

# International Legal Perspectives on HAARP Technology: Challenges and Regulatory Implications

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## ABSTRACT

HAARP, an advanced ionospheric research technology initiated by the United States, has raised significant concerns within the international community due to its potential to manipulate climate, weather, and ionospheric emissions. This technology, initially funded by the Air Force, United States Navy, University of Alaska, and the Defense Advanced Research Projects Agency (DARPA), with design and construction by BAE Advanced Technologies (BAEAT) in Alaska, can create artificial disasters, including tornadoes, storms, rainfall, and even tsunamis. Surprisingly, international law lacks specific regulations governing the use of HAARP technology. The use of HAARP technology presents the possibility of being employed as a covert weapon for national defense and resistance efforts, warranting careful monitoring and oversight. Numerous experimental cases have already demonstrated the potential for disaster, as exemplified by incidents in Venezuela. While HAARP's capabilities may prove beneficial for urgent weather and climate determinations in specific areas, the inherent dangers underscore the need for an international institution with the authority to supervise and regulate all HAARP projects and operations involving multiple components. Presently, the absence of clear regulations and the exclusive authority of the U.S. government to handle HAARP-related matters leave affected countries without recourse. This paper examines the challenges posed by HAARP technology from an international legal perspective and underscores the imperative for a comprehensive regulatory framework to address its complex implications.

Keywords: Ionospheric Emissions, Regulatory Challenges Climate Manipulation Technology, International Oversight.

# **1. INTRODUCTION**

The era of globalization has ushered in remarkable transformations in various domains, such as the economy, technology, natural resources, human capital, and education for nations worldwide. Notably, the realm of technology has become a focal point for competition among nations, giving rise to innovative solutions that range from mundane tasks to monumental undertakings. In this context, technology assumes a pivotal role in a nation's self-defense and resilience, alongside conventional military strategies. Among the world's military giants, the United States holds a preeminent position and stands second only to Japan in technological advancements, supported by HAARP [1]; HAARP [2].

This interconnectedness of military might and technological prowess underscores their symbiotic relationship, as they jointly contribute to a nation's security and progress. A critical aspect of this synergy is the substantial reliance on technological advancements in military operations, spanning weaponry, transportation, surveillance, and more. The equilibrium between technological progress and military strength among nations, exemplified by the likes of Japan, the United States, and Russia, amplifies a nation's capacity to bolster its defense infrastructure, supported by HAARP [2]. However, in 2010, the world was jolted by a startling revelation that seemed more akin to a conspiracy than reality. Initially, it appeared that a natural disaster—an earthquake in Venezuela—had struck, resulting in substantial casualties. Such calamities, initially attributed to natural phenomena, often seem unremarkable. However, conjectures

soon arose, suggesting that these catastrophic events were instigated by an extraordinarily advanced technology known as HAARP (High-Frequency Active Auroral Research Program), supported by Chen [3]; Conspiracy Theories Surrounding HAARP [4]. HAARP's primary purpose lies in ionospheric research within the altitude range of 85 km to 600 km above the Earth's surface, with the objective of enhancing both civilian and military communication and surveillance systems. Funding for HAARP is jointly provided by the United States Air Force, the United States Navy, the University of Alaska, and the Defense Advanced Research Projects Agency (DARPA), supported by HAARP [2].

Several instances of large-scale natural disasters in other countries also provoked suspicions of HAARP's involvement, such as the 2011 earthquake and tsunami in Japan, the 2013 tornado outbreak, and the 2006 landslide in the Philippines, among others. HAARP has long been enshrouded in conspiracy theories, often serving as the epicenter of speculative notions suggesting its clandestine role in weather manipulation, climate control, and even the triggering of earthquakes.

An intriguing facet of HAARP's notoriety as a conspiracy theory lies in the 2010 earthquake in Haiti. At that time, then-President of Venezuela, Hugo Chávez, accused the United States of employing HAARP or a similar technology to orchestrate a devastating 7.0 SR earthquake in Haiti, resulting in a catastrophic loss of 200 thousand lives. President Chávez contended that the U.S. had exploited the Haiti earthquake as a pretext to assert control over the country, ostensibly by deploying troops under the guise of humanitarian assistance. Notably, scientific consensus attributes the Haiti earthquake to an unmapped fault line. Beyond earthquake allegations, HAARP has also been implicated in weather anomalies, leading to floods, droughts, and storms, supported by Wood [5]; HAARP[6].

Another remarkable case unfolded in West Africa, where four successive destructive storms—tropical storms Alex, Ivan, Frances, Charley, and Jeanne—occurred in rapid succession, unprecedented in the annals of Caribbean hurricanes. The island of Grenada bore the brunt of this ferocity, resulting in approximately 37,000 casualties and the displacement of around 100,000 residents. In some quarters, speculations even suggested that the 2004 Aceh tsunami was not merely a natural disaster but one of HAARP's covert projects, supported by HAARP Conspiracy Theory [7]; HAARP [8].

Further scrutiny reveals that HAARP is a technology conceived and owned by the United States. Despite its publicly stated mission to advance the study of Earth's physical and electrical properties, other concealed objectives have come to light, implying intentions beyond the program's overt mission. These clandestine motives are believed to encompass ecosystem disruption and the covert delivery of catastrophic events. HAARP's utility extends to deceiving adversaries in both peacetime and wartime, both overtly and covertly. The specific aims and objectives, however, remain largely shrouded in secrecy, allowing for extensive and sophisticated expansion.

The most astonishing conjecture is that HAARP could serve as a clandestine weapon, capable of deceiving rival nations in arenas such as economic competition, power struggles, and national resilience. Some contend that HAARP functions as a weapon of destruction and deterrence, coupled with military communications capabilities. However, it is important to note that HAARP remains in a continual state of refinement and testing worldwide. Notably, in 2004, HAARP transitioned to its beta stage when the annual maximum limit for tornado occurrences was exceeded, surpassing the mandated four instances with a total of six.

If substantiated, the operational deployment of HAARP technology raises ethical and legal concerns. The use of HAARP in inducing artificial disasters carries the potential for widespread casualties, environmental devastation, and infrastructure damage. Such actions, even in the name of national defense, may run afoul of international legal principles. International law typically disallows the use of weapons that inflict indiscriminate damage and casualties, irrespective of a nation's intentions to safeguard its territory and populace.

Furthermore, from an environmental perspective, HAARP-induced consequences may breach the standards established for environmental preservation and conservation, potentially infringing upon international environmental law. This usage of airspace outside the purview of a nation's jurisdiction raises questions about compliance with international legal regulations. HAARP's actions may inadvertently cause environmental harm to nations beyond a country's territorial and jurisdictional boundaries, supported by A Brief Story of HAARP [9]; Conspiracy Surrounding HAARP [10].

In light of these intricate issues and the potential ramifications of HAARP technology, it is imperative to embark on a comprehensive examination of its legal and ethical dimensions, as explored in this study. The aim of this study is to comprehensively examine the legal and ethical dimensions surrounding the use of HAARP (High-Frequency Active Auroral Research Program) technology, particularly in the context of its potential for inducing artificial disasters and its implications for international law, environmental preservation, and global security.

## 2. RESULT AND DISCUSSION

a. HAARP Technology

HAARP, the High-Frequency Active Auroral Research Program, is an ionospheric research initiative jointly funded by the United States Air Force, United States Navy, University of Alaska, and the Defense Advanced Research Projects Agency (DARPA) supported by High-Frequency Active Auroral Research Program [11].



Figure 1. How HAARP Works

BAE Advanced Technologies (BAEAT) designed and constructed this complex program, which operates from a sprawling subarctic facility known as the HAARP Research Station, situated on Air Force property near Gakona, Alaska. HAARP serves a multifaceted purpose, with its primary objective being the analysis of the ionosphere and the exploration of potential advancements in ionospheric technologies for radio communications and reconnaissance. Remarkably, this program is equipped to manipulate the weather through ionospheric interactions, a capability known as weather modification. Despite its substantial cost, an initial investment of USD \$290,000,000 or approximately 3.7 trillion rupiah, HAARP remains operational as the United States continues to allocate resources to bolster technological progress, supported by HAARP [12].

The operational mechanism of HAARP involves the heating of the ionosphere, thereby enabling control over atmospheric conditions. During experimental phases, this capability can induce phenomena like storms, earthquakes, signal interference, and more. In addition to its scientific applications, HAARP has earned the moniker of a 'weapon of mass destruction' and holds significance for the Department of Defense in addressing regional and international conflicts. Central to the infrastructure of the HAARP station is the Ionospheric Research Instrument (IRI), a high-powered radio frequency transmitter operating in the high-frequency (HF) wave spectrum. IRI serves the purpose of momentarily stimulating specific ionospheric regions, with other instruments such as VHF and UHF radar, magnetometer fluxgate, digisonde (an ionospheric stimulation, supported by HAARP [13]; The Untold Story of HAARP [14].

HAARP's operational history dates back to 1993, with the IRI currently in operation being completed in 2007, under the supervision of the main contractor, BAE Systems Advanced Technologies. To date, the development and operation of HAARP have incurred expenses of approximately USD \$250,000,000, financed through taxes. Project HAARP temporarily halted in May 2013, pending a change in contractors.

HAARP faced international scrutiny and objections, leading to its reported cessation in 2013. Concerns were raised by several countries regarding the program's potential for causing disasters and its perceived inappropriateness. Nevertheless, many aspects surrounding HAARP's status remain undisclosed, leaving room for skepticism regarding the complete cessation of its operations.

HAARP has become a subject of fascination and scrutiny among conspiracy theorists. While some scientists argue that HAARP can manipulate weather, disable satellites, control human cognition, and serve as an anti-terrorist weapon, conspiracy theorists have accused the program of triggering natural disasters, such as earthquakes, droughts, hurricanes, and floods. HAARP has been linked to ailments like Gulf War Syndrome and Chronic Fatigue Syndrome, as well as the downing of TWA Flight 800 in 1996 and the destruction of the Columbia space probe in 2003.

HAARP stands as the world's most potent high-frequency transmitter for ionospheric research. The program is committed to establishing a world-class ionospheric research facility, comprising:

Ionospheric Research Instruments (IRI): A high-powered transmitting facility operating in the High-Frequency (HF) range, capable of temporarily exciting ionospheric regions for scientific study.

A suite of advanced scientific and diagnostic instruments: These instruments enable the observation of physical processes occurring within stimulated regions. They allow scientists to better comprehend natural processes occurring under solar stimulation continuously. These instruments also facilitate a range of passive research efforts, such as ionospheric characterization through satellite beacons, telescopic observations of auroral fine structures, and documentation of long-term variations in the ozone layer.

One of HAARP's stations is located in Gakona, Alaska, to the west of Wrangell-Saint Elias National Park. This station boasts 360 antennas, each with a minimum radio wave transmitting power of 10,000 watts. If all antennas operate simultaneously, they generate a wave with an output ranging from 3.6 million to billions of watts, highlighting its tremendous potential impact. The operations center for HAARP is situated at a U.S. Air Force facility near Gakona, Anown as the HAARP research Station. A pivotal instrument within HAARP research is the Ionospheric Research

Instrument (IRI), characterized by its very low frequency but high-power radio transmission capabilities. Notably, this technology has been subjected to tests within the context of the ambitious mega project "Blue Beam."

## b. International Law Perspectives on HAARP

## 1. Hague Convention III (1907)

HAARP possesses significant power and technological sophistication, making it potentially capable of being employed as a weapon of war, although it lacks specific designations as a weapon. Nevertheless, it holds the potential for use in military contexts. The United States, as a superpower, is often viewed as a target by other nations. It is conceivable that the U.S. may undertake various measures to safeguard its sovereignty and superpower status.

The use of prohibited methods or illegal tools of warfare is strictly forbidden under International Humanitarian Law, which embodies principles of chivalry. The principles of humanitarian law, including the Hague Convention III (1907) on the commencement of hostilities, prohibit the initiation of war without prior clear warning, whether in the form of a declaration of war along with reasons or a conditional ultimatum for war. However, if a desire arises to engage the enemy using HAARP technology, it could be carried out clandestinely without the enemy's knowledge.

In summary, even if a nation seeks to protect its territory and citizens, deploying weapons capable of causing 'universal' damage would likely contravene the principles of international humanitarian law. Soldiers or military personnel using such unrestricted weapons would be in violation of international law.

#### 2. Chicago Convention 1944

Reviewing the potential environmental consequences resulting from HAARP operations, it becomes apparent that these actions may fail to meet the necessary standards for environmental preservation. Moreover, they could constitute violations of airspace management. In the context of the international community, it is recognized that each nation has exclusive rights within its territorial borders, subject to limited restrictions imposed by international law. International Air Law governs violations of sovereign territorial boundaries in airspace through agreements like the 1919 Paris Convention and the 1944 Chicago Convention.

The Chicago Convention includes regulations governing territorial boundaries within internal airspace, which encompass:

Sovereignty (Article 1): Recognizing that each participating nation holds full and exclusive sovereignty over the airspace above its territory.

Territory (Article 2): Defining a state's territory as the land and sea adjacent to it, over which it exercises sovereignty, protection, or mandate.

Article 9, Letter (a): Granting participating nations the authority to prohibit the overflight of their airspace for civil security or military purposes, with such prohibitions applying universally without discrimination. These restricted areas must be designated to avoid interfering with air navigation and communicated to the International Civil Aviation Organization (ICAO) and other participating states. While the Chicago Convention primarily focuses on flight and air transportation, it can still serve as a legal basis due to its relevance to military activities, particularly those involving the air force, which includes HAARP's operations.

It is imperative to acknowledge that nations cannot operate without limits, especially when each country's needs and objectives concerning airspace differ. Mutual respect for territorial boundaries is vital as long as activities conducted within airspace do not adversely affect or harm other nations.

#### 3. Outer Space Treaty

Beyond airspace, space operations, including those involving HAARP technology, are subject to the Outer Space Treaty or the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (1967). The treaty emphasizes that space exploration and use must benefit all nations, regardless of their economic or technological status, and must be for peaceful purposes.

The treaty prohibits parties from launching objects carrying nuclear weapons or other weapons of mass destruction into outer space, building such weapons in Earth's orbit or on celestial bodies, or placing them in outer space. It also forbids the construction of military bases, installations, fortifications, and the testing of all forms of weapons on celestial bodies. Acts of propaganda intended to incite threats to peace or aggression are likewise condemned.

However, the use of military equipment or personnel for peaceful purposes is not prohibited. HAARP's operations, aimed at deceiving, defeating, or achieving dominance over the enemy, appear to contradict these principles and regulations.

The Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and Interest of All Countries, Taking Particular Account of the Needs of Developing Countries, adopted on December 13, 1996, further underscores international responsibility for space activities.

In conclusion, while national law may grant each country authority over its airspace and other outer space areas, these activities must adhere to reasonable limits and be held accountable internationally. Whether conducted by governmental or non-governmental bodies, these activities should not result in losses, deception, or damage. National authorities are responsible for monitoring all activities occurring within their country's airspace.

In a more profound examination of air law, when coupled with HAARP technology, it becomes apparent that the use of this technology involves elements that operate within airspace, such as the creation of clouds, rain, and atmospheric alterations. Consequently, this technology indirectly interacts with nature, slightly directing it to achieve predetermined outcomes. While this may not be problematic if no negative consequences arise, the combination of natural interactions with technology that can regulate them may violate international law if it is proven that such actions have caused adverse impacts and losses, especially if these incidents occur in another country outside the realm of national territorial authority.

## 4. International Environmental Law

HAARP's operations may also violate international legal regulations pertaining to International Environmental Law. This is echoed in notable jurisprudence, such as the "Trail Smelter Arbitration" decision of March 11, 1941, which asserts that "no country has the right to exploit its territory in a manner that causes harm to another country's territory." This principle has been reaffirmed in cases like, supported by HAARP [15] and HAARP a Weather-Control Weapon [16]. Additionally, Articles 21-26 of the United Nations Conference on the Human Environment, supported by HAARP [17] known as the, supported by HAARP and Advances in Tesla Technology [18] govern the development of international law. Principle 21, in particular, has been recognized as a fundamental norm in customary international environment law. It states:

"States, in accordance with the Charter of the United Nations and the principles of international law, have the sovereign right to exploit their own resources pursuant to their environmental policies and the responsibility to ensure that activities within their jurisdiction do not cause harm to the environment of other states or of areas beyond the limits of national jurisdiction."

In this analysis, the primary focus is on the originator and active operator of HAARP, which is known worldwide, particularly the United States. Emphasis is placed on potential legal remedies given that the actions of the United States appear to contravene aspects of international law, including those related to airspace, environmental protection, and humanitarian principles. This technology grants control over airspace and territories of other nations, often without their knowledge, which can lead to severe harm to both nature and, worst-case scenario, unnatural victims of either natural disasters or war. It should be noted, however, that specific regulations outlining sanctions or consequences for a country proven guilty of causing harm and damage through its technology remain lacking.

#### c. Restrictions and Sanctions Against Countries Engaging in Cross-Border Exploration

HAARP operations, involving the utilization of the outer ionosphere, encompass regions from the Earth's atmosphere to outer space and even underwater areas. Regarding regulatory restrictions, it is essential to remember that "outer space is not subject to national appropriation by claim of sovereignty, through use or occupation, or in any other way." Given the United States' status as the world's preeminent military power and its advanced technological capabilities, it possesses the means to conduct actions beyond the boundaries it can control. Notably, HAARP was developed in collaboration with the U.S. Air Force. Furthermore, it is explicitly stipulated that "States may not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or place them in outer space by any other means."

When discussing the imposition of sanctions for violations, this approach aligns with the principles of equity and accountability in international law. These regulations serve to harmonize the actions of individual countries and other subjects of international law. Many incidents have arisen from these regulations, yielding both positive and negative outcomes. Positive outcomes can enhance state cooperation for mutual benefit, while negative consequences, such as inconsistencies or violations, can strain relations between countries. Poor state cooperation and repercussions for state representatives may ensue when a state breaches jurisdictional regulations or provisions.

International cooperation among countries extends beyond a single domain; it encompasses diverse areas such as politics, economics, socio-culture, and technology. Consequently, when countries fail to comply or violate regulations, sanctions may not be absolute but vary depending on national laws and negotiated peace efforts.

International law involves two distinct countries as parties or subjects, each with its own policies and legal system provisions. While international regulations are often established in the form of conventions, international agreements, or other accords, they typically do not explicitly outline sanctions for parties violating these agreements. It is the responsibility of each country to understand the parties for which they bear responsibility in upholding state sovereignty and participating in global or international organizations. Moreover, each country must recognize the

distinct legal systems of other nations. Thus, cooperation, healthy competition, and equitable interactions can take place among countries, including those within the United Nations, without disadvantaging any party.

In practice, countries often focus on advancing and outperforming others, striving for economic success and social welfare. While these endeavors and ambitions are generally legitimate, they become problematic when they overlook the welfare of citizens in other countries, even though they are not the responsibility of the pursuing nation. Humanitarian principles should take precedence before any other considerations.

In summary, while keeping humanitarian aspects in view, international law and institutions like the United Nations tend to return the onus of sanctions and consequences to individual countries, permitting them the discretion to judiciously regulate steps for addressing cases and violations between nations. While international dispute resolution institutions can offer an alternative for case resolution, determining sanctions and pursuing peace efforts often serves to uphold the dignity of states better if the involved parties do not entirely relinquish control to international institutions. Instead, they should initially seek resolution and reach mutual agreements, ensuring that disputes or conflicts do not damage diplomatic relations and cooperation among nations.

#### d. International Institutions with Roles in Regulating HAARP Operations

#### 1. International Atomic Energy Agency (IAEA)

While individual countries establish national regulations governing technology, weapons, military activities, and the use of heavy equipment, it is essential to have corresponding international regulations to address the legality of HAARP operations. The regulation of dynamic and evolving technologies is generally governed by both written and unwritten laws, aimed at preventing negative consequences that could arise without proper regulations and oversight.

On an international scale, certain institutions oversee the restrictions and regulations regarding the use of hazardous materials, such as chemical and nuclear weapons. One such organization is the International Atomic Energy Agency (IAEA). The IAEA is an international organization dedicated to promoting the peaceful use of nuclear technology while preventing its utilization for military purposes. Established on July 29, 1957, the IAEA is headquartered in Vienna, Austria.

## 2. Organization for the Prohibition of Chemical Weapons (OPCW)

The OPCW was founded to oversee the implementation of the Chemical Weapons Convention and work towards a global ban on chemical weapons. The Nobel Committee emphasized that the Convention and the OPCW's efforts have rendered the use of chemical weapons taboo under international law. The OPCW's establishment was driven by a fundamental aversion to the cruelty of war. United Nations Secretary-General Ban Ki-moon stated that the OPCW's mission, like that of the UN, arose from a deep-seated desire to combat the inhumanity of warfare. The OPCW strives to eliminate the threat posed by chemical weapons for all humanity.

Both the IAEA and OPCW operate under the United Nations (UN), signifying their international roles and responsibilities that must be adhered to by UN member states and other countries that have accepted their mandates. In general, the primary mission of the IAEA is to ensure that nuclear technology, while legalized in several countries, is employed for peaceful purposes according to specific requirements, preventing its misuse. In contrast, the OPCW monitors the implementation of the Chemical Weapons Convention, working towards a comprehensive global ban on chemical weapons. Both organizations primarily deal with advanced weaponry, emphasizing compliance with established operational standards. The setting of limits simplifies the avoidance of highly dangerous and lethal weapons.

HAARP, as a technology that operates through the ionosphere as its operational framework, has the potential to function as a weapon designed to conquer and carry out specific attacks in designated areas. This parallels the concept of transforming a seemingly innocuous tool into a weapon, as HAARP, while not inherently a weapon, can be utilized for strategic purposes akin to weaponry. Such covert weapon deployment, akin to secret weaponry, is typically considered impermissible due to its potential for extensive destruction and numerous casualties. Additionally, it is detrimental to international relations, as it often reflects a competitive strategy that disregards the importance of peace.

Based on the reasons presented in this research, particularly concerning the legality of HAARP, it is noteworthy that the official website of the University of Alaska Fairbanks asserts that HAARP is currently legal in its development. Nevertheless, there is ongoing debate regarding the legality of large-scale operations and undisclosed projects, particularly in light of instances in other countries where complaints have arisen regarding disasters allegedly caused by HAARP experiments.

Not all parties may fully comprehend the underlying purpose and function of HAARP. Some view HAARP as a tool that merely executes commands issued by its operators. For its creators, HAARP represents an innovative solution to address human needs and improve climatic conditions in specific regions. While this discovery is undoubtedly valuable, it may not necessarily be regarded as completely legal, especially by countries that are not allied with the United States.

This research assumes that HAARP is a technology with substantial capabilities to execute human instructions, particularly in geographical areas with adverse climate conditions that can be modified to enhance the weather or

climate. Such technology could be invaluable in alleviating droughts and facilitating rainfall through controlled mechanisms. Therefore, it is recommended that HAARP be permitted to operate within a clear legal framework with the involvement of international institutions tasked with providing oversight and legal validity for its operations. This approach would ensure that HAARP remains within the bounds of appropriate usage.

The two international institutions discussed earlier, the IAEA and OPCW, are affiliated with the UN and possess connections and relevance regarding HAARP. However, these institutions may not have the specific mandate to oversee HAARP's operations comprehensively. While both organizations primarily handle advanced weaponry, there are distinctions between nuclear and chemical weapons, considering differences in materials, functioning mechanisms, and forms. Furthermore, HAARP does not fit neatly into the category of weaponry; instead, it enhances technology and materials that utilize the ionosphere as a medium of operation.

Presently, there is no specific international institution with the mandate to monitor and directly assess the suitability of HAARP for operation. The responsibility for overseeing HAARP's legality and appropriateness primarily lies with the government and institutions that developed HAARP. While the IAEA and OPCW offer examples of institutions that could potentially broaden their scopes to include HAARP oversight, it is important to recognize the distinctions between these organizations and the unique characteristics of HAARP. Therefore, the UN, as an international institution that has received reports of harm related to HAARP, may need to issue directives or recommendations to encourage international bodies like the IAEA and OPCW to expand their activities to legally supervise HAARP, all while respecting the rights of sovereign states and governments.

#### 3. CONCLUSION

The existence of HAARP technology, coupled with its propaganda and the absence of specific legal regulations, has led to various impacts falling within the realm of law that must be carefully considered and addressed to prevent further harm and mitigate potential damage. Several fields of law are directly affected by HAARP technology, including environmental law, air law, humanitarian law, and, of course, international law itself.

One concerning aspect of HAARP technology is its potential use as a covert weapon against countries perceived as adversaries in the global competition for progress and dominance. This kind of usage, which often goes beyond the boundaries of legal acceptability, raises an important ethical concern. It underscores the need for prioritizing humanitarian principles, even in the pursuit of safeguarding a nation's sovereignty and existence.

In response to these challenges, international legal institutions with competence in the matter should take decisive action. Their role should be to ensure that a country's efforts to advance technologically do not infringe upon the sovereignty and territorial integrity of other nations while upholding humanitarian principles. The international legal framework, as reflected in legal documents such as the Stockholm Declaration, the Chicago Convention, and the Outer Space Treaty, provides guidelines and principles that are directly relevant to the operational activities and resulting impacts of HAARP technology.

In light of these considerations, it is clear that HAARP technology cannot currently be deemed 100 percent legal to operate. The absence of comprehensive international regulations and the potential for misuse or harmful consequences underscore the importance of continued scrutiny and legal oversight in this evolving technological landscape. Addressing these legal and ethical challenges is crucial to strike a balance between technological advancement and the preservation of peace, security, and humanitarian values on a global scale.

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