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Photo caption: Brazilian military personnel are frequently deployed to help provide humanitarian assistance and disaster relief following natural disasters in the country. **Photo credit:** Dialogo Magazine

The 21st Century Latin American Military: Climate Change and the Future of HA/DR Operations

By Wilder Alejandro Sánchez

Introduction

Latin America is no stranger to deadly and destructive natural disasters. Earthquakes, volcano eruptions, hurricanes, droughts, mudslides, wildfires, and tsunamis are ever-present challenges that Latin American nations live with, depending on their location in the continent and their geography. In the future, it is expected that climate change will exacerbate extreme weather events such as hurricanes, droughts, and wildfires, a consequence of extremely dry conditions. This situation is already occurring, as in November 2020, out-of-season Hurricanes Eta and Iota, categories 4 and 5 respectively, hit Colombia's Caribbean islands, as well as several Central American states, with devastating results.

The armed forces of Latin America have a long history of participating in Humanitarian Assistance/ Disaster Relief (HA/DR) operations when natural disasters events occur. To be prepared for the next disaster, regional armed forces constantly train via local and multinational exercises, while defense budgets are aimed at acquiring HA/DR equipment. Moreover, it is now common for Latin American militaries to have special units for these missions. For example, in 2018, the Peruvian army created a multipurpose brigade, trained and equipped for HA/DR operations.

As the future of Latin American militaries is discussed in various fora, such as conferences and academic publications, climate change cannot be ignored, as climate change-enhanced weather events will become more common and destructive. This new reality will influence Latin American defense budgets due to the acquisition of multipurpose and HA/DR-specific equipment, as well as the training of future military personnel for these humanitarian missions.

HA/DR-r-us

Drafting a detailed list of the various HA/DR operations conducted by Latin American defense forces would be impossible due to space constraints. Hence, the examples provided in this and subsequent sections will focus on operations that have occurred in recent years. Given the variety of countries and armed services, this section is divided by type of natural disaster, rather than by country.

Wildfires

Wildfires are a common disaster across the region. While some are caused by arson or by accident, they are also caused by extreme dry weather conditions during the summer months. At the time of this writing, the troops of Military Detachment No. 1 in El



Photo title – Members of the Salvadoran Army battle fires in 2022 near Chalatenango. **Photo credit** – Government of El Salvador

Salvador have combated a wildfire in Chalatenango.¹ Troops assigned to Military Detachments No. 2 and No. 5 have fought fires elsewhere in the Central American state.² Simultaneously, Artillery Brigade “Santa Barbara” of the Guatemalan Army has received training on firefighting, while the Nicaraguan military, in coordination with civilian agencies, has issued a new plan to combat forest fires throughout 2022.³ The Chilean military has been very busy in recent years combating massive wildfires as well.⁴

To combat wildfires, it is common for helicopters assigned to the Army or Air Force to utilize Bambi buckets to pick water from nearby rivers and lakes to drop over the flames. For example, an AgustaWestland AW119 Koala helicopter assigned to Ecuador’s Air Force utilized a Bambi bucket to transport water to combat a fire in Azul mountain

¹ Tweet,” El Salvadoran Military, 14 February, 2022, Link: <https://twitter.com/FUERZARMADASV/status/1493276647214170112>

² “La Fuerza Armada mantiene su apoyo constante en el trabajo articulado con bomberos ante sofocación de incendios,” Ministry of Defense (El Salvador), 9 February 2022 <https://www.fuerzaarmada.mil.sv/?p=2792>

³ “Reciben capacitación sobre manejo de incendios en Baja Varapaz,” Guatemalan Army, 11 February 2022, <https://www.mindef.mil.gt/noticias/2022/feb/feb42/index.html>; “Nota informativa N° 008/2022 ICMR, Lanzamiento departamental del Plan Contra Incendios Forestales y Agropecuarios,” Nicaraguan Army, No date, <https://www.ejercito.mil.ni/contenido/noticias/2022-02/1cmr-ni008-lanzamiento-pcifa-madriz.html>

⁴ “BRIFES del Ejército apoyaron control de la emergencia en primer incendio forestal del 2021,” Chilean Army, 14 January 2021, <https://www.ejercito.cl/prensa/visor/brifes-del-ejercito-apoyaron-control-de-la-emergencia-en-primer-incendio-forestal-del-2021>

in November 2021.⁵ Similarly, in August 2021, an AS332C1e Super Puma helicopter assigned to the Bolivian military also utilized a Bambi bucket to fight a fire near Roboré, Santa Cruz department.⁶ The Argentine military has deployed a Bell UH-1H and a Bell 412 helicopter to transport firefighters and for surveillance operations to combat fires in Corrientes province.⁷



Photo title – Massive wildfires ravaged portions of Central Chile in 2017. As part of the military’s new missions, the government has ordered the armed forces to assist with the firefighting efforts
Photo credit – U.S. Embassy Santiago Chile

Droughts

Armed forces also transport water to populations affected by droughts. During the summer months of late 2019 and early 2020, there was a massive drought in Salta province, Argentina. To help the local population, the Army’s Engineer Company No. 601 and Mountain Engineer Battalion No. 5 were deployed. In coordination with the local government and relevant civilian agencies, the troops transported water in trucks and small water treatment plants, dug wells

⁵ “Ala 22 apoyó en la mitigación de un incendio forestal” Ecuadorean Air Force, 11 November, 2021 <https://www.fae.mil.ec/2021/11/11/ala-22-apoyo-en-la-mitigacion-de-un-incendio-forestal/>

⁶ “El Helicóptero AS332C1e “Súper Puma” realizó operaciones de descarga de agua en la zona de Quenema sur - Aguas Sucias que está en el sector Sur-Este de Roboré,” Tweet, Ministry of Defense (Bolivia), 25 August, 2021 <https://twitter.com/mindefbolivia/status/1430653952002039813>

⁷ “Las Fuerzas Armadas continúan colaborando para mitigar los incendios forestales en Corrientes,” Ministry of Defense (Argentina), 15 February, 2022, <https://www.argentina.gob.ar/noticias/las-fuerzas-armadas-continuan-colaborando-para-mitigar-los-incendios-forestales-en>

for freshwater, and built roads from the wells.⁸ More recently, in February 2022, troops assigned to the Colombia Army’s 14th Brigade transported 20 thousand liters of water for some 100 families in Puerto Boyacá municipality, Boyacá department, who required assistance due to the heavy summer heat.⁹



Photo title – A Super Puma helicopter from the Bolivian armed forces hoists a “bambi” bucket to combat fires in Roboré in August 2021.
Photo credit – Ministry of Defense, Bolivia

Flooding

Another common disaster is flooding, as heavy rains make rivers overflow their banks and destroy neighboring towns or cities. As the rivers rise, military personnel fill sacks of soil and operate tractors to prevent rivers from spilling over. When the flooding does occur, troops are sent to rescue people trapped in their homes. In late January, the Ecuadorean Army’s Special Forces Brigade No. 9, helped the population in La Maná, after heavy rains provoked the overflowing of Quindigua river.¹⁰ Troops were also deployed in February when San Nicolás river overflowed in

⁸ “Abastecimiento de agua potable a las comunidades salteñas más afectadas por la sequía,” Argentine Army, 28 January, 2020 <https://www.argentina.gob.ar/noticias/abastecimiento-de-agua-potable-las-comunidades-saltenas-mas-afectadas-por-la-sequia>

⁹ “Ejército Nacional suministró cerca de 20.000 mil litros de agua potable en zona rural de Puerto Boyacá,” Colombian Army, 17 February 2022 <https://www.ejercito.mil.co/ejercito-nacional-suministro-cerca-de-20000-mil-litros-de-agua-potable-en-zona-rural-de-puerto-boyaca-603577/>

¹⁰ “Militares contribuyen durante el desborde del río Quindigua,” Ecuadorean Army, 31 January, 2022 <https://ejercitoecuatoriano.mil.ec/informativo/noticias-ffit/militares-contribuyen-durante-el-desborde-del-rio-quindigua>

Pichincha province.¹¹ Similarly, the Brazilian Army, Air Force, and Navy were deployed in mid-February to Petrópolis, Rio de Janeiro, after heavy rains caused the flooding of many homes.¹² According to the Brazilian Ministry of Defense, a total of 1,100 personnel from all services were deployed, as well as 130 vehicles. Approximately 310 tons of aid were transported.¹³

Vessels can also be of assistance in these crises. In February 2021, the Bolivian government deployed the hospital ship *Almirante Xavier Pinto Tellería* (NBH-01) to help 800 families in the Indigenous Territory and Isiboro Sécure National Park (Territorio Indígena y Parque Nacional Isiboro Sécure: TIPNIS) after a neighboring river overflowed.¹⁴ The ship transported 16 tons of humanitarian aid and a team of 10 doctors.

When hurricanes, tsunamis, or volcanic explosions occur, HA/DR operations demand the participation of all armed services. Vessels will transport relief equipment and other supplies, aircraft will conduct SAR operations, and troops on the ground will rescue individuals from the rubble. After Colombia's Providencia, San Andrés y Santa Catalina islands suffered devastating hurricanes in November 2020, the Colombian navy had a leading role in HA/DR and reconstruction efforts. The service deployed five ships – *ARC Antioquia*, *ARC Independiente*, *ARC 7 de Agosto*, *ARC Golfo de Urabá* and *ARC Roncador*

– to transport vehicles, personnel, and aid.¹⁵



Photo title – The Colombian islands of Providencia, San Andrés, and Santa Catalina received heavy damage from the category-5 Hurricane Iota in November 2020.

Photo credit – Dialogo Magazine

Unsurprisingly, units with special HA/DR training have been formed across Latin America. On 26 November 2021, the Colombian military created a HA/DR brigade (*Brigada de Atención y Prevención de Desastres del Ejército Nacional*, BRIAD) composed of two battalions, consisting of 950 troops.¹⁶ Similarly, the Chilean army has brigades dedicated to combating forest fires (*Brigadas de Refuerzo de Incendios Forestales del Ejército*, BRIFEs).¹⁷

Regarding HA/DR equipment, apart from being acquired by defense ministries and other agencies as part of their annual acquisitions, donations also occur. The U.S. embassy in Chile donated in mid-February 12 portable pools to the Chilean firefighters' corps and National Forestry Corporation (Corporación Nacional Forestal: CONAF), which can carry up to two

¹¹ Tweet. Ecuadorian Army, 18 February 2022 <https://mobile.twitter.com/DefensaEc/status/1494665017043652613>

¹² "Marinha desloca comboio para Petrópolis após temporal devastar a cidade," Brazilian Navy, 16 February 2022 <https://www.marinha.mil.br/noticias/marinha-desloca-comboio-para-petropolis-apos-temporal-devastar-cidade>

¹³ "Mobilização em apoio à cidade de Petrópolis," Brazilian Navy, 17 February 2022 <https://www.marinha.mil.br/noticias/mobilizacao-em-apoio-cidade-de-petropolis> Also see: "Força Aérea Brasileira presta apoio às vítimas das enchentes em Petrópolis," Brazilian Air Force, 17 February 2022 <https://www.fab.mil.br/noticias/mostra/38643/PETROPOLIS%20-%20For%C3%A7a%20A%C3%A9rea%20Brasileira%20presta%20apoio%20%C3%A0s%20v%C3%ADtimas%20das%20enchentes%20em%20Petr%C3%B3polis>

¹⁴ "Gobierno envía 16 toneladas de ayuda humanitaria al Tipnis," Ahora El Pueblo, 7 February 2021 <https://www.ahoraelpueblo.bo/gobierno-envia-16-toneladas-de-ayuda-humanitaria-al-tipnis/>

¹⁵ "Armada de Colombia apoya reconstrucción de Providencia con mas de 5 buques y cerca de 500 tripulantes," Colombian Joint Armed Forces, 2 December, 2020 <https://www.cgfm.mil.co/es/blog/armada-de-colombia-apoya-reconstruccion-de-providencia-con-mas-de-5-buques-y-cerca-de-500>

¹⁶ Sánchez, Alejandro. "Colombian Army establishes new brigade to help with humanitarian assistance operations," *Janes*, 7 December, 2021 <https://www.janes.com/defence-news/news-detail/colombian-army-establishes-new-brigade-to-help-with-humanitarian-assistance-operations>

¹⁷ "BRIFEs del Ejército apoyaron control de la emergencia en primer incendio forestal del 2021," Chilean Army, 14 January, 2021 <https://www.ejercito.cl/prensa/visor/brifes-del-ejercito-apoyaron-control-de-la-emergencia-en-primer-incendio-forestal-del-2021>

thousand liters of water.¹⁸ Also in mid-February, the Fondo de Conservación de Bosques Tropicales del Paraguay (FCBT) donated personal protection equipment, shovels, axes, and other equipment to combat forest fires to the Paraguayan Air Force.¹⁹



Photo title – Argentine soldiers fill a water bladder for local citizens during extreme drought conditions in the Salta province in January 2020.

Photo credit – Ministerio de Defensa, Argentina

U.S. Role in HA/DR

The U.S. military, via Joint Task Force-Bravo (JTF-Bravo), took a leading role in the aftermath of Hurricanes Eta and Iota, which hit Colombia's islands and many Central American countries in November 2020. Overall, JTF-Bravo's assets rescued 810 citizens, transported 163 rescue and aid workers, and 350,000 pounds of food, water, hygiene kits, and other life-saving aid; moreover, JTF-Bravo transported around 564,000 pounds of relief supplies.²⁰

Similarly, Joint Task Force-Haiti, led by the U.S. Agency for International Development Bureau for Humanitarian Assistance (BHA) and in coordi-

nation with U.S. Southern Command, conducted a major operation between 15 August to 2 September 2021 after a 7.2 magnitude earthquake hit Haiti on 14 August. The Task Force deployed six ships, eight transport aircraft, 19 helicopters, transported 266 thousand kilograms of aid, in addition to assisting or rescuing 477 individuals.²¹ Other regional states also came together to help Haiti in its time of need. For example, Mexico also deployed vessels carrying relief aid.²²



Photo title – Sailors from USS ARLINGTON (LPD-24) and local Haitians help offload humanitarian supplies after a 7.2-magnitude earthquake struck Haiti on August 14, 2021.

Photo credit – U.S. Navy

Case Study: Peru

Peru is a good case study of the role of militaries in HA/DR operations due to its varied geography, which means that it is at constant risk of a destructive natural event. Earthquakes are quite common across the country, as Peru sits on the Nazca Fault Line. The country's most well-known disaster is the 1970 earthquake, however others have occurred in recent years, including in May 1990, April 1991,

¹⁸ "Celebración del Día Nacional del Brigadista Forestal y reconocimiento a labor de las Fuerzas Armadas," Chilean Army, 16 February 2022, <https://www.ejercito.cl/prensa/visor/celebracion-del-dia-nacional-del-brigadista-forestal-y-reconocimiento-a-labor-de-las-fuerzas-armadas>

¹⁹ "Viceministra presidió Acto de donación de equipos para combates forestales," Ministry of Defense (Paraguay), No Date, <https://www.mdn.gov.py/index.php/noticias/viceministra-preside-acto-de-donacion-de-equipos-para-combates-forestales>

²⁰ Salpletra, Rachel, "JTF-Bravo Concludes Disaster Relief Efforts," U.S. Southern Command, 3 December, 2020 <https://www.southcom.mil/MEDIA/NEWS-ARTICLES/Article/2437016/jtf-bravo-concludes-disaster-relief-efforts/>

²¹ "U.S. Military Support to Haiti Earthquake Relief," U.S. Southern Command, No Date, <https://www.southcom.mil/HaitiEarthquakeSupport/>

²² "Ayuda Humanitaria es desembarcada de los buques de la Armada de México para el pueblo de Haití," Secretariat of the Navy (Mexico), Press Release 080/2021, 4 September, 2021 <https://www.gob.mx/semar/prensa/ayuda-humanitaria-es-desembarcada-de-los-buques-de-la-armada-de-mexico-para-el-pueblo-de-haiti>

June 2001, August 2007, and May 2019. The areas where quakes occur are widespread: the 1970 quake occurred in Ancash region, north of Lima; the 2007 quake took place in Pisco, Ica region, south of Lima; while the 2019 quake occurred in Loreto region, in the Amazon.



Photo title – Peruvian military personnel embark an aircraft enroute to Piura after the city was damaged by an earthquake in July 2021.
Photo credit – Agencia Peruana de Noticias

The country is also ground zero for the effects of the El Niño weather event, and its occasional spin-off, La Niña. A consequence of El Niño are heavy rains. A particularly strong El Niño occurred in 2017 causing torrential rainfall between January and March across the country and affecting around 1.9 million individuals, according to the United Nations Children’s Fund (UNICEF). Regions such as Lambayeque, La Libertad and Piura were affected.²³ Similarly, major rains hit Cajamarca region in Northern Peru in October 2021, causing the overflow of regional rivers. Tsunamis and strong waves are also common: the 2007 earthquake provoked a tsunami that affected the beaches in Chincha, Paracas, and Pisco, and even reached the coast of Lima.

When heavy rains hit northern Peru in 2017, a major deployment of military personnel was necessary. For example, 200 troops from the Peruvian

Army’s (*Ejército del Peru* or EP) Third Division, located in Arequipa, flew aboard a Boeing 737 aircraft, assigned to the Peruvian Air Force (*Fuerza Aérea del Peru* or FAP) to Piura to help other troops with search and rescue, cleaning, and reconstruction efforts.²⁴ The fact that troops from Southern Peru traveled to Northern Peru to participate in HA/DR efforts highlights how destructive these natural disasters can be and how HA/DR operations demand major participation by military personnel.

When forest fires hit Lucre district, Cuzco region in August 2021, the Peruvian Army deployed an MI-171 Shp helicopter to pick water from the neighboring Huarcapay Lake with a Bambi bucket to suppress the fire.²⁵ Similarly, the Peruvian Air Force deployed an Alenia C-27J Spartan transport aircraft and an MI-171 helicopter to also combat the fire. The helicopter used a Bambi bucket while the Spartan utilized the Guardian aerial firefighting system.²⁶

The Peruvian military has also sent assets to assist neighboring countries. For example, after a major earthquake hit Ecuador in 2019, which also affected Peru’s northern regions such as Tumbes and Piura, the Peruvian Navy (*Marina de Guerra del Peru* or MGP) deployed multipurpose ship *BAP Tacna* (ARL-158) full of supplies to neighboring Ecuador.²⁷ That same year, two Air Force MI-17 helicopters flew to Bolivia to help combat forest fires in Chuiquitania.²⁸ The helicopters were equipped with

²⁴ “Arequipa envía 200 soldados del Ejército a Piura para ayudar a damnificados,” *Andina*, 28 March 2017 <https://andina.pe/agencia/noticia-arequipa-envia-200-soldados-del-ejercito-a-piura-para-ayudar-a-damnificados-660298.aspx>

²⁵ “Helicóptero del Ejército interviene en trabajos de control de incendio forestal en el Cuzco,” Ministry of Defense (Peru), No date, <https://www.gob.pe/institucion/ejercito/noticias/511078-helicoptero-del-ejercito-interviene-en-trabajos-de-control-de-incendio-forestal-en-el-cuzco>

²⁶ “FAP desarrolló operaciones aéreas para controlar incendio forestal en Cusco,” Ministry of Defense (Peru), No date, <https://www.gob.pe/institucion/fap/noticias/512000-fap-desarrollo-operaciones-aereas-para-controlar-incendio-forestal-en-cusco>

²⁷ “Ecuador agradece ayuda de Perú,” *El Peruano*, 19 April, 2016 <https://elperuano.pe/noticia/40199-ecuador-agradece-ayuda-de-peru>

²⁸ “Dos helicópteros peruanos llegaron a Bolivia para apoyar en extinción de incendios forestales,” Defense Ministry (Peru), 28 August 2019 <https://www.gob.pe/institucion/mindef/noticias/50307-dos-helicopteros-peruanos-llegaron-a-bolivia-para-apoyar-en-extincion-de-incendios-forestales>

²³ “Lluvias e inundaciones: Fenómeno El Niño - 2017,” UNICEF, <https://www.unicef.org/peru/emergencias/lluvias-inundaciones-fenomeno-el-nino-2017>



Photo title – In March 2018, Peruvian President Pedro Kuczynski attends a ceremony of the Peruvian Army for the establishment of the first Multi-purpose Brigade that will respond to humanitarian assistance and disaster relief crises. **Photo credit** – Government of Peru

Bambi buckets.

In order to be ready for the next disaster, the Peruvian Army created in 2018 a Multipurpose Brigade (*Primera Brigada Multipropósito* “Mariscal del Perú Eloy Gaspar Ureta Montehermoso”).²⁹ The brigade is composed of 1,500 troops, including four Rapid Reaction Companies (*Compañías de Intervención Rápida para Desastres* or CIRD), a Medical Battalion, a Company for Social Issues (*Compañía contra Conflictividad Social*), and a Company for fumigation missions. It possesses a communications vehicle, heavy machinery for engineering operations, a Chinese-donated heavy bridge building system, MAN trucks, water trucks, and is supported by the Army’s aviation units, which can deploy helicopters carrying Bambi buckets. At the time of its creation, the Peruvian government explained that the objective was to increase the size of the Brigade from 1,500 to four thousand personnel but the author of this analysis cannot find precise data about the current number of personnel assigned to this unit.

Countries such as the United States and China have donated HA/DR equipment to the Peruvian

armed forces, such as tractors, shovels, and oxygen tanks among others.³⁰ In the case of China, the 2019 donation included a heavy bridge building system, fifteen sandbagging machines to control flooding incidents, and two water trucks.³¹

HA/DR Operations, One More Mission

Without a doubt, militaries are not the only entities tasked with HA/DR operations. Firefighters, medical staff, police forces, and special civilian agencies are also involved. Nearly every government has a national disaster office responsible for coordinating and responding to natural and man-made disasters.³² In Peru, the National Institute for Civil Defense is tasked with managing HA/DR operations. However, the role of militaries as the tip of the spear is undeniable. Looking to the future, if we know that climate change will exacerbate natural disasters like hurricanes, forest fires, and droughts, then regional governments must prepare for the worst. But what does this mean exactly?

For this hypothetical situation, we will assume that Latin American geopolitics, including Peru’s relations with its neighbors, will not dramatically change soon. In other words, we do not foresee interstate conflict between states.³³ While border disputes, border incidents, and tensions (e.g., regarding Venezuela’s Nicolás Maduro regime) continue to occur,

²⁹ “Ejército presentó Primera Brigada Multipropósito para desastres,” Ministry of Defense (Peru), 20 March, 2018 <https://www.gob.pe/institucion/mindef/noticias/12294-ejercito-presento-primera-brigada-multiproposito-para-desastres>

³⁰ “Gobierno de EE.UU. dona equipos de rescate y de respuesta médica y aparatos geo-localizadores a la Fuerza Aérea del Perú,” Embassy of the United States in Peru, 13 October, 2020 <https://pe.usembassy.gov/es/donation-of-rescue-equipment-and-medical-response-to-peruvian-air-force-es/> Also see: Pelcastre, Julieta “EE. UU. dona al Perú equipos para búsqueda y rescate,”

Diálogo, 8, December, 2021 <https://dialogo-americas.com/es/articles/ee-uu-dona-al-peru-equipos-para-busqueda-y-rescate/#.Yg1UoBtOIH4>

³¹ “Ministerio de Defensa recibe donación de China para que Fuerzas Armadas atiendan desastres naturales,” Ministry of Defense (Peru), 8 January, 2019, <https://www.gob.pe/institucion/mindef/noticias/24326-ministerio-de-defensa-recibe-donacion-de-china-para-que-fuerzas-armadas-atiendan-desastres-naturales>

³² See the helpful list of national disaster office in the Comparative Atlas of Defense in Latin America and Caribbean, 2016 edition on pages 68-70. Link: https://www.resdal.org/ing/assets/atlas_2016_ing_07.pdf

³³ War in the region is uncommon, the last war was the 1995 conflict between Ecuador and Peru, while the second-to-last conflict was the Falklands/Malvinas war between Argentina and the United Kingdom in 1982.



Photo title – Ecuadorian military personnel help clear debris from severe flooding in Quito in February 2022.

Photo credit – The Limited Times

inter-state warfare is unlikely. This argument can be applied to Peru as the country enjoys cordial relations with neighboring Bolivia, Brazil, Colombia, and Ecuador. Moreover, while historical tensions with Chile exist, the likelihood is war is minimal.

Hence, apart from defending national sovereignty, regional militaries will continue to be heavily utilized for internal security missions to fight criminal entities such as drug cartels, Mara gangs, and narco-insurgent movements, among others. Other ongoing missions include combating environmental crimes including illegal, unreported, and unregulated (IUU) fishing, illegal mining, and wildlife trafficking. Over the past two years, regional militaries have also been widely utilized to deal with the COVID-19 pandemic, including enforcing curfews and conducting vaccination operations.

In Peru, the Peruvian military and the police (Policía Nacional del Peru: PNP) are active in the valley of the Huallaga, Ene, and Mantaro Rivers to combat the narco-insurgent movement Shining Path. The military has also been deployed across urban areas such as the capital Lima and neighboring Callao to combat a rise in criminality. Meanwhile, the Peruvian Navy combats IUU fishing and drug trafficking across Peru's vast waters in the Pacific Ocean; the service also operates across the country's many rivers and Lake Titicaca.

Looking to the future, the unanswered questions

Given this plethora of missions, combined with limited numbers of personnel, equipment, funding, and time, effective planning is needed to face these multiple threats effectively and simultaneously. Latin American militaries are certainly no strangers to HA/DR operations, however, the frequency of natural disasters, such as droughts, wildfires exasperated by extreme heat, and the level of destruction they will cause is expected to grow in the coming years due to climate change. We will now list some questions to keep in mind regarding the future of regional militaries in HA/DR missions:

- Will Latin American governments assign more funds to their Ministries of Defense (MoD) and armed services to better prepare and equip themselves for future HA/DR missions?
- What type of equipment will Latin American militaries acquire in the coming years for HA/DR missions? For example, the 2022 budget of the Peruvian MoD mentions that water and transport trucks will be acquired, which can be used for both defense and assistance missions. Will armed services seek to purchase modern technologies, like Unmanned Aerial Vehicles, which can be used for HA/DR?
- Will Latin American militaries focus on acquiring (or manufacturing domestically) units that can have both military and civilian HA/DR applications? We are referring to multipurpose logistical vessels, landing dock platforms, hospital ships, helicopters, and transport aircraft. For example, the Peruvian shipyard SIMA is currently building the MGP's second landing platform dock, *BAP Paita* (*BAP Pisco* is already operation-

al) which can transport troops, armored vehicles as well as medical supplies. Similarly, the Peruvian Army's fleet of MI helicopters are used to transport soldiers for security operations as well as Bambi buckets to combat forest fires. Will defense ministers have to constantly justify future acquisitions to civilian authorities by arguing that new equipment can be used also to help civilians as part of HA/DR missions?

- How will HA/DR and climate change affect military training? For example, regional militaries have set up training centers to prepare personnel to be deployed to peacekeeping operations. For example, in Peru it is called CECOPAZ (*Centro de Entrenamiento y Capacitación para Operaciones de Paz*). Will armed services similarly establish HA/DR training institutes?
- Will HA/DR emerge as a type of specialization within a military branch? Will there be one day a Captain or Colonel of HA/DR?
- Will regional militaries create new units specifically trained and tasked with HA/DR operations? The answer to the question is an obvious yes, but the question here is how large these units will become. For example, will there be one day an entire division tasked with HA/DR missions? If so, how would this impact the size of regional armed forces? A retired senior Peruvian army officer explained to the author that while the army's multipurpose brigade is an innovative idea, given the plethora of natural disasters in Peru and the country's varied geography (Coast, Andes, and Amazon), there should be three brigades: one for the north of the country, one for the south and one for the Amazon. If other regional armed forces

have similar plans, this will require a service to increase in size, perhaps by having more active reserve units, to cope with the need for specialized HA/DR units while also carrying out other missions.



Photo title – Members of the Argentine armed forces coordinate with representatives of other government agencies in the command center as they battle wildfires near Corrientes in March 2022.

Photo credit – Ministerio de Defensa, Argentina

HA/DR and Hemispheric Unity

One question that does not require answering is whether there will be more cooperation and interoperability between regional armed forces to prepare joint responses for the next natural disaster. Major multinational maneuvers such as exercises Tradewinds and UNITAS bring together different defense forces and other agencies to train together for both security and disaster relief operations.³⁴ There are also regular conferences between the senior commanders of regional forces.³⁵

With that said, the future role of international agencies in HA/DR must also be discussed. The In-

³⁴ "UNITAS 2019," US Southern Command, No Date, <https://www.southcom.mil/Media/Special-Coverage/UNITAS-2019/> Also see: Braithwaite, Isaiah, "Exercise Tradewinds' to prepare Guyana for natural disasters, other threats" Department of Public Information (Guyana), 13 June, 2021 <https://dpi.gov.gy/exercise-tradewinds-to-prepare-guyana-for-natural-disasters-other-threats/>

³⁵ "Ministerio de Defensa participó en ejercicio interamericano de simulación de desastre natural," Ministry of Defense (Peru), 11 February 2022 <https://www.gob.pe/institucion/mindef/noticias/583180-ministerio-de-defensa-participo-en-ejercicio-interamericano-de-simulacion-de-desastre-natural>

ter-American Defense Board (IADB) has done work on issues such as humanitarian demining and developing confidence and security building measures in the Western Hemisphere, as well as emerging threats. The IADB, in coordination with the Organization of American States (OAS), can take a role leading in HA/DR training and preparation. Perhaps it is time to discuss the creation of a Western Hemisphere Center for Humanitarian Assistance/Disaster Relief Operations as an organ of the IADB, the Inter-American Defense College, or another similar entity.

Final Thoughts

Future natural disasters that Latin America will experience will be exacerbated by climate change. In this new reality, the role of regional militaries in Humanitarian Assistance/Disaster Relief operations will become more common. This essay has sought to outline questions that will have to be answered when we discuss what a 21st century Latin American military will look like.

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