

Deployment to Gaza: How Troops of African Giant Pouched Rats Are a Vital Component to Post-Conflict Healing in Palestine and Israel When Resolution Is Actualized

On October 7, 2023, Hamas, a political sect of Sunni Muslim Palestinians, attacked Israel, killing approximately 1,200 people and seizing 251 Israeli hostages.¹ The Israeli military promptly launched an offensive in the Gaza Strip.² Human rights groups report Israel's military offensive has caused tens of thousands of Palestinian deaths.³ Two years later, "the first phase of a ceasefire deal brokered by U.S. President Donald Trump" has left the international community hopeful at the possibility of resolution.⁴

With the hope of resolution lingering between Israel and Palestine, the international community must prepare to aid the region in healing through early intervention and taking preventative measures to mitigate decades-long ramifications confronting the region. While a multidirectional response will be necessary to effectuate healing, one component of this response must be the revitalization of the region's landscape through the clearing of cluster munitions.

Cluster munitions are sets of submunitions that are scattered across a large area by aircrafts or missiles, posing both an immediate and impending threat to densely populated areas, especially as many submunitions fail to detonate upon initial impact.⁵ One organization,

¹ See *What is Hamas and Why Is It Fighting with Israel in Gaza?*, BBC NEWS (Oct. 14, 2025), <https://www.bbc.com/news/articles/clyv7w3gdy2o> [<https://perma.cc/N66V-693K>]; JEREMY M. SHARP & JIM ZANOTTI, CONG. RSCH. SERV., R47828, ISRAEL AND HAMAS CONFLICT IN BRIEF: OVERVIEW, U.S. POLICY, AND OPTIONS FOR CONGRESS 1-6 (2024).

² See SHARP & ZANOTTI, *supra* note 1, at 5.

³ SHARP & ZANOTTI, *supra* note 1, at 2 ("In the conflict to date, more than 41,000 Palestinians in Gaza have been killed, according to the Hamas-controlled health ministry there.").

⁴ *What is Hamas and Why Is It Fighting with Israel in Gaza?*, *supra* note 1.

⁵ HUMAN RIGHTS WATCH, *Cluster Munitions | Explainer*, at 00:10–00:41 (YouTube, July 7, 2023), <https://www.youtube.com/watch?v=-Ok8TGyJzXE&t=41s> [<https://perma.cc/BDN7-SQSB>].

Religions for Peace, explains “so many of the submunitions fail to work properly, ... and, like landmines, remain a fatal threat to anyone in the area long after a conflict ends.”⁶ Religions for Peace identifies that “[t]ens of thousands of civilians worldwide have been killed or injured by cluster munitions,” with “25% of civilian casualties [being] children,” and “more than 50% of survivors [being] children.”⁷ Israel has yet to join the more than 100 nation-states who have signed the Convention on Cluster Munitions,⁸ an international treaty promulgated in 2008 which prohibits the “use, production, transfer and stockpiling of cluster munitions.”⁹ Beyond declining to sign the international treaty, Israel and Hamas are both suspected of violating this international norm, as evidence indicates both Israel and Hamas used cluster munitions in the war in the Gaza Strip.¹⁰ While the precise extent of cluster munition-use in the Israel-Hamas war remains unknown, by October 2024, Israel’s military reported over 40,000 air strikes on the Gaza Strip and “[t]he U.N. Mine Action Service estimates that between one in 10 and one in 20 bombs fired into Gaza did not go off” as is commonplace for cluster munitions.¹¹

⁶ ALLISON PYTLAK, CLUSTER MUNITIONS: A RESOURCE GUIDE FOR *RELIGIONS FOR PEACE* 4 (2024), https://www.clusterconvention.org/wp-content/uploads/2024/10/RFP_Cluster_Munitions.pdf [<https://perma.cc/HX4P-K9YT>].

⁷ *Id.*

⁸ CONVENTION ON CLUSTER MUNITIONS, CONVENTION ON CLUSTER MUNITIONS: UNIVERSALIZATION STATUS BY REGION, <https://www.clusterconvention.org/wp-content/uploads/2025/04/1.-CCM-Universalization-Status-by-Region-TO-PRINT.pdf> [<https://perma.cc/QBV5-RKNA>] (last visited Nov. 1, 2025).

⁹ CONVENTION ON CLUSTER MUNITIONS, <https://www.clusterconvention.org> [<https://perma.cc/6NMW-W76W>] (last visited Nov. 1, 2025).

¹⁰ See Emma Farge et al., *Gazans Survive Among Unexploded Bombs*, REUTERS (Apr. 17, 2025, 1:00 CDT), <https://www.reuters.com/graphics/ISRAEL-PALESTINIANS/GAZA-ORDNANCE/byvrxbenwve/> [<https://perma.cc/H65G-BXKR>].

¹¹ *Id.*

With Cambodia as an example¹²—a region littered with cluster munitions from the genocidal rule of Khmer Rouge and about twenty years of civil and regional wars¹³—restoring the Israeli-Palestinian region should start with an unusual actor to assist efforts to clear cluster munitions and prevent further physical injury and death: The African giant pouched rat.

The African giant pouched rat is a species of rodent native to sub-Saharan Africa.¹⁴ These rodents live approximately seven to nine years, with each rat weighing approximately six and a half pounds and measuring approximately sixteen inches long.¹⁵ However, the African giant pouched rat is more than a mere rodent. Since 1997, Tanzania non-profit organization APOPO—which roughly translates to *Anti-Personnel Landmines Removal Product Development*—has been training and deploying these rats as “low-cost scent detection solutions for humanitarian challenges,” training African giant pouched rats to detect cluster munitions concealed within post-conflict landscapes,¹⁶ as well as training them to detect tuberculosis contamination and wildlife trafficking. With approximately nine months of focused training, the African giant pouched rat is ready to work, able to detect a single target odor such as the TNT concealed

¹² Fred de Sam Lazara & Sarah Clune Hartman, *How Giant African Rats are Helping Uncover Deadly Land Mines in Cambodia*, PBS NEWS HOUR (Sept. 10, 2019, 18:40 EDT), <https://www.pbs.org/newshour/show/how-giant-african-rats-are-helping-uncover-deadly-land-mines-in-cambodia> [<https://perma.cc/ND7A-FBJ8>]; see also Tiffany Wertheimer, *Ronin the rat sets new landmine-sniffing record*, BBC NEWS (Apr. 4, 2025), <https://www.bbc.com/news/articles/c2ewxjjw842o> [<https://perma.cc/WC55-79P9>] (highlighting one of the landmine-detecting rats who recently broke non-profit organization’s APOPO’s record as the first rat to uncover over one hundred cluster munitions and unexploded ordnance in Cambodia).

¹³ See David P. Chandler & Leonard C. Overton, *History: Cambodia: Civil War*, BRITANNICA (Oct. 20, 2025), <https://www.britannica.com/place/Cambodia/Civil-war> [<https://perma.cc/3A93-NHJ8>]; Wertheimer, *supra* note 12 (“Cambodia remains littered with millions of unexploded munitions following about 20 years of civil war that ended in 1998.”).

¹⁴ *African Pouched Rat*, BRITANNICA, <https://www.britannica.com/animal/African-pouched-rat> [<https://perma.cc/4Z97-9ZPK>] (last visited Oct. 24, 2025).

¹⁵ *Id.*

¹⁶ Elisabeth K. Webb et al., *Rapidly Training African Giant Pouched Rats (Cricetomys Ansorgei) with Multiple Targets for Scent Detection*, 174 BEHAVIOURAL PROCESSES 1, 1 (2020).

within cluster munitions.¹⁷ The African giant pouched rats are trained “to distinguish explosives from other scents,” scratching at the ground when they detect a cluster munition is buried there.”¹⁸ Unlike humans who must rely on metal detectors which oftentimes pick up ample other scrap metals, the rats narrowed detection of TNT accelerates the process of decontaminating the landscape of cluster munitions.¹⁹

While African giant pouched rats certainly benefit the international community, there are some limitations posed by employing these creatures. One limitation is that African giant pouched rats, such as those employed by APOPO, are not easily bred, as their atypical reproductive biology baffles biologists.²⁰

Furthermore, these rodents are invasive in many regions around the world, and thus responsible deployment of the African giant pouched rats is quintessential to avoid the introduction of an invasive species to ecological habitats not suited for the African giant pouched rat.²¹ For example, the African giant pouched rat is considered an invasive species in Grassy Key, Florida.²² In 1999, eight (8) rats escaped from the pen of an exotic pet breeder living in

¹⁷ *Id.*

¹⁸ Lazara & Hartman, *supra* note 12.

¹⁹ Lazara & Harman, *supra* note 12.

²⁰ Laura Gallup, *Bomb-Sniffing Rodents Undergo ‘Weird’ Vaginal Transformation*, CORNELL CHRON. (Mar. 27, 2023), <https://news.cornell.edu/stories/2023/03/bomb-sniffing-rodents-undergo-weird-vaginal-transformations> [<https://perma.cc/5QDE-W4GW>] (distinguishing between typical female mammals, where the vaginal entrance opens prior to or during puberty and remains open for the duration of their adult life, and atypical female African Giant Pouched Rats where the vaginal entrance is closed well into adulthood and can open or close multiple times during their adult life in unpredictable patterns, especially apparent in rats used to detect TNT).

²¹ *Gambian Giant Pouched Rat*, NAT’L INVASIVE SPECIES INFO. CTR., <https://www.invasivespeciesinfo.gov/terrestrial/vertebrates/gambian-giant-pouched-rat> [<https://perma.cc/T5SM-49XW>] (last visited Oct. 24, 2025).

²² *Id.*

Grassy Key, and ever since, Grassy Key has been experiencing a steady increase in African giant pouched rat populations.²³ As the rodents are non-native species with large bodies and omnivorous diets, the “indigenous ecological communities within the Florida Keys” face an enduring threat due to the rodents’ reckless release.²⁴

Despite these limitations, the African giant pouched rats need to be trained and ready to assist the international community when resolution in the Gaza Strip is actualized. The U.N. agencies and organizations are fearful that Israel will disrupt reconstruction efforts, but even if they do not, many experts suspect that it will take at least ten (10) years “and \$500 million to clear the bombs” from the Gaza Strip.²⁵ APOPO African giant pouched rats have saved countless human lives across the globe by assisting in decontamination and rehabilitation efforts in post-conflict landscapes.²⁶ In preparing for the end of the Israel-Hamas war, the international community needs to be ready to pull on resources from wherever necessary, and as such, the African giant pouched rats should pack their bags and get ready to go.

²³ Neil D. Perry et al., *New Invasive Species in Southern Florida: Gambian Rat (Cricetomys Gambianus)*, 87 J. MAMMALOGY 262, 262 (2006).

²⁴ *Id.*

²⁵ Farge et al., *supra* note 10.

²⁶ See, e.g., Merrit Kennedy & Laurel Wamsley, *Magawa, a Heroic Bomb-Sniffing Rat Who is Credited with Saving Lives, Has Died*, NPR (Jan. 11, 2022, 15:13 ET), <https://www.npr.org/2022/01/11/1072153873/magawa-hero-rat-dies-bomb-sniffing> [<https://perma.cc/CG6P-4UBS>] (highlighting lifetime achievements of African Giant Pouched Rat named Magawa including earning a gold medal for his lifesaving work from United Kingdom charity PDSA); THREE STAR VAGABOND, *HERO RATS Who Save Lives | APOPO Visitor Center Cambodia*, at 02:30–02:56 (YouTube, Oct. 29, 2023), https://www.youtube.com/watch?v=vJuKb_3kUc8 [<https://perma.cc/AB24-ACQJ>] (revealing the countries in which APOPO has deployed their rats for TNT and disease detection, shown on a large wall at the APOPO Visitor Center in Siem Reap, Cambodia); Robin Donovan, *Forget Dogs: These Rats Could Be the Future of Search and Rescue*, AM. ASS’N ADVANCEMENT SCI. (Dec. 16, 2021, 17:50 ET), <https://www.science.org/content/article/forget-dogs-these-rats-could-be-future-search-and-rescue> [<https://perma.cc/L3XR-DNGK>] (featuring a question and answer discussion with APOPO’s Donna Kean about the training of African Giant Pouched Rats for search and rescue purposes after their success identifying TNT and tuberculosis).