

Mars Exploration (3)  
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## MARS EXPLORATION LEGAL FRAMEWORK, AN OPPORTUNITY FOR SPACE RESOURCES PRESERVATION MODELLED BY THE MOON AGREEMENT'S LEARNINGS

### Abstract

Currently, the Mars orbit is counting fourteen satellites (ExoMars 2016) for tele-detection purposes, and seven landed rovers on its soil (Curiosity, Nasa, 2011) collecting samples, exploring the territory, and assessing its ability to support life, especially through the running water discovery. These activities are exponentially blooming with the inclusion of new actors such as the Indian Space Research Organization planning a Mars orbiter mission for 2024, the MMX Japan project for 2029 and China's CNSA return plan for 2030 (Tianwen-1 exploration). This context acknowledges the legal and scientific virginity of Mars, undeniably requiring the adoption of an Agreement Governing the Activities of States on Mars and other Celestial Bodies built on the Moon Agreement's learnings (1979). This potential legal document could firstly respond to the silent article II of the Outer Space Treaty (1967), by extending the prohibition of national appropriation to territorial and space resources claims. Even if this answer has already been covered in the famous article 11 of the Moon Agreement, the Mars Agreement should re-sculpt it in favour of States ratification, to avoid unilateral declaration of ownership right, like the Luxembourg law on the exploration and use of space resources, 20th July 2017. Traditionally, Mars and its natural resources, as the common heritage of mankind (art.I.OST), must not be subject to national appropriation by any claim of sovereignty (art.11(2) Moon agreement), respecting the State's right for exploration. Innovatively, Mars resources could be subject to a safe development, a rational management, and an equitable sharing of benefits by all States Parties directed by an international space authority, in consistency with the debatable article 11(7) of the Moon agreement. Subsequently, to avoid its lack of legal effectiveness, it is conceivable to let States unilaterally define to what extent there could be an equitable sharing with partners States. Additionally, beyond what has been done in space hard law, the Mars agreement could contain a mandatory provision on the debris removal or recycling duty, on the minimization of potential break ups during the exponential phase and the limitation of long-term presence and interference of spacecraft, in harmony with the debris mitigation guidelines. Consequently, these restrictive but safe obligations for space traffic management, through Mars exploration, could be the opportunity to develop customary law in favour of space exploration prosperity.