if such activities are carried out by private entities, and thus a need for licensing and supervising these activities was felt. In addition to this, India must comply with a variety of other requirements, such as those relating to registration under Article 4 of the Registration Convention<sup>19</sup>.

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<sup>16</sup> <http://www.news18.com/news/tech/why-isro-plans-to-privatize-pslv-manufacturing-by-2020-1578105.html>

<sup>17</sup> Shailendra Kumar, *Space Legislation in India Emerging Issues 9* (Regal Publications, 2015).

<sup>18</sup> *Supra* note 6, at 2.

<sup>19</sup> Convention on Registration of Objects Launched into Outer Space, art. 4, 1023 U.N.T.S..

The Draft Space Activities Bill, 2017 consists of a basic legal framework that provides for the creation of a regulatory mechanism by the Central Government and confers upon it certain powers to enable it to discharge its regulatory functions, as well as extensive rule making powers to regulate specific matters within the larger context of space activities. The draft Bill contemplates setting out a procedure for licensing of commercial space activities, and registration of space objects and expressly prohibits any unauthorised space activity. It defines the objects and persons that will fall within the purview of the new law and creates a variety of offences and penalties for enforcing the provisions of the Bill. The introduction of the draft Bill is a much-awaited development to bring India at par with other space faring nations that have formulated domestic space legislations, and the draft law is backed by good intent. However, greater scrutiny of some of the provisions reveals that it may not be able to bring in the kind of private investment envisioned.

### **Draft Space Activities Bill: Challenges and Opportunities**

Although the draft bill has the dual objective of regulating and promoting space activities, it adopts an overly regulatory approach, viewing regulation as control, through an extensive system of licensing, giving binding directions, subjecting the licensee to number of terms and conditions, asking it to furnish information and inquiring into its affairs, and creating a variety of offences. Alarmingly, this is accompanied by the absence of any provision that mandates accountability and transparency on part of the regulatory authority. Clause 26 of the Bill lays down that no suit, prosecution or other legal proceeding lies against the Central Government for anything done in good faith under the Bill and the rules made under it. This creates serious doubt as to the constitutionality of the Bill because it expressly excludes judicial review, a basic feature of the

Constitution<sup>20</sup>. Furthermore, the draft Bill only gives a broad regulatory framework that lacks many essential details. It suffers from excessive delegation as it confers on the Central Government sweeping rule making powers without much guidance as to how to exercise it<sup>21</sup>. This includes the power to lay down the eligibility criteria for licensing, in a draft bill centred on the idea of licensing.

Examination of the substantive provisions of the draft bill reveals a plethora of other problems. Firstly, the extent of application of the Bill lacks clarity. Clause 1(2) states that it extends to aircrafts and other air borne vehicles registered in India, which may cause unnecessary confusion as to licensing requirements for certain aviation activities. Moreover, the Bill only covers Indian citizens and government, or private entities registered in India<sup>22</sup>, excluding application to foreigners and foreign entities, leave scope for ambiguity in case of space activities carried out by way of collaboration with foreign persons, so it is important for the application clause to extend to all persons regardless of nationality. Since space is a central subject, the logic of appointing different dates for commencement of the Act in different states remains a mystery.

Secondly, the definition clause of the draft bill is also problematic. Clause 2(f) defines space activity to include use of space objects and all related functions, and the definition of space object in clause 2(g) includes its operation even in the development and validation phase, which means that companies undertaking research and development also have to obtain licenses, and even start-ups which haven't begun operations and are merely in the testing phase also need

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<sup>20</sup> MP Jain, Indian Constitutional Law 1789-1793 (6<sup>th</sup> ed., 2012).

<sup>21</sup> 1 MP Jain & SN Jain, Principles Of Administrative Law 74-77 (7<sup>th</sup> ed., 2011).

<sup>22</sup> Section 1(3), Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>.



licenses which can be an initial hurdle for those entities<sup>23</sup>. The phrase ‘use of space objects’ seems to cover activities like satellite communication, broadcasting and remote sensing, but there are no specific provisions for regulating them, and the Act seems oriented towards space launch activities. This means that these activities would be continued to be governed by earlier policies, but it would have been more desirable if those policies were concretised into law through this bill to provide a measure of stability to the existing policy, or at least the spheres of application of these policies were delimited through the Bill<sup>24</sup>.

Thirdly, the Bill raises the danger of arbitrariness on part of the Central Government on multiple levels. The Central Government is empowered to establish a mechanism for implementing the provisions of the Bill, such as licensing and yet the Bill nowhere defines the nature of this mechanism, giving unfettered discretion to the Government. Since ISRO, a government corporation, is also a commercial space operator, it is imperative that the mechanism must be autonomous so that conflict of interest may be avoided. The Central Government has been endowed with wide powers, including the power to determine space exploration policies and plans, to give authorisation for space activities, to provide technical and professional support, and also to investigate accidents or incidents. In the interests of justice and fairness, there should be a separate investigative agency, distinct from the mechanism performing the other functions, so it can function in an unbiased manner. Additionally, the Central Government may prohibit any person from entering a prohibited area, which includes test facilities, launch ports etc, which has the potential to seriously impede the working of a private

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<sup>23</sup> Madhumathi D.S., Draft space law has less than meets the eye, HINDU(Mar. 15, 2018, 7:02 P.M.), <http://www.thehindu.com/todays-paper/tp-national/tp-andhrapradesh/draft-space-law-has-less-than-meets-the-eye/article20668952.ece>.

<sup>24</sup> *Supra*, note 23.

company by cutting off access to these establishments<sup>25</sup>. In case of an emergency due to war, external aggression, natural calamity or other eventuality, the Government can take over management, control or supervision of any space object registered under the Act for a period it deems fit<sup>26</sup>. The lack of clarity on the term ‘other eventuality’ coupled with the possibility of an unlimited period of taking over create immense scope of abuse of discretion. Moreover, the clause does not speak of any kind of compensation to be paid in such a scenario.

Fourthly, the provisions relating to licensing are tedious and unfriendly to business interests. Clause 7 deals with award of licenses but it does not provide any qualifying criteria, such as financial health, and an environmental impact assessment for instance. The provision merely places certain riders like the space activity contemplated should not jeopardise public health or safety of individuals or property, is consistent with international obligations of India and does not compromise the sovereignty or integrity of India, security of state, defence of India, friendly relations with foreign states, public order, decency or morality. The inclusion of public order, morality and decency in this clause may lead to refusal of licence on flimsy grounds. These grounds are also included in the provision for suspension, variation and revocation of licence which can lead to arbitrary termination of the licence. It is crucial that the provision for revocation of licence takes into consideration obligations under bilateral investment treaties since India has been dealt adverse arbitral awards in the Antrix Devas case for unlawful cancellation of the contract<sup>27</sup>. To ensure fair play, there must

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<sup>25</sup> Section 21, Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>.

<sup>26</sup> Section 30, Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>.

<sup>27</sup> Narayan Prasad, *India's Space Activities Bill – A Good Start but Needs to get Better*, 6 Space Alert (2018).

also be a provision for judicial or administrative review in case licence is cancelled by the Central Government. Another arbitrary provision is clause 6 of the Bill which states that commercial space activity cannot be carried out without a license, but it empowers the Government to exempt any person from licensing if it is satisfied that the requirement is not necessary to secure compliance with international obligations. This provision is susceptible to abuse. The Bill pertains to licensing generally for space activities but doesn't require launch permits which may be granted after adjudging the fitness of a particular mission.

The Central Government can issue any direction to the licensee as it considers necessary for the compliance of terms and conditions of the licence. It may also issue directions in the interests of sovereignty or integrity of India, security of state, defence of India, friendly relations with foreign states, public order, decency or morality and the licensee is to be bound by such directions<sup>28</sup>. There is a stringent penalty of up to 50 crores for contravention of any direction<sup>29</sup>. These provisions have the effect of subordinating private industry to the government and create opportunities for rent seeking. Another problematic provision is Clause 9, which prohibits the transfer of a license without the prior written approval of the Central Government subject to appropriate terms and conditions. This may act as a barrier for an entity to exit the business in case it is unable to sustain operations for some reason. Also, this clause deals with transfer of licences only and does not regulate transfer or export of space objects or their components, which is a significant loophole, raising the question that in case of such transfer whether liability will also be transferred.

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<sup>28</sup> Section 29, Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>

<sup>29</sup> Section 20, Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>

Fifthly, the offences created by the Bill create several issues. Clause 19 states that only the government can prosecute, which doesn't make sense because there is a provision for restriction of disclosure of information related to space activities, the contravention of which leads to a minimum imprisonment of 6 months or a minimum fine of Rs. 50,000<sup>30</sup>. A private entity can't prosecute under this section even in case of breach of confidentiality which hampers its business. There is no provision for settlement of disputes between private parties, and between a private party and the Government, which is essential because all the launch facilities in the country at present are owned and operated by the Government. It is thus strange that the Government is accorded immunity from any kind of legal action. The Bill further mandates that an offence under it shall only be tried by a Metropolitan Magistrate or a First Class Judicial Magistrate<sup>31</sup> but it has failed to provide a mechanism to equip these judges to handle cases related to space law, which requires specific knowledge and training. Creating a special judicial tribunal with participation of technical experts may have been more appropriate.

Sixthly, there is no clearly worded clause in the Bill imputing liability to private parties. Clause 12 reads that a licensee shall indemnify the Central Government against any claims brought against it for any damage or loss arising out of a commercial space activity or in relation to a space object. It is vague as the terms damage and loss are not defined. It is not possible to ascertain whether the clause is talking about bodily injury, death, destruction of property, or a loss of revenue or profit. The clause further says that the Central Government shall determine the quantum of liability to be imposed upon the licensee, without any indication as to how the liability will be determined. This provision

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<sup>30</sup> Section 18, Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>

<sup>31</sup> Section 19(2), Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>

should have been better drafted to provide some predictability and certainty. Due to uncertainty as to the extent of liability, obtaining liability insurance will also be complicated. A better approach could be the United States model that establishes a ceiling for private liability beyond which the Government would have to step in, except if the damage is due to contravention of an express condition of the license<sup>32</sup>. The Australian approach, similar but with a limited period of liability, may also be considered<sup>33</sup>.

Coming to the provisions on insurance, clause 5(2) says that the Central Government shall cause to arrange financial guarantee or insurance in the manner as may be prescribed. Clause 8(2)(h) further states that the licensee must ensure himself against liability for damage or loss suffered by third parties. No quantum of insurance is mentioned in either clause, and liability for damage to Government property, and liability inter se between manufacturers, operators and launchers and other parties haven't been provided for. A waiver of mutual claims provision is required to preclude claims inter se which would help to reduce the cost of obtaining insurance, and maximum probable loss or maximum insurance available at reasonable cost in the world insurance market standard should be followed with respect to the amount of insurance required<sup>34</sup>. Furthermore, the Bill doesn't talk about pre-launch insurance, launch insurance and insurance of space objects and only deals with liability insurance. Provisions on these aspects would have been welcome, if not mandatory as it would help reduce risk of the space venture.

Lastly, a number of other things in the Bill are quite unacceptable, particularly that it doesn't protect the intellectual property rights of inventors in case of inventions made in outer space, and states expressly

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<sup>32</sup> Julian Hermida, *Legal Basis for a National Space Legislation 76-98* (Kluwer Academic Publishers, 2004).

<sup>33</sup> *Ibid*, at 111-122.

<sup>34</sup> *Supra* note 32.

that any form of IPR generated, developed or created on board a space object in outer space belongs to the Central Government<sup>35</sup>. This creates a huge disincentive for the private sector to invest in space activities. The Bill should instead extend the applicability of the Patents Act to outer space as the United States has done<sup>36</sup>. In terms of protection of the environment from harmful effects of space activities, the Bill shows a misplaced environmental concern. Clause 7(2)(g)(i) of the Bill requires the licensee to conduct operations in a way that prevents contamination of outer space and adverse damage or pollution to the environment of the Act, but it doesn't require a pre-license environmental impact assessment. However, the Bill punishes damage or pollution to the environment of the earth, airspace, outer space and celestial bodies<sup>37</sup>. This offence is not clearly defined, so what is meant by damage or pollution is not certain, and there is no reference to intention or any mental element to constitute the offence whatsoever, which is harsh and unjustified. Surprisingly, even though the Bill is geared at the promotion of commercial space activities in the country, it contains no incentive to encourage participation of private industry in space activities like tax breaks or a requirement to purchase launch services from the private sector as far as possible, as exists in the US<sup>38</sup>. Furthermore, the draft Bill overlooks the regulation of diverse range of space activities that may take off in the future in India such as mining of resources in outer space and space tourism. Since the Bill is intended to govern commercial space activities, it makes no attempt at delving into aspects of use of outer space for military activities.

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<sup>35</sup> Section 25, Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>.

<sup>36</sup> U.S. Patents Law, 35 U.S.C., §§ 100-105 (1952).

<sup>37</sup> Section 16, Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>.

<sup>38</sup> *Supra* note 37.

## Conclusion

The draft Space Activities Bill is a work in progress. It lays down the basic framework for regulating space activities with a view to encourage private investment in the Indian space industry, in furtherance of a more business friendly government policy, but is lacking in many vital details that may affect its workability. In the initial stages, if enacted as it is, it will have to counter legal challenges on grounds of excessive delegation and unconstitutionally excluding judicial review. If it succeeds in progressing beyond these challenges, it will face considerable ambiguity in application, and there will be several practical difficulties especially in implementation of provisions on licensing, liability, and insurance. The draft Bill appears to be largely in conformity with India's binding international obligations under the space treaties to which it is party, even going further in some cases such as in attempting to minimise space debris<sup>39</sup>. However, a more serious effort is required on part of the drafters to consider the interests of investors in the space industry, specifically with respect to issues like ownership of intellectual property rights. The draft Bill adopts an overly regulatory stance, with pervasive governmental control at multiple stages of a proposed space activity, which can stifle commercial space enterprise.

Prior to its enactment, several changes are necessary to be made in the draft Bill to equip it to govern present and future space activities more effectively. Provisions from commercially oriented space legislations of countries like the United States and Australia can be incorporated to remedy the defects of the present draft, as have been suggested by the researcher in the previous section, particularly with regard to introducing the concept of limited liability and the maximum probable loss or maximum insurance available at reasonable cost quantum of insurance. Other loopholes should also be rectified in

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<sup>39</sup> Section 8(2)(i), Draft Space Activities Bill, 2017, PRS (Mar. 15, 2018, 6:35 P.M.), <http://www.prsindia.org/uploads/media/draft/Draft%20Space%20Activities%20Bill%202017.pdf>.

accordance with the measures outlined above. Essentially, the Bill must ensure that in the anxiety of prudently regulating a nascent industry, it does not end up choking the growth of the industry itself which possesses the potential of being able to offer space services economically at the global scale. It must be oriented towards catalysing the development of the space industry in India, and the government must reduce suspicion towards private entities to regulate the industry in a balanced and even-handed manner.

In conclusion, the draft Space Activities Bill, 2017, in its present form, is not conducive to the growth of private commercial space activities in India. The draft Bill can be improved to meet its intended objective of promotion of space activities in India by enhancing clarity and precision in drafting, taking cues from commerce oriented domestic space legislations of other established space faring nations to reform the cumbersome regulatory procedure and reduce excessive governmental interference in the working of private enterprises.