
The International Crime of Ecocide: Regulating Environmental Degradation in Outer Space

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The interpolation of humanity's terrestrial environmental mismanagement to the outer space domain represents a pressing issue for humanity's future ambitions among the stars, requiring recourse in codifying and classifying the crime of ecocide via a human rights-based approach. The issue of environmental degradation represents a growing concern among governments, noting how the growing incidence of terrestrial ecological disasters have contributed to the accelerating pace of climate change and environmental collapse.

"Ecocide" is generally defined as the mass damage and destruction of ecosystems, constituting harm to nature which is widespread, severe or systematic. The recognition and classification of ecocide as an international criminal act and human rights violation stands to support sustainability, encourage environmental responsibility, and support the continuing notion of space as the province of all humanity.

This unfolding situation is illustrated within the recent oil spill in Israel, and glacier bursts caused by climate change in India trapping one hundred and seventy people. Consequently, international jurists and environmentalists such as Greta Thunberg have called for the E.U. to support the adoption of the new crime of ecocide under international law. The intent of such measures seeks to criminalize deliberate acts to destroy the environment, and prosecute those responsible for large-scale destruction of the natural world.

In the outer space context, developing concerns surrounding space debris and irreparable damage to outer space environment have been raised within international space law (ISL) jurisprudence over the past several decades. While the movement to classify ecocide as an international crime has existed since 2010, the fragile nature of the outer space environment and transposition of humanity's polluting activities into space must be addressed and curtailed before it is too late.

Context

The "stop ecocide movement" has gained significant international traction and support in recent years. Since 2016, the International Criminal Court (ICC) has displayed a willingness to prosecute crimes that involve the exploitation of natural resources and environmental damage. For the ICC to consider such a charge when assessing cases, the defendant must have committed an ancillary act that is criminalized under international criminal law (ICL). There has been a preference of ICL to use "green interpretation" in its analysis rather than prosecuting environmental crimes due to a lack of jurisdiction.

There also exists the potential for ecocide to fall under crimes against humanity due to the interpretation of Article 7(1)(k) of the 1998 Rome Statute; however, this act must cause great suffering or serious injury to an individual and would not encompass environmental degradation as a whole. At present, an individual cannot be prosecuted for the crime of ecocide under ICL.



Finally, ecocide may be interpreted as a human rights violation, given the existence of a strong relationship between a safe and healthy environment and the enjoyment of fundamental human rights.

The permitting of harm to the natural environment on a massive scale breaches the duty of care owed by humanity in general. This view has facilitated the “Rights of Nature” theory, recognizing that nature itself has inherent rights, including the right to exist. Such as predicated the shift from the anthropocentric consideration of economic interests to an ecocentric focus on the rights and interests of nature itself; and its impact upon the capacity of governments to meet their obligations to respect, protect, and fulfill human rights.

In addition to the four recognized international crimes under the 1998 Rome Statute – genocide, crimes against humanity, war crimes, the crime of aggression – the Stop Ecocide campaign has proposed a fifth crime of ecocide. Noting the extraterritorial extension of environmental law into space, ecocide may be potentially applicable to the actions governments and individuals in outer space. This article considers the potential limitations and opportunities that would result from the incorporation of this crime by the ICC across the domain of outer space.

Scope of the Crime of Ecocide and Applicability to Outer Space

Noting continuing ambiguity surrounding the definition of ecocide, the Stop Ecocide campaign has convened a panel of international lawyers to present a workable definition, to provide a basis for future advocacy. International lawyer Maud Sarlieve advances ecocide as “the devastation and destruction of the environment to the detriment of life”, acknowledging that the diverse nature of the environment means that it is difficult to define as a crime. Environmental law academics have identified that climate change fits within this definition, and seek to attribute global warming to key perpetrators.

One persisting issue concerns the difficulty of attributing liability in climate change and environmental degradation, observed in the case of *Urgenda Foundation v. State of the Netherlands* (2019). Codifying this amendment to the 1998 Rome Statute represents a prerequisite to determining the scope of ecocide’s applicability. Using the broad-based definition of ecocide, once adopted, it may be applied extraterritoriality to outer space. For the ICC to prosecute these crimes, the act or individual must first satisfy the elements of jurisdiction. When that barrier is overcome, the ICC may prosecute this crime in outer space. There are two instances where crimes against the environment may occur in outer space – including the deliberate release of space debris, and human activities surrounding space mining.

Concerning the deliberate release of space debris, this may arise as an unintended by-product of human spaceflight activities, or the direct result of military operations and conflict. The largest culprit of space debris is that of Anti-Satellite Testing (ASAT) where states intentionally destroy defunct satellites in order to assert dominance as a spacefaring power. These launches create space debris that are too small to track, which may trigger the Kessler Effect – where the accumulation of a critical mass of objects in Low Earth Orbit (LEO) exponentially increases the risk of collisions. This increased risk of collisions between space debris and with human spaceflight vehicles will eventually make LEO unsafe to traverse, threatening the future sustainability and viability of human activities and communities in space. The United Nations Institute for Disarmament Research (UNIDIR) has acknowledged the detrimental effect of space debris on the environment, noting the debris will continue in orbit without removal. Amending the 1998 Rome Statute to include the crime of ecocide will thus bring this issue under the ambit of international law, and serve as an additional deterrent for major spacefaring nations seeking to test ASAT weapons.

Additionally, noting the growing interest of governments and private companies in space mining, the adoption of national legislative instruments on commercial space activities by the U.S. and Luxembourg exhibits ignorance to the potentially negative effects of mining activities on the outer space environment. Advocates for such activities posit that mining activities in outer space will alleviate the damage to the Earth’s biosphere and may provide a sustainable alternative to terrestrial mining activities. However, the inherent nature of space mining activities and infrastructure poses a heightened risk of: 1) environmental pollution and contamination in outer space; and 2) an elevated hazard to the



principle of planetary protection, particularly concerning radioactive debris and extraterrestrial material. Where environmental regulation in outer space may provide a sustainable solution to these looming environmental issues, regulations are only as effective as their underlying enforcement framework and penalties. Herein, concordance over clear and established penalties for ecocide may provide an effective framework in regulating the activities of mining companies in space.

Opportunities and Limitations

Should the international community codify ecocide, this provides recourse in the event that a state fails to prosecute its nationals for the crime of ecocide – where universal jurisdiction may allow for the prosecution of such crimes before the international community. Where ecocide is perceived as a crime of grave harm to the international community, UN member states may exercise universal jurisdiction as a mandate to prosecute organizations and individuals undertaking operations in outer space where states refuse to recognize the jurisdiction of the ICC. However, where the use of universal jurisdiction has encountered significant opposition in the face of state sovereignty, the application of universal jurisdiction in the outer space context may not be accepted by all states.

The ICC may enforce its principle of complementarity in determining admissibility in instances where it has jurisdiction. This principle is engaged where a state may only bring proceedings to the ICC: 1) if a crime is sufficiently grave; and 2) the state is unwilling or unable to prosecute the individual.

Implementation of ecocide as a crime under the 1998 Rome Statute means that states that ratify it must incorporate the crime of ecocide within their national legislation. States that have ratified the amendment must thereafter charge individuals under national legislation. This provides states with the opportunity to prosecute crimes in outer space under national legislation, contributing to international law jurisprudence on extraterritoriality. This course of action will also support other interactions of domestic law with ISL, including in the area of human rights.

A key limitation to the implementation of ecocide is the insufficient jurisdiction of the ICC. The ICC operates under a consent-based jurisdiction, which means that states must consent to the applicability of the 1998 Rome Statute in their sovereign territory. Unfortunately, major spacefaring nations (i.e. China, Russia, and U.S.) are not state parties to the Statute, and do not accept the jurisdiction of the ICC.

Actors that are not subject to the crime of ecocide may continue to perpetrate it with impunity. These states in particular wield significant political clout, and may use this to intimidate or lobby states into repealing laws that support universal jurisdiction. The U.S. has already demonstrated this behavior when Belgium used its universal jurisdiction to bring charges against U.S. political and military leaders in 2003 concerning the Iraq War. The political limits of both the ICC's jurisdiction and the exercise of universal jurisdiction is likely to limit the exercise of ecocide vis-a-vis major spacefaring states.

The Statute is also limited in its scope to individual and command responsibility, the consequence of which meaning entities likely to face prosecution (i.e. corporations) would likely escape liability. Corporate officials, such as company directors, may be prosecuted as individuals in the event that the corporation committed a crime that is under the jurisdiction of the ICC. Employees may also be charged with international crimes as individuals or the crime of aiding and abetting, depending on the legal culpability of the individual. This limitation may be alleviated by incorporating wide-reaching legislation that could allow for other states to prosecute crimes with national legislation, where the wording may be more expansive and include the liability of national corporations.

The Human Right to a Healthy Environment

Where the recognition of ecocide and its enforcement under international law remains uncertain, the reframing of ecocide as a human rights violation opens the opportunity for states and civil society organizations to address environmental degradation in the outer space context. Herein, the International Court of Justice (ICJ) exists as the key UN body tasked with settling legal disputes submitted to it by states in accordance with international law. States seeking adjudication by the ICJ must have accepted



its jurisdiction by special agreement of the parties involved, by virtue of a jurisdictional clause, or through the reciprocal effect of declarations.

Consequently, the premise of an ecocide case to be brought before the ICJ may be predicated upon the recognized right to the enjoyment of a safe, clean, healthy and sustainable environment – referred to as the Right to a Healthy Environment (RHE). This right is founded on the fundamental view that without a healthy environment “we are unable to fulfil our aspirations or even live at a level commensurate with minimum standards of human dignity”.

IHRL has recognized that RHE represents a key element in enabling people to lead a healthy life. Any devised STM system/framework must therefore discourage or prohibit measures which cause such damage to the space environment, which may prejudice the health and survival of human spaceflight participants. States must adhere to their obligations under international law to respect, protect, and fulfill RHE through facilitating a safe and enabling environment, improving education and public awareness, and assuming measures to protect the rights of those most vulnerable to environmental harm.

In connection with the potential environmentally detrimental effects of space debris and space mining, RHE is relevant in underlining the need for states to take proactive and continuous measures in ensuring that such polluting activities do not cause serious harm to the environment or peoples of other states. This may involve concordance surrounding space traffic management guidelines, space debris remediation efforts, and restrictions on mining activities across certain celestial bodies. From a negative enforcement perspective, states must prohibit the possibility of discrimination and ensure that these do not impinge upon RHE and associated human rights (i.e. right to life, health).

Conclusion

While the existence of a clear solution to environmental degradation lies in codifying the crime of ecocide, its authority and capacity for enforcement in the outer space domain is elevated through the integration of a human rights based approach. The issues preventing the widespread application of ecocide as an enforcement tool and strategic environmental policy under international law may be addressed through the implementation of universal jurisdiction and strong national legislation.

Furthermore, pending the codification of ecocide by the ICJ within ICL, the placement of measures prohibiting environmentally destructive activities may be realized in the ICJ through holding states accountable to their human rights obligations under RHE. Herein, the realization of a safe, clean, healthy and sustainable environment is necessary for the full enjoyment of a vast range of human rights. Conversely, the exercise of human rights is also considered vital to the protection of the environment.

Absent a strong environmental regulatory framework in outer space, including criminal liability, corporations have in essence been granted a carte-blanche to act with impunity. The international community must therefore act collectively in recognizing and addressing the crime of ecocide and holding corporations accountable for the environmentally detrimental actions in outer space. This is central in meeting the needs of the present without compromising the ability of future generations to meet their own needs, and in ensuring the continued maintenance of outer space as the province of all humanity.

