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Shoulder-to-shoulder: U.S., Filipino Soldiers train to purify water

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- "It's America's obligation to help build our allies' capacity and help maintain stability of the Pacific."



ABERDEEN PROVING GROUND, Md. -- A team of U.S. Army Soldiers and civilians helped the Filipino people purify more than 14,000 gallons of water during a joint military exercise in April.

The water-purification project, part of the Balikatan 2013 Exercise, demonstrates the U.S. military's significant commitment to stand "shoulder-to-shoulder" during military operations as well as humanitarian assistance and disaster relief missions in the Pacific region, said Jim Muldoon, the science advisor assigned to U.S. Army Pacific at Fort Shafter, Hawaii.

"When an HA/DR event occurs, the military is typically the one that has the transportation, equipment and personnel that can take anything, anywhere, anytime," Muldoon said. "Water is an invaluable resource, and you have to secure that from friend, foe and even nature itself."

Muldoon is part of U.S. Army Research, Development and Engineering Command's Field Assistance in Science and Technology team. He reports to RDECOM Forward Element Command-Pacific, which coordinates the Army's science and technology partnerships and collaboration with foreign militaries, academia and industry in the region from its headquarters in Tokyo.

RDECOM's 30 science advisors, both uniformed officers and Army civilians, span the globe to provide a link between Soldiers and the command's thousands of subject matter experts.

USARPAC requested that the Army Rapid Equipping Force procure and ship five Aspen 2000 water-purification systems to the Pahingahan Dam at Fort Magsaysay, Philippines.

The REF responded quickly, Muldoon said. Within two months, Darren Hayes led a team that processed the request, analyzed the requirement, determined the best solution, obtained the assets and ensured the systems were waiting for the Soldiers 9,000 miles away.

Muldoon said his role as the project's science advisor was to assist in the logistics details and training of the equipment before the exercise and then to identify the technical gaps and develop solutions during the exercise. A team of six U.S. Soldiers; six Filipino Soldiers; Jim Ivey and Randy Mefford, REF contractors who trained everyone on the system; and Muldoon purified water for six to eight hours per day from April 2-15.

The system is easy to operate, Muldoon said. Staff Sgt. Naome Trigg was the only water treatment specialist as the remaining Soldiers were infantrymen and combat engineers.

Four Soldiers can unload the system from a small pickup truck, but only one is needed to operate it to purify up to 100 gallons of water per hour.

The Aspen systems pulled water from a lake contaminated with bacteria and purified it through a series of screens; 50-micron, 3-micron and carbon filters; reverse osmosis; and ultraviolet light. Even though the system automatically checks to ensure the water is clean, Soldiers can use a handheld meter to double-check the filtration. The preventive medicine officer tests and verifies the water's purity and quality.

"An easy way to take down the strongest of Soldiers is to 'scramble' their stomach with a drink of bad water," Muldoon said.

As the U.S. military pivots to the Pacific, humanitarian assistance and disaster relief missions will be vital to establishing and maintaining good relations with America's allies in the region, Muldoon said. As the provider of scientific and engineering solutions, RDECOM will be an important part of Army operations.

"Five of America's seven longest-standing treaties are in the Pacific. It's America's obligation to help build our allies' capacity and help maintain stability of the Pacific," Muldoon said. "A natural disaster is indiscriminate, so any country in the Pacific can take a hard hit on their economy, infrastructure and capability to sustain itself. When that is jeopardized, we owe it as humanitarians to help them start to build back up.

"All the things that make a mission successful are pieces of equipment that RDECOM has provided, developed or improved."

The support goes beyond Balikatan 13. The Army will send two purification units, along with Solar Sticks for sustainable power, to both Saipan and American Samoa for contingency operations. One system will remain in Hawaii for training and quick deployment to a disaster in the Pacific.

"If those territories have a disaster, Soldiers on rotation there know that -- as a minimum -- they will have power to charge communications and water," Muldoon said. "These are going into operation to give us an increased capability. We're stretching across the Pacific with these five systems."

Work on next year's Balikatan exercise has already begun, Muldoon said. Plans are aligned with a DoD directive on contingency basing to purify and reuse water from the camp's dining facilities and showers. This reduces the need to truck water from the lake back into camp.

Muldoon has been a developmental engineer for five years with RDECOM's Tank Automotive Research, Development and Engineering Center at Detroit Arsenal, Mich., after retiring as an Air Force officer. He took the assignment as a FAST science advisor in January 2012 to get a broader view of the Army and to work in the field with Soldiers.

"It's important to deploy with the unit, to understand what it really means to be in field conditions. We've been in the Pacific for over 100 years. That was one of the reasons I picked the Pacific -- it's an enduring mission," he said.

RDECOM is a major subordinate command of the U.S. Army Materiel Command. AMC is the Army's premier provider of materiel readiness -- technology, acquisition support, materiel development, logistics power projection, and sustainment -- to the total force, across the spectrum of joint military operations. If a Soldier shoots it, drives it, flies it, wears it, eats it or communicates with it, AMC provides it.

