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LIABILITY FOR PRIVATE SPACE ACTIVITIES: Analyzing The Trends In Shifting Of Liability From The States To Private Space Actors

- BIPRO PRATIM DAS

Abstract

With the development of technology and scientific invention, the space industry is not an exception. There has been a drastic increase in space launching activities over time, soon after when Russia launched its first satellite Sputnik-I in outer space in October 1957. This spurred the United States to establish NASA in 1958, and after that, the United Nations passed several resolutions in 1959, establishing the UNCOPUOS (United Nations Committee for the Peaceful Uses of Outer Space). In 1961 UNGA Res. 1721 was passed to apply the provisions of International law, including the UN Charter in outer space; in 1963 had importantly placed enormous guidelines for the use of outer space. As per the present international law regime on liability, the States are held responsible or liable for the damage caused out of outer space activities, whether by themselves or by the private entities. The private entities found that commercializing outer space activities will earn huge profits. This intrusion by private entities has vested more responsibility on the States to ensure the regulation of the private activities in space and made the State accountable for any damage caused by private actors.

In this article, we will research how the liability has been gradually shifted from the States to the private players by restructuring the municipal laws in different most developed countries like the U.S.A., the U.K, Russia, Australia, and France. We shall understand the shift of liability on the private operators and the reason behind doing so from this article.

With the increase of private investments in the global space activities to approximately 50.8 billion dollars as of 2004, it is evident that it bears the risk of collision in orbit with the increase in the number of artificial space objects. The Geo-Stationary Orbit (G.S.O.), which is 22,400 miles above the Equator, shows that it is overcrowded with innumerable satellites creating an increase in space debris every year. This alarming increase in their numbers also makes it susceptible to causing damage to the life and property of the other States. The new question that arises internationally is who should be made liable for the damage caused out of the private space activities; it is the State or the private operators themselves. This presently makes us focus on the problem of how the international law can impose liability on the private players for their acts or omissions causing damage to the life or property of another State.

Another problem lies concerning liability. When two or more States have jointly undertaken an outer space project, some States have not ratified the Liability Convention, so it is difficult to confer the liability on such States that have not ratified the Convention.

This paper shall focus on the liability regime, thus designing a legal framework for holding the space activities of private entities in the use and exploration of outer space. However, private citizens claiming damages due to the artificial space objects generally do get perplexed due to the blending of Space law, municipal laws, and International law.

Research Problem:

With respect to the area of our research the finding is profoundly based upon whether the State should be made responsible and liable for the acts of Private space entities. On the other hand the paper shall also dwell upon the State practice and their municipal laws solve followed by the five most developed countries like the U.S.A, U.K, Australia, France and Russia. Lastly the paper

concentrates on testing the impact of vesting the burden of liability on the potential private players who may not be ready to invest in this activity fearing burden.

The research undertaken shall be purely doctrinal and tools like the historical, analytical, critical, and comparative will be used herein. The Primary resources hereby resorted to U.N. Resolutions are 1472(XIV) in 1959, the UN Res. 1721 in 1961 and the UN Res. 1962 in the year 1963 have been referred for studying. Legislations like The Convention on International Liability for Damage caused by Space Objects 1972, the Outer Space Treaty of 1967, the Agreement Governing the Activities of the States on the Moon and other Celestial Bodies 1979 and The Space Activities Bill (2017), The Space Industry Act of 2018, the Law of the Russian Federation About Space Activity, and other documents shall be analyzed as a primary source of conducting this research.

The Secondary resource in the form of a book has relied upon the book written by Professor Dr. Sandeepa Bhat B. on "Space Law-In the Era of Commercialisation". The article "Legal Framework of State Responsibility and Liability for Private Space Activities" was written by Professor Dr. Sandeepa Bhat B. and Dr. P. Ishwara Bhat to understand the extensive explanation about the liability of private space activities and their relationship with States.

THE MAJOR STATES ON THE LIABILITY OF PRIVATE SPACE ACTIVITIES: UNDERSTANDING THE SHIFTING LIABILITY REGIME FROM DIFFERENT NATIONAL LEGISLATIONS.

It has been seen that the liability regime has taken a shift towards holding the private players responsible for the damage arising out of their activities. As per the liability regime seen in International law, the States are made responsible or liable for the acts or omissions of the private space operations. However, the liability regime vested on the States has been highly countered and criticized by various international scholars who asserted that it is practically impossible and not desirable for the States to shoulder the burden for the private space activities. This makes us realize that the private space operators who reap the benefits arising out of their successful space operations are relieved from any burden at the time any damage is caused out of their activities, is somehow not justified.¹

The aforesaid problem brings us a question as to what extent the acts and omissions of the private entities can be attributed to the State. In other words, it is pertinent for us to understand the Principle of Imputability. The International Law Commission's revised Draft Articles on State Responsibility, 2000 held under Article 6 and 7 that if the Act or omissions of the private entity was under the direction, control, or instruction of the State or the private entity was in place of official authorities or exercising governmental authorities respectively.²

But on the other hand, holding the State liable or responsible for the acts of the private space operators is considered to be necessary to make at least the State liable in the international pedestal if not the private operators as they may easily escape from the liability with the defense of liquidation or the defense of not having international characteristics to be held liable. Since space operation is a very risky activity, someone must take responsibility for any damage. That is why the State is made internationally responsible or liable for the private space activities. Thus relying on the principle that the State had the duty of care to exercise due diligence is to prevent its citizens

¹ Dr. Sandeepa Bhat B. "Space Law-In the Era of Commercialization", published by Eastern Book Co. pg. 131-133.

² Supra Note 1.

from causing damage to another State in any manner whatsoever.³

With the commercialization of outer space activities, the States invited the private launchers to participate in the space activities for exploring and advancing scientific temper in remote sensing, navigation, space research etc.⁴ In the domestic level, the States whether can claim any reimbursement from the private entities has not been specified under the international law. The States have enacted domestic legislation to control and ensure compliance with the activities of the private enterprises.⁵

Today there has been a drastic shift of responsibility or liability onto the private space operators by vesting the domestic and international tort liability.⁶ The impact of such principle by holding the private launchers liable for the damage caused by them had been discussed herein concerning countries like Australia, the United States, the United Kingdom and France. Having understood the national space legislation of different countries, this research has aimed to conclude which form of legislation incentivizes the private enterprises to participate in space activities.

The United States of America:

The two private space launches are there in the U.S.A. One by the Space Services Inc. on March 29, 1989, and the other by McDonnell Douglas on August 1989, marked two different pictures of space launches, the former used private facilities, and the latter used the latter governmental facilities.⁶ Further in the month of October of the same year, the *Galileo* satellite was launched in outer space, which carried such a danger of liability as any mishap would result in the radioactive contamination of the Earth's atmosphere or surface. However, the Galileo project was a government endeavor as no private industry risked its liability on such a launch. The aforesaid information was to share an idea of how private enterprises have gained momentum with time.⁷

AN OVERVIEW OF THE DOMESTIC LAWS GOVERNING PRIVATE SPACE ACTIVITIES:

The Commercial Space Launch Act 1984 authorizes the Office of the Commercial Space Transportation (OCST) to grant a license for the private space launches and prohibits any private space vehicle to launch without its authorization so granted by way of license.

The Amendment to the Commercial Space Launch Act 1988 mandatorily requires the private launchers to obtain liability insurance based on the 'maximum probable loss' for the death, injury, loss or damage of property which is to be decided by the Secretary of Transportation to determine the minimum sum of insurance-cover to be possessed by the licensee.⁸

The amendment also introduces the maximum liability insurance to be taken up by the licensees up to a cap of 500 million dollars for the damage caused to third parties, which even includes the

³ See, Articles 6 & 7 of *The International Law Commission's revised Draft Articles on State Responsibility*, 2000.

⁴ *Supra Note 3*

⁵ Van C. Ernest, *Third Party Liability of the Private Space Industry: To Pay What No One Has Paid before*, 41 *Case W. Res. L. Rev.* 503 (1991) Available at: <https://scholarlycommons.law.case.edu/caselrev/vol41/iss2/5>

⁶ See Straubel, *The Commercial Space Launch Act: The Regulation of Private Space Transportation*, 52 *J. A.I.R. L. & CoM.* 941, 953

⁷ *America's Private Road to Heaven*, *U.S News & World Rep.*, September 11, 1989, at Pg. 11-12.
Supra Note 5. Pg.504(1987)

⁸ 49 *U.S.C.* § 2603(11) (1988).

legitimate claims of the U.S nationals.⁹ The claim which exceeds the pre-decided liability cap of the private parties, which is 500 million dollars, the excess of such a cap shall be borne by the U.S Government. Thankfully no claim has exceeded the sum of 100 million dollars as the damage yet.

The federal Government as per Sec. 2615(b)(1) of the Commercial Space Launch Act 1984 as amended with 1988, makes itself available to pay for the damage exceeding the cap of 500 million dollars up to a sum of 2 billion dollars and if any claim is above 2 billion dollars then the private players is to bear the full responsibility for the claims exceeding 2 billion dollars, as provided by the United Nations Office for Outer Space Affairs (UNOOSA).¹⁰

Indeed this clarity on the liability of the private players incentivizes their participation when they are ready to accept the risks along with the fruits of the space operations.

Reasons behind Shifting Liability of Space activities:

NASA had made a public announcement in its website stating that the U.S government is going to prioritize private space activities instead of the State-sponsored NASA organisation.¹¹ The reason so provided by NASA says that the Government of U.S.A is found to be de-prioritizing the government-funded projects as they require a huge expenditure to drain a substantial portion of the Government treasury, all at once. The Government budget on space programs did not keep up with the inflation, so the space budgets have been reduced to a minimal level merely for a showcase. For instance, the space shuttle programs of NASA, which would supply important cargo to the International Space Station, was discontinued in 2011 due to budget cuts.¹²

The Government found it cost effective to shift the space activities to be carried out by the private companies. The Government found that since the private companies like SpaceX and Orbital A.T.K. are granted the authority to enjoy the space launching activities, the burden cannot in any way be borne only the Government alone. This is where the Governments across the globe found it a reason that private companies should also bear the burden of liability when any damage is caused out of their activities.¹³

The Government found it cost efficient to promote private companies and that is why NASA took assistance from SpaceX and Boeing for carrying astronauts to low-Earth orbit. The NASA space shuttle programs would earlier incur an expenditure of around \$4 Billion each year, whereas taking assistance of private companies cost comparatively less at a rate of 50 million dollars per launch.¹⁴ This makes NASA to save a lot of money and invest in researches and inventions in different spheres. It is estimated by the Government that promotion of private companies to enter into private launches shall create a competitive market among other private companies. As a consequence every private entity would strive to reduce down the costs as they all shall run a highly competitive race. This reduction of costs shall ultimately benefit the Government to avail services at a nominal rate in the near future. However the U.S Government had been very clear not to shoulder the burden of liability all alone but also shift the liability

⁹ *Supra Note 5.*

¹⁰ *Supra Note 10.*

¹¹ 49 U.S.C. § 2615 (b)(1)(1988).

¹² Lina Shi, "The Implications of the Privatization of Space Exploration", published on December 12, 2016, https://publicpolicy.wharton.upenn.edu/live/news/1619-the-implications-of-the-privatization-of-space#_edn5, (Last Visited On: March 8, 2020, at 12:40PM)

¹³ *Supra Note 14.*

¹⁴ https://www.nasa.gov/mission_pages/station/structure/launch/overview.html (Last Visited On: March 8, 2020 at 12:40PM)

towards the private entities with the help of domestic legislations.

Russia:

Article 25 of the Russian Federation on Space Activities Act 1993 requires mandatory insurance to be taken by every space launcher where the amount of insurance coverage is to be set by the Russian Federation from time to time. It says that the fund raised out of the compulsory licensing of the private space launches “shall be transferred to the Russian Space Fund...and shall be used to compensate for damage as a result of accidents while carrying out space activity on the basis of contracts of insurance.” Simultaneously Article 30 of the aforesaid law provides accordingly:

1. The Russian Federation shall guarantee full compensation for direct damage inflicted as a result of accidents while carrying out space activity in accordance with legislation of the Russian federation.
2. Compensation for damage inflicted as a result of accidents while carrying out space activity shall be paid by the organizations and citizens responsible for operation of the space technology involved.
3. There is also an exception provided that if the damage is caused out of the error committed at the creation and use of space technology then the liability for damages shall be partly or fully laid upon the appropriate organizations and citizens.
4. Liability for damage inflicted by a space object of the Russian Federation within the territory of Russian Federation or outside the jurisdiction of any State...shall arise regardless of the fault of the inflictor thereof.
5. If the private space activities have caused damage to the Russian space object then the liability shall be vested on the organizations and citizens on the basis of a fault based liability in proportion to their fault. In case of a joint operation causing damage then the injured party may claim from all such joint operators.¹⁵
6. The liability of organizations and citizens participating in the creation and use of space technology for damage inflicted as a result of accidents, shall be limited to the amount of the insured sum or insurance indemnity provided in the contracts of insurance. If the insured sum or insurance indemnity is found insufficient for compensation then the recourse shall be taken against the property of the relevant organizations and citizens in the manner specified in the legislation of the Russian Federation.

Also the sum of insurance to be taken is dependent on the type of space vehicles. Like for instance the Russian Government requires the private operators to take a cover of 80 million U.S. dollars for the Start vehicles and 300 million dollars for the Sayuz and Proton launch vehicles.¹⁶

¹⁵ National Space Law Collection: Russian Federation.

http://www.unoosa.org/oosa/en/ourwork/spacelaw/nationalspacelaw/russian_federation/decree_5663-1_E.html

¹⁶ J.A Vedda, “Study of the Liability Risk Sharing Regime in the United States for Commercial Space Transportation” August, 2006 at 52, available online

[http://www.faa.gov/about/office_org/headquarters_offices/ast/reports_studies/media/Risk_Study\(final\).pdf](http://www.faa.gov/about/office_org/headquarters_offices/ast/reports_studies/media/Risk_Study(final).pdf)

Reason for Shift of Liability to private entities: The Russian space legislation does not expressly provide for a limit of liability as they are not obligated to share the liability which arises out of private space activities. The Law of Russian Federation on Space provides for a fault based liability on the private companies to bear the burden of liability equivalent to its limit of insurance. The Russian law clearly points out that if the quantum of damage exceeds the insured amount then the property of such private entity shall be taken into evaluation to meet the excess claim for loss. The reason may be the same that the Russian Government does not want the taxpayers' money to be invested to share the loss arising from such private activities. It relies on the principle that the respective private owners should bear the space activity at their own risk of bearing liability.

Australia:

The Space Activities Act of 1998 which has been vastly amended with The Space Activities Amendment (Launches and Returns) Act 2018 to incorporate changes pertaining to the liability regime inter alia other changes. Sec. 75A of the Act of 2018 makes the launching party liable to pay damages for any damage caused to a third party either on Earth or in air. Sec. 75D(2) sets the defenses available to the launching entity if the damage has resulted from-(a) negligence of the third party; or (b) any act or omission of the third party with the intention to cause damage.

However Sec. 75E sets a limit of liability for the private launchers which is not more than the insured amount only if such launching activity was authorized by the Australian permit and there has been no breach of any of the conditions of permit nor there was any negligence or done with an intention of the launching party.¹⁷

The sharing of liability also plays a pivotal role in the private launching activities. It provides that if any claim for damages is more than the amount insured to meet such contingency then the amount exceeding the insured amount shall be borne by the Commonwealth (the Australian Government) upto a ceiling limit of 3 billion dollars. The private launcher has to bear the liability upto the sum insured and if the claim is more the damages in excess of the insured sum is to be borne by the Commonwealth, subject to fulfillment of certain conditions.

The conditions to be fulfilled are enlisted hereunder: (a) The damage must not have been caused with an intent of the private launcher or any such related person. (b) The damage must not have been a result of negligence of the private launcher or any person related. (c) The claim for damages should not be exceeding a sum of 3 Billion dollars; the non-fulfilment of any such aforesaid conditions shall make the private launcher totally liable to meet the claims of the victims.¹⁸

Thus this is the way in which the national space legislation of Australia limited its unlimited liability as in the Act of 1998 to a sum of 3 billion dollars by making the private space launchers wholly liable if the claim exceeds the aforesaid sum. The reason as to why the Australian Government shared liability ranging from the insurance amount upto a ceiling of 3 Billion pounds, is where the Government itself limited its liability so that private activities do not drain away the taxpayers' money.

France:

The French system of liability for private space activities is considered to be simple yet complex. This regime in the entire international community for the first time confers a Sovereign guarantee to the private launchers to get a reimbursement or indemnification of any claim in excess of 70 million euros. Nowhere in the world the State provides for a Government-guarantee to its private launchers to indemnify the amount in excess of 70 million euros without even having an upper ceiling limit of such an indemnification, is what really attracts the private investors in France. Provided that the launching activities must be done in accordance with the requirements of licensing, authorization and without willful misconduct. The national space legislation has been designed with a sovereign guarantee whereby the State vows to undertake the liability to over and

¹⁷ Australian Space Activities Act 1998: Act No. 123 of 1988. So Amended in 2018.

¹⁸ Supra Note 18.

above 70 million euros, which itself is a major welcome to private space entities. It is in this system that the Government does not provide for a ceiling limit to its own extent of liability. The private companies may find it to be the most preferred site of investment where they can explore the space by sharing a guaranteed liability with the State.

United Kingdom of Great Britain and Northern Island:

Earlier The Outer Space Act of 1986 was found to have certain irregularities and that is why the U.K Government decided to enact The Space Industry Act of 2018 to provide for a new regime of liability which has been minutely discussed herein. The Sec. 34 of the said Act makes the private operators liable for any damage or injury is caused to persons, property, or land, water or sea, or to persons or property on board any aircraft, in the same manner of liability as if the injury or damage had been caused by the willful Act, neglect, or default of the operator. This is where the principle of Strict liability is seen. The Act also precludes any individual, who took part in the spaceflight activities, or persons who contributed to the negligence resulting from such damage, or those claiming through this Act for any damage or injury sustained by him or his property. It also protects in disguise the private launchers from any damage so caused by any person other than the operator by making a claim in respect of the injury or damage or a claim for indemnification in case the private operator had to unjustly bear the burden of such damage.

The Secretary of State has been made the regulator to ensure safety in the private space operations by exercising control over the launching activities with the assistance of the Space Leadership Council so established in 2010 and also to ensure that all standards such as licensing and insurance are complied with. The Space Leadership Council has played a vital role in shaping the entry of private enterprises in the space industry by having periodic discussions, exchanging views etc.

Under Sec. 35(2) provides that the State (through the Secretary of State) *may* indemnify the licensee (in a way asserting that licensing is compulsory) if the liability amount exceeds the insurance amount. The word '*may*' highlights the discretion available to the State in not indemnifying the licensee even if all possible conditions are fulfilled. As per Sec. 36 (1) there is an obligation on the person carrying out spaceflight activities to "must indemnify" against any claims brought against the Government of U.K. But the Act has been very particular in establishing a mandatory indemnification by the Secretary of State to the claimant in terms of the difference of the insured sum and the liability amount or even when the licensee fails to pay his portion of liability.¹⁹ This sort of liability does not in any way give clarity to the private investors in measuring their limit and extent of liability before stepping into their business in the U.K. It is because every private player expresses interest into the space industry to reap profits in the long run but lack of a limit or extent of liability backlashes their interests for participation.

REASONING BEHIND THE SHIFT OF LIABILITY ON THE PRIVATE SPACE ACTIVITIES IN THE NATIONAL SPACE LEGISLATION

The development of science and technology has opened up the scope for the private enterprises to intrude in the space activities in the way of commercialization and privatisation.²⁰ As per the

¹⁹ *National Space Law Collection: Space Industry Act, 2018, United Kingdom of Great Britain and Northern Island:* <https://www.unoosa.org/documents/pdf/copuos/lsc/2018/tech-01.pdf>

²⁰ F. Tronchetti, "Fundamentals of Space Law and Policy", Springer, 2013, 26

existing realm of international law the States are made indirectly responsible for any damage arising out of the private space activities.²¹The States have been vested with the principle to ensure due diligence and exercise control over the private activities which is practically not possible. Yet upon realizing the quantum of risk involved in the space activities someone must be held liable to pay for the damage so caused. The States are vested with the fault-based liability for the failure to exercise due diligence on the private acts or omissions. It was indeed a problem for the State to exercise control unless it introduced the licensing and insurance system to combat the problem and thereby have a regulatory framework available to the States. The States have introduced the national space legislations as discussed earlier and the analysis of which is to be done herein to understand its impact on the private space industry.²³ It is and will always be believed that a stringent and strict policy of regulation by the Government may create a backlog for the private industry to participate in excess governmental regulations. Even when the liability is not fixed by the Government for the damage so caused by the private space activities actually instills fear in the minds of the private entrepreneurs due to lack of clarity of their liability per se. Indeed the fixation of liability is undoubtedly one of the ways to invite private participation where they become aware of their extent of liability. In the national legislation of France when the State guarantees on the reimbursement of the amount exceeding 70 million Euros, it instills a sense of relief and clarity for them to be prepared for such contingencies. The U.S.A also provides for such reimbursement promise under Sec. 2615(b)(1) of the Commercial Space Launch Act 1984 as amended with 1988, over 500 million dollars upto 1.5 billion dollars.²² The national space legislations should establish a statutory body just like the Space Leadership Council in the U.K or even a forum for Space discussion for exchanging views about what regulations would be undertaken so as not to overburden the private industry and instead smoothen their activities, could be an essential model for national space legislations.

Another core issue lies in terms of the applicability of jurisdiction in case the space activity is carried out by a private entity of a different nationality. This means that there lies a conflict of jurisdictional liability as to whether geographical jurisdiction will operate or the personal jurisdiction is a matter of confusion in the international space law. The international space law is silent on that and some authors interpret that as per Article 6 of the Outer Space Treaty the use of the term “appropriate State” means the responsibility of damage is to be borne by a single State.

The U.S Government found it cost efficient to promote private companies and that is why NASA took assistance from SpaceX and Boeing for carrying astronauts to low-Earth orbit. The NASA space shuttle programs would earlier incur an expenditure of around \$4 Billion each year, whereas taking assistance of private companies cost comparatively less at a rate of 50 million dollars per launch. This makes NASA to save a lot of money and invest in researches and inventions in different spheres. It is estimated by the Government that promotion of private companies to enter into private launches shall create a competitive market among other private companies. As a consequence every private entity would strive to reduce down the costs as they all shall run a highly competitive race. This reduction of costs shall ultimately benefit the Government to avail services at a nominal rate in the near future. However the U.S.A Government had been very clear not to shoulder the burden of liability all alone but also shift the liability towards the private entities with the help of domestic legislations.

Whereas the national space legislation of Australia limited its unlimited liability as in the Act of 1998 to a sum of 3 billion dollars by making the private space launchers wholly liable if the claim exceeds the aforesaid sum. The reason as to why the Australian Government shared liability ranging from the insurance amount upto a ceiling of 3 Billion pounds, is where the Government

²¹ Dimitri Linden, “The Impact of National Space Legislation on Private Space Undertakings: A Regulatory Competition Between States?”Leuven Centre for Global Governance Studies, The Institute for International Law, Working Paper No. 190-September 2017.

²² *Supra* Note 21.

itself limited its liability so that private activities do not drain away the taxpayers' money.

The Russian space legislation does not expressly provide for a limit of liability as they are not obligated to share the liability which arises out of private space activities. The Law of Russian Federation on Space provides for a fault based liability on the private companies to bear the burden of liability equivalent to its limit of insurance. The Russian law clearly points out that if the quantum of damage exceeds the insured amount then the property of such private entity shall be taken into evaluation to meet the excess claim for loss. The reason may be the same that the Russian Government does not want the taxpayers' money to be invested to share the loss arising from such private activities. It relies on the principle that the respective private owners should bear the space activity at their own risk of bearing liability.

The national space legislation of France has been designed with a sovereign guarantee whereby the State vows to undertake the liability to over and above 70 million euros, which itself is a major welcome to private space entities. It is in this system that the Government does not provide for a ceiling limit to its own extent of liability. The private companies may find it to be the most preferred site of investment where they can explore the space by sharing a guaranteed liability with the State.

However in terms of the liability regime every State must adopt a victim friendly approach so that the space launchers should not enjoy the benefits at the cost of others' life and property without providing for just and fair compensation to the victims.

CONCLUSION

The private space activities have gradually boosted up the international market from different States thereby conducting space activities like remote sensing, satellite navigation, space research and even for space tourism is indeed going to grow many folds in the recent future. The national space legislations have come up in different countries but interestingly there are stringent regulations on their activities also entailing unlimited liability. The States through its domestic laws must ensure that private entrepreneurs get the opportunity to place their views with the Government so that their liability may be limited to a certain extent to bring about a clarity on that. The problems like unlimited liability on the part of private operators is indeed a scaring element for the investors. The States through its national framework should share the burden of damage with the private operators if the claim exceeds a certain limit. If the State wants to limit its liability then it may also provide for a cap of its own liability while sharing the burden.

There may be a two-fold argument of totally placing the burden on either the private enterprise or the State. If the burden has to be totally on the State then it is practically not just and fair to make the State shoulder the entire liability at the cost of the taxpayers' money. Therefore it is unfair to make the State shoulder the burden when the private players are to only reap the profits without any liability. This form of State regime will give clean hands to the private entrepreneurs to do whatever without taking appropriate measures to eliminate the risks. This form of total liability is not desirable at all as the private players cannot be allowed to reap profits at the cost of the State's expenditure. On the other hand making the private entrepreneurs fully liable will scare them away from participating in the private space activities. If the State does not provide for a limit of the liability for the private activities then this might not incentivize them to invest in the space industry.

Thus a proper national legal framework for private participation gives an impetus to the private industry for them to render services with a limit on their liability.