

# Assessing Refugee Crises through the Lens of the Outer Space Treaty and Space Technologies

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## Abstract

The past several years have seen a marked increase in migrants seeking to escape intolerable conditions in their homelands, and the concomitant creation of a new refugee crisis. These effects are seen most pointedly in Europe, the Middle East, and Northern Africa, but their impacts have been global in nature. States across the globe have used their laws and technologies to manage this crisis, either by assisting refugees during their time of need, shifting some or all of the responsibility to other States, or some combination thereof. There are several international charters, declarations, and other instruments that are designed to alleviate the human suffering that accompanies such situations, and the Outer Space Treaty (OST) is one of these. This essay attempts to analyse the presence and value of the Outer Space Treaty to current humanitarian crises, with emphasis on how space assets – including telecommunications and remote sensing – can be used to achieve the dual goals of mutual cooperation between States, and the peaceful uses of outer space for all States, regardless of their economic or technical capabilities.

There is a long, if somewhat sparse, history of the international community attempting to organize legal mechanisms, via laws, treaties, or regulations, in order to address humanitarian needs. The Outer Space Treaty integrates such international rules into space activities, and, therefore, this essay argues that current space activities ought to be more fully utilized in managing and assisting modern, man-made disasters, such as that seen in the refugee situation. The so-called Disasters Charter has arisen to account for some of the needs of those facing displacement due to disaster, and this Charter can be interpreted to include man-made events. Given these efforts, this essay aims to show that positive change can be affected by an integration of multiple space assets into a global humanitarian network, modelled after older, yet effective, relief legal structures.

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## 1. Introduction

Mass migrations of people who have been pushed out of their homes are not a new phenomenon in international relations. In fact, they are, unfortunately, a recurrent global problem. Recent history has seen such occasions during and following the events of the Second World War, during conflicts in other States since that time, and again over the past several years from migrants seeking relief from the conflicts in regions such as Syria and certain northern African States. Unfortunately, the loss of home is only one of the consequences these individuals must endure. There is constant risk to life and health during the oftentimes dangerous journeys to lands believed to be more stable and welcoming. Fortunately, many States around the world, and most especially of late in Europe, have worked to provide humanitarian aid and comfort, and sometimes permanent homes, to many of those seeking refuge. While the geopolitical and economic machinations at play during the latest crises of migration are complex, increasing utilization of space-based assets could lead to greater success for refugees seeking relief, and to increased responsiveness to national and international organizations seeking to aid those in need.

The primary objectives of this essay are to suggest that utilizing space-based technologies to assist in humanitarian efforts can, and will, lead to a more effective response to migration crises, and also that engaging in more concerted international efforts to alleviate the challenges faced by refugees is fully in line with the humanitarian spirit of the Outer Space Treaty. Additionally, there are other treaties, agreements, and accords that seek to improve the human condition generally, and these can also be applied, in a space context, to current and future disasters, be they natural or man-made. Through a diligent and careful application of human rights principles found inherently or explicitly in these rules, as well as those cultivated by other agreements that reflect general principles of international law, States have an opportunity to use their space assets to affect positive changes in their response to catastrophes around the globe. This essay attempts to describe the usefulness of several mechanisms that are either currently being employed to assist during disasters, or that can be turned towards such activities under proper guidance and motivation.

Relevant sources for study and application to migrant (and other) disasters include the five governing international space treaties, well-respected United Nations declarations and covenants, and other general international law principles. These, however, should by no means be considered the only useful materials, nor should the following analysis be construed as exhaustive of the subject of legal solutions to humanitarian crises, be they migrant-centric or otherwise. Finally, while there are several fine academic treatments of general

aspects of disaster management law,<sup>1</sup> here the focus is on how the space regime is, and can be, integrated into overall global efforts.

### **1.1 Migrant Crises**

One of the more challenging disasters to manage is that of human migration caused by war or other devastation. Given that the international community has limited ability to stop conflicts originating from within a sovereign country, and since problems of this kind can sometimes take years to be resolved, the flow of refugees leaving to seek shelter in more stable lands can be constant. The past several years have seen millions of people apply for asylum in parts of Europe, many of whom were fleeing from events in the Middle East (such as conflict in Syria).<sup>2</sup> The global media have done much to highlight the plight of individuals seeking to avoid the worst of the conflicts or other negative conditions in their homelands, but it may fall to the law to do what it can to help. Space law may be uniquely positioned in this regard, since many of the technological capabilities States possess in space can be used to determine where and how conflict or other disaster occurs, and may even be used to provide aid to those in need. The situation in Europe is, unfortunately, neither new nor the only one of its kind. International relief law must be used, where possible, to help resolve these and other humanitarian crises, and coupling traditional efforts with space technologies, and with the spirit of cooperation and helpfulness present in the Outer Space Treaty, may be the most rational path forward for disaster management efforts.

## **2. International Disaster Relief Law (IDRL)**

A variety of treaties, international accords, declarations, and other soft-law expressions have been crafted to address disaster relief efforts. Additionally, some treaties exist that originally had little to do with disaster management, but that can be interpreted to assist under the proper interpretations. Below, a selection of these instruments are discussed with respect to their IDRL capabilities.

### **2.1 Treaties and Other International Accords**

Primary attention can be applied to the most respected legal structure in international space law – the Outer Space Treaty. Several of the OST's provisions can be construed to support or even require supportive actions on the part of States operating in outer space. Most notably, the precepts of

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1 E.g., see David Fisher, *International Disaster Relief: a Growing Regulatory Dilemma*, 101 *Am. Soc'y Int'l L. Proc.* 114 (2007).

2 Phillip Connor, *European asylum applications remained near record levels in 2016*, [www.pewresearch.org/fact-tank/2017/03/15/european-asylum-applications-remained-near-record-levels-in-2016/](http://www.pewresearch.org/fact-tank/2017/03/15/european-asylum-applications-remained-near-record-levels-in-2016/), (accessed 06.09.17).

cooperation, peaceful purposes, and the “benefit and in the interests of all countries” clause of OST’s Article I<sup>3</sup> all lend themselves towards assisting those in need, whether the situation be a migrant crisis, other man-made disasters, or natural occurrences that necessitate assistance from those States capable of providing.

The precise meaning of “benefit and in the interests of all countries” is something that has been hotly debated, and like many provisions of the OST, there are many possible interpretations. Christol has noted that when States accepted this language as part of the Outer Space Treaty, “there can be no doubt that by accepting these terms, States became legally bound by them.”<sup>4</sup> However, he also perceived the language, when it was “compared with other provisions of the agreement... [was] general in nature.”<sup>5</sup> As further evidence that, at the least, the United States believed it would be able to utilize and share its outer space resources however it chose to do so, Christol cited U.S. Senate hearings as evidence to this effect, with the Committee on Foreign Relations noting “...nothing in Article 1...alters the right of the United States to determine how it shares the benefits...of its space activities.”<sup>6</sup> Further, Cheng posited that “...there seems to be no valid reason why it should not be treated as stating a binding legal obligation”, and that one interpretation of this phrase means that every State has “a legal right to the fruits of space exploration and use, by whomsoever carried out.”<sup>7</sup> However, Cheng noted that “such an interpretation... hardly accords with the drafting history of the 1967 Treaty...[and that] Article I(1) of the Space Treaty is at best a joint expression of intention, conferring no legal rights, and imposing no real obligations.”<sup>8</sup> Other interpretations of the “benefits” phrase have focused on how it might impact property rights in space.<sup>9</sup> Taken together it is challenging to see how the “benefits” provision can have serious impact on the utilization of space technologies for disaster management, at least as currently construed.

However “benefit...of all countries” might be interpreted, a more colloquial, and, arguably, “good faith” interpretation might simply mean to use what capabilities that exist, when it is possible to do so, to help those in need – as

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3 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 610 UNTS 205 (1967) [Outer Space Treaty, or OST].

4 Carl Q. Christol, *The Modern International Law of Outer Space*, Pergamon Press, New York, 1982, p. 42.

5 *Id.*

6 *Id.* at 43, citing to S. Exec. Rep. No. 8, 90th Cong., 1st Sess. 4 (1967).

7 Bin Cheng, *Studies in International Space Law*, Clarendon Press Oxford, 1997, p. 404.

8 *Id.* at 405.

9 Manfred Lachs, *Some Reflections on the State of Law of Outer Space*, 9 *J. Space L.* 3 (1981), at 9.

with natural disaster relief efforts, or even a migrant crisis. The wiggle-room provided by the ambiguous draftsmanship of Article I of the OST should be in favor of those most in need, for this comports with the spirit of the peaceful uses of outer space for all of mankind, as well as the hopeful tone set by the OST's poetic preamble. Even the U.S. Senate report on the OST did not exclude such a view, opting instead to stress that States would be able to choose how to provide benefits, which could be readily interpreted to mean the use of space technology to assist with humanitarian circumstances.

If future international work on the "benefit and in the interests of all countries" language could be officially construed, via a principles document or some other high-level international expression, to mean that States in a position to assist those populations undergoing great hardships are thereby obliged to do so however they are technologically capable, then the "benefit" clause would become a powerful tool in enabling humanitarian assistance. In large part this would be an extension of the highly adopted and well respected Outer Space Treaty. While a new principles document clarifying and empowering the "benefit of all mankind" language would not necessarily bind States, it would serve as *prima facie* evidence that an international consensus has built up to interpret pre-existing OST obligations as requiring humanitarian responsiveness. Many States have already put forth tremendous efforts to assist the needs of people in the European migrant situation, which can put localized pressure on political leadership.<sup>10</sup> An interpretation of "benefits" that requires States-Parties to the OST to act, when possible to do so, will help alleviate some of the political pressure that leadership of the States involved may face, as the legal justifications for contributing the monetary and technological capital needed to address such situations would be unequivocal.

While taking a back-seat to the OST, the Registration Convention<sup>11</sup> also deserves a quick note here. The main function of the Convention is informational – letting the world know what a State is doing in space, where, and in what way. The treaty was clearly not designed for disaster management; however, conformance to its obligations is, arguably, the first step by which States form a foundation to future relief efforts. Since a State must inform the Secretary General of the United Nations, and thereby the world, of their space-based endeavors, international policy-makers and lawmakers are thereby better equipped to know what disaster relief assets exist, and (generally), with which capabilities. Such knowledge can be put to use by more specific disaster agreements that base their efficacy on the

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10 See, e.g., Politico, *How to Solve Europe's Migration Crisis*, [www.politico.eu/article/solve-migration-crisis-europe-schengen/](http://www.politico.eu/article/solve-migration-crisis-europe-schengen/), (accessed 06.09.17).

11 Convention on the Registration of Objects Launched into Outer Space, 1023 UNTS 15 (1974). Art. IV contains the reporting requirement to the Secretary-General.

utilization of space assets, such as those that depend on positioning, navigation, and timing (PNT), remote sensing assets, or telecommunication. Perhaps the best example of an international agreement, specific in scope to disasters, is the now well-established Disasters Charter. The Charter's primary functionality is in providing a nexus of sorts for remotely sensed data collected by multiple agencies around the globe, all of which have agreed to provide crucial data to assist with the management of disasters.<sup>12</sup> The actions contemplated by the Charter are also useful in fulfilling the Outer Space Treaty's insistence that States cooperate in their space activities. Article IX's emphasis on State cooperation has as much import for terrestrial occasions as for outer space projects. Further, while Art. IX attempts to wear many hats, it is the mutual understanding created by State cooperative activities that gives it effect in humanitarian situations. The Charter's network of national remote sensing providers, coupled with logistical support staff from remote sensing and management specialists, certainly qualifies as an instance of clear and beneficial State cooperation.

Another international agreement with implications for disaster situations is the United Nations Remote Sensing Principles. These Principles continue to further the notions associated with "peaceful uses" and "benefit and in the interests of all countries" as stated in the Outer Space Treaty. They reiterate the language seen in the OST by noting that "remote sensing activities shall be carried out for the benefit and in the interests of all countries...", and also establish obligations for remote sensing States to provide certain types of useful data to States affected by natural disasters.<sup>13</sup> One of the ways remote sensing can be used to assist in disasters is by assuming a role as information provider when the Disasters Charter is activated. In point of fact, the Charter specifically mentions the Remote Sensing Principles as a motivating factor in its existence.<sup>14</sup>

Arguably, the use of the remote sensing, via the Charter, fulfils one of the primary goals of the Remote Sensing Principles, in that it helps to benefit "... the needs of developing countries."<sup>15</sup> The migrant crisis currently developing in Myanmar may well benefit from the judicious use of remotely sensed data to help populations fleeing local strife.<sup>16</sup> While facts are still developing regarding motivations or official political responses to the discord in the Rakhine state of Myanmar, early reports suggest efforts at

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12 Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters, Rev. 3 (25/4/2000).

13 Principles Relating to Remote Sensing of the Earth from Outer Space, G.A. Resolution 41/65 (1986), at Principles II and XI.

14 Disasters Charter, *supra* note 12, at preamble.

15 Remote Sensing Principles, *supra* note 13, at Principle II.

16 BBC News, Myanmar Conflict: Rohingya refugee surge hits Bangladesh, [www.bbc.com/news/world-asia-41158703](http://www.bbc.com/news/world-asia-41158703), (accessed 09.06.17).

uprooting the Rohingya ethnic group, and space-based remote sensing imagery has seemingly demonstrated some of the destruction that has been reported. Estimations are that more than 100,000 people have been forced to flee to Bangladesh for refuge since late August of 2017.<sup>17</sup> Images, such as those reported by Human Rights Watch, and captured by DigitalGlobe, are the results of utilizing space technologies to respond to humanitarian problems.<sup>18</sup>

Finally, one other way of rallying technologies to assist with disasters comes from the Tampere Convention, as it is a significant effort to combat the problems associated with disasters via access to telecommunication technology. Tampere's main thrust is in ensuring communication can be maintained, or in some cases established, to help mitigate the impacts of disasters.<sup>19</sup> One challenge with using this treaty towards assisting with events such as the European or Burmese migrant crises is in the applicability of its provisions. Tampere is meant to open lines of communication in the area where the disaster has occurred, which is useful for incidents where the local population is enduring natural or man-made devastation, but less helpful when those populations are fleeing to areas of the world where telecommunications networks are, by and large, functioning normally already.

## 2.2 General Principles

Beyond the OST and other space law agreements, there are other international documents that further address basic humanitarian expectations. The most well-known of these is the Universal Declaration of Human Rights, which provides further evidence of an international expectation that humanitarian assistance be provided when necessary.<sup>20</sup> While not explicitly dedicated to the use of technologies to resolve particular global crises, it nevertheless reinforces the view that States who have the ability to help should do so, going so far as to note that "everyone has a right to life, liberty, and security of person",<sup>21</sup> and that States should act towards

17 BBC News, Rohingya Crisis: What's behind these 1.2 million Tweets?, [www.bbc.com/news/blogs-trending-41160953](http://www.bbc.com/news/blogs-trending-41160953), (accessed 09.06.17).

18 Human Rights Watch, Burma: Satellite Images Show Massive Fire Destruction, <https://www.hrw.org/news/2017/09/02/burma-satellite-images-show-massive-fire-destruction>, (accessed 09.06.17).

19 Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations (1998), [https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXV-4&chapter=25&clang=\\_en](https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXV-4&chapter=25&clang=_en), (accessed 09.06.17).

20 Universal Declaration of Human Rights, GA Res. 217 (III), UN GAOR, 3d Sess., Supp. No. 13, UN Doc. A/810 (1948).

21 *Id.* at Art. III.

one another “in a spirit of brotherhood.”<sup>22</sup> Using space technologies to assist people in their greatest time of need would seem to comport with this general spirit of international accord. The sentiment is echoed by Macalister-Smith, who noted that “these general provisions would support important principles relevant to relief in natural disasters, including the principle that a state should assist another in emergency....”<sup>23</sup> Arguably, these principles could readily transfer to disasters of the man-made variety as well.

Other international statements, such as the Covenant on Economic, Social, and Cultural Rights,<sup>24</sup> as well as the Convention on the Rights of the Child,<sup>25</sup> have noted the right of people to have proper food and shelter, giving more credence to cooperative efforts to assist those in need via telecommunications, remote sensing, and other space technologies that can either help governments in their relief efforts, or help to discover the root cause of the troubles in the first place.

### 3. Future Efforts

To date, much effort and capital has been expended on refugees flowing from the latest migrations. Whether more can be done, or if assistance can be provided faster or more effectively, is part of a complex equation involving politics, international law, financial capability, and technical capacity. This essay cannot grasp all of these issues thoroughly, but there may be a few “fixes” to the current international system that could be attempted, though they may be challenging to achieve. There are of course calls to continue with current humanitarian relocation efforts, with some organizations suggesting both ethical and geopolitical reasons to reach out a helping hand.<sup>26</sup> These political exhortations by charitable organizations, non-governmental organizations (NGOs), or even the United Nations are one part of the equation to do more in alleviating crisis situations. These discussions hinge, in part, on internal political and economic realities. Another concern is to ask what more can be done from a legal or regulatory perspective. There is, unfortunately, no simple answer to address and improve current international efforts. However, there are a few possible options available in the mid to long-term future.

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22 *Id.* at Art. I.

23 Peter Macalister-Smith, *Human Rights and Disaster Relief*, 5 *Holdsworth L. Rev.* 173 (1980), at 175.

24 *Covenant on Economic, Social and Cultural Rights*, G.A. Res. 2200A (XXI) (1966).

25 *Convention on the Rights of the Child*, G.A. Res. 44/25 (1989).

26 See, e.g., Brookings, Michael Ignatieff et al., *The refugee and migration crisis: Proposals for action*, U.N. Summit 2016, <https://www.brookings.edu/research/the-refugee-and-migration-crisis-proposals-for-action-u-n-summit-2016/>, (accessed 09.06.17).



### 3.1 Establishment of an International Relief Organization (IRU)

One possible way to continue using space assets to assist during disaster relief operations would be to enable one entity to coordinate all kinds of assistance and technical capabilities during times of need. The international community has attempted something like this before, with the creation of the now defunct International Relief Union.<sup>27</sup> The IRU represented an attempt by the League of Nations to provide for humanitarian crises. Their efforts included one of the first large attempts in IDRL, and the organization's covenant had a "provision encouraging members to promote an organization that would improve health, prevent disease, and mitigate suffering...."<sup>28</sup> The real power of the IRU was in enabling one body to universally engage in the management of disaster. Indeed, the IRU's purpose included intervening when "any disaster due to force majeure...to furnish to the suffering population first aid...and assistance of all kinds."<sup>29</sup> The stress that "all kinds" of help was to be provided could, in a modern context, be interpreted to mean including the panoply of space-based technologies that were not available at the time of the IRU's operational history. However, the IRU was not without flaws, finding that sustaining its efforts cost more than it was capable of bearing, and the IRU dissolved by 1968. Any attempt to revive or recreate an agency like the IRU would need to be borne of a stable financial foundation in order to prevent a similar fate.

Properly motivated, the United Nations could place the creation of a similar international institution on its agenda. While the U.N. and other organizations already work to assist with various disasters globally, it may be more successful in its humanitarian aims if international consensus could be established for a new international body capable of quickly and directly assisting in myriad disaster situations. Current world events provide many real-world examples of motivational factors for the U.N.

It would be, however, unrealistic to believe that much movement on a project of this scope would occur with any expediency, for several possible reasons. States may, as an example, be wary of ceding any perceived sovereign powers to an international institution that could require them to react in a particular fashion to specific situations (such as requiring X number of refugees be admitted into the State if certain conditions are present). They may also be reticent to commit the national funds necessary to enable such an organization to function, especially when many States already provide funds to their own national outreach and assistance programs.

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27 Convention and Statute Establishing the International Relief Union, 135 LNTS 247 (1927).

28 Alejandra de Urioste, *When Will Help be on the Way? The Status of International Disaster Response Law*, 15 Tul. J. Int'l & Comp. L. 181 (2006-7), at 183-84.

29 IRU, *supra* note 27, at Art. I.

Whatever resistance may be present, and however unrealistic it may be to hope for a reconstituted IRU in the near-term future, this may nevertheless be a prudent consideration for future international law-making efforts.

### **3.2 Future Treaty Work**

Another option to improve future IDRL efforts could be to draft a new treaty that marshals the multitude of space resources for all kinds of disasters – natural and manmade. While agreements like the Disasters Charter already work to help with disasters of many varieties, they are limited in scope (in this instance, by only providing remote sensing data). A new treaty could be designed to overcome such limitations, but it is still the least likely solution, given the herculean efforts that would likely be required to restructure the current international disaster relief networks. It is also, perhaps, an overly simplistic suggestion, since it is unclear that a new treaty would succeed where prior ones have not, or if it would be any more efficacious than the extant systems.

There is one other avenue: the Outer Space Treaty does contain the legal framework needed to amend its provisions.<sup>30</sup> The notion for reworking treaty provisions is certainly not new, nor uncontroversial. For instance, refurbishing the Outer Space Treaty could destabilize international understanding of outer space activities, since it may be unclear how tweaking one section or another would impact the organ as a whole. However, in lieu of creating an entirely new treaty, States could act to clarify language, such as “benefit and in the interest of all countries”, in order to encourage more assured State assistance during times of crisis.

### **3.3 A New Declaration**

A new declaration, or even series of principles, could be crafted to specifically denote how and when space technologies should be utilized to help with disaster situations. Given the respect that many of the above declarations and covenants have enjoyed over the past several decades, and given the (somewhat) smoother path to creation and passage of a declaration or principles document, this may be the most prudent method for the United Nations, moving forward, to lay the foundation for better international efforts at using space-based resources for humanitarian reasons. The soft-law status of a declaration may be key to its initial success, since States can dedicate themselves in non-binding ways to new methods of international cooperation and the provision of technological efforts. On the other hand, critical issues that sometimes constrain sharing technology, such as the distribution and licensing of remotely sensed data, remain a point of consternation, and would need to be addressed to fully enable States, and NGOs, to release data when needed; moreover, logistical matters involving

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<sup>30</sup> OST, *supra* note 3, at Art. XV.

informational and technical compatibility would need to be resolved to truly enhance existing systems of distribution.<sup>31</sup>

#### **4. Conclusions**

International disaster relief law is an expanding subfield of international law, and a variety of accords, covenants, and principles have been crafted to further global efforts at ameliorating the human consequences of both natural and man-made disasters. Some efforts, such as the Universal Declaration of Human Rights, or the ill-fated International Relief Union, were begun long before space assets existed that could help them achieve their aims. Since that time, international law has worked to improve the plight of those impacted by disaster, drafting the United Nations Remote Sensing Principles, and the Disasters Charter. All of these agreements are meaningful tools for governments and relief agencies the world over; however, there may be better ways to help, and situations like the migrant crises in Europe and Myanmar highlight the notion that more may be done to prevent catastrophe, identify the sources of disaster, and ensure those affected by these events are accorded their basic human rights. Space assets, from remote sensing to telecommunication, can be, and increasingly are, leveraged as tools in international endeavors. The legal community should explore the possibility of creating a new treaty, declaration, or even an international organization to consolidate current efforts in relief law, placing the multitude of space technologies, and the rules and regulations necessary to fully utilize them, under one roof, in the hopes that more effective, faster, and capable efforts will be expended on future disaster management.

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31 See, e.g., Sandra Cabrera-Alvarado, Sara Langston et al., *The Progressive Use of Satellite Technology for Disaster Management Relief: Challenges to a Legal and Policy Framework*, IAC-13-E3,P,5,p1,x16730 (2013).

