



Enabler to Decrease Violent Extremist Organizations Lethality and Influence



What: Seeking Pilot for Somalian and Kenyan Security Forces to increase Intel and decrease Al-Shabaab and other Violent Extremist Organizations (VEO) Improvised Explosive Devices (IED) production capacity, influence, and support networks with the Provision of Homemade Explosive (HME) Precursor Identification Test Kit and HME Precursor Training Aid Pack for Ai-HME-001 Kit¹

Where: AFRICOM Area of Operations, with rapid scalability:

- Horn of Africa (HOA)
- Lake Chad Basin (LCB)
- Northwest Africa (NWA)
- Sahel Region.



Map 1: African countries impacted by the IED threat and homemade explosives (HME) precursors trafficking.

¹ See <https://www.americaninnovations.com/ai-hme-001-kit-HME-Precursors-Detection-Kits>

Who: American Innovations, Inc. (New York), specialists in Anti-Terrorism solutions, has 30 years of past performance including supporting government, military, and law enforcement in 6 continents. Their technology that is provided in native languages with picture instructions to overcome low literacy played an integral role in removing 440 tons of bomb-making materials in Afghanistan in 2012, was featured in 2013 by the Center for Army Lessons Learned as a Best Practice, received a Letter of Recommendation from NATO's EOD Centre of Excellence in 2014, and was selected by U.S. Department of Defense Technology Link to be featured as a success story in 2020. (Copies available)

Beneficiaries: Security sector actors to include armed forces, border control, customs agencies, port and airport personnel, maritime security forces, United Nations Peacekeeping Operations (UNPKO), African Union (AU) forces, U.S. Special Operations Forces, etc.

Why: Improvised Explosive Devices (IEDs) are weapons of choice for violent extremist organizations (VEOs), posing a constantly evolving threat to security forces, civilians, critical infrastructure, and local governance systems. Africa has suffered gravely from the scourge of IED use, with more than 1,300 incidents recorded across the continent between February 2020 and January 2021 alone, causing at least 4,627 casualties – most of whom were civilians. The IED threat currently exists in at least 22 African countries² with a general observed trend of IED use expansion. Some African countries are among the top ten victims of the threat, suffering the highest IED numbers recorded worldwide. In 2021, 488 IEDs caused 1,513 casualties in Somalia. Risk to deploying U.S. Troops from IEDs is high.

The intensive use of IEDs by the Islamic State in Iraq and Syria (ISIS) and its concurrent geographical expansion in Africa have been accentuated by the return or displacement of its foreign fighters. The risk is an accelerated knowledge transfer in IED manufacturing, including homemade explosives (HME), to other regional branches. This threat is in addition to the use of IEDs by other jihadist groups affiliated with al-Qaeda. The growing awareness and increased efforts of countries and regional organizations³ impacted by the threat have led to the development of steps toward national, regional, and continental C-IED strategies.

These efforts also include increased regulation and control of exported and imported commodities identified as potential components for IED production. However, the traditional defensive and reactive measures have proven inadequate to significantly decrease the transnational flow of IED dual-use components and precursors, including fertilizers and other commercial use materials. Therefore, there is a clear need for a more proactive, affordable, and efficient approach to increase the detection capacity of IED precursors before they are manufactured into roadside bombs, suicide vests, and car bombs.

² Countries: Algeria, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Cote d'Ivoire, Egypt, Ethiopia, Kenya, Libya, Mali, Morocco, Niger, Nigeria, Rwanda, Somalia, South Sudan, Sudan, Tanzania, Tunisia, and Uganda.

³ Such as the African Union and Regional Economic Communities (RECs) such as the Economic Community of West African States [ECOWAS], the Intergovernmental Authority on Development (IGAD), etc.

Solution: In recognition of these challenges, American Innovations' solution provides detection equipment and training to identify the most used explosive precursors listed under the UNSCR 2552 (2020).⁴ Detection of Nitrate, Chlorate, and Peroxide HME precursors are now achievable in one 10 second analysis, and without the need to swab sample in heavily contaminated post blast areas.

The provision of the HME Precursor Identification Kit to Border Police, Law Enforcement, Special and Conventional Armed Forces guarantees the early detection of IED components without impeding the licit flow of agricultural products, including fertilizers listed by the UN Security Council.

A better border and importation control causes restricted access by the violent armed groups to HME precursors, consequently degrading their IED production capacities. It also allows security forces to protect civilians and facilitate humanitarian access to areas previously rendered non-permissive by IED use more effectively. Those countermeasures prevent further deterioration of security conditions in areas with limited freedom of mobility for contributors to the rule of law.

The purpose of this train and equip program is to offer an enduring and sustainable solution to support the three counter-IED activity pillars, including Attack the Network (AtN), Prepare the force by Training, Educating, and developing Doctrine (TED), and Defeating the Device (DtD). Procuring a uniform detection and intel collection solution for AFRICOM's partners ensures standardization and interoperability between national and regional forces, UN Peace Keeping, and African Union troops. Bringing local security forces and civilians together in a way that maintains trust and boosts confidence is a force multiplier that will provide a positive return on investment.

In the context of preventing the transnational explosive violence threat, efficient early detection of IED precursors will have a direct effect on decreasing the IED manufacturing capability of VEOs operating in Africa. It can disrupt component supply networks, consequently robbing VEOs of the ability to lay explosive devices, mitigate the risk of incidents, save civilians' lives, improve the local economy's development by facilitating economic exchanges on safer roads, and allow access to schools. The capacity of forces to prevent IED attacks will help reinforce the host nation government's legitimacy and its ability to protect civilian communities. The provision of the detection kit to the governmental forces and agencies will also demonstrate the fairness of the detection process participating in promoting the rule of law, government transparency, and the protection of civilians. Subsequent improvement of airport and port safety will attract investors, which could be beneficial for the development of local economies.

⁴ See <http://unscr.com/en/resolutions/doc/2552>

Measures of Effectiveness cycle - Build capacity to enhance counterterrorism mission.

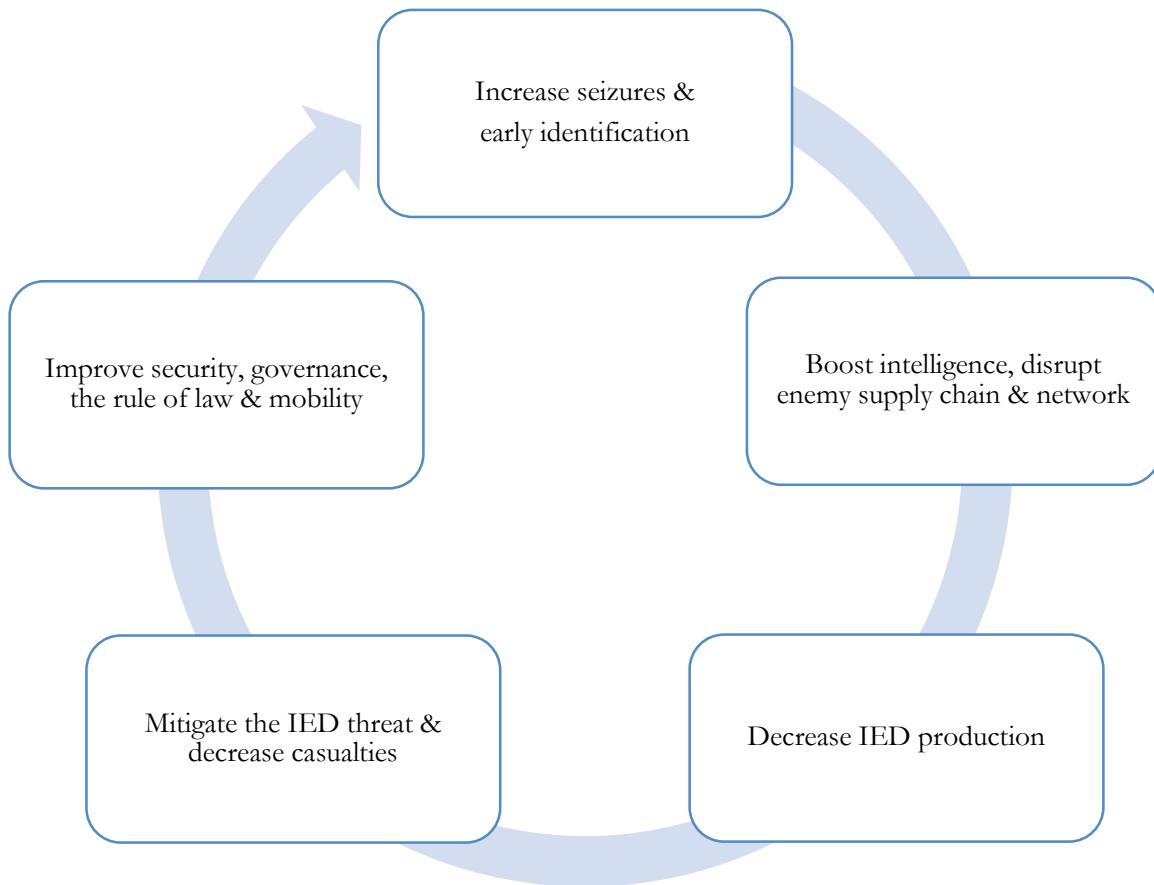


Figure 1: Measures of effectiveness cycle

Finally, in the context of regional C-IED response mechanisms, providing the same detection equipment to neighboring countries will strengthen the collaboration and interoperability between states while offering an opportunity to share information using a standardized mode of collection and reporting. The operability of the HME Precursor Identification Kit has been previously tested and evaluated by experts, including Mr. Gregory Robin, Technical Advisor at UNOPS PSC.

To ensure the correct use of detection kits and the troops' capacity development, American Innovations offers a wide range of integrated practical counter-IED training solutions delivered by highly qualified and experienced experts, including:

- Basic kit-user course;
- Reactions in case of a confirmation course;
- Identification of precursors entering in the homemade explosive (HME) manufacturing;
- Train the Trainers (T3) courses; and
- Upon request, provision of mentoring and operational assistance.

Product Advantages: (No warmup, No calibration, No power required, No swabbing, No post blast cross contamination detection, Fast to Train, Simple to Use, and Highly Effective!)

The competitive advantage of this solution is the low cost, 33 tests per kit, and a 5 year shelf life! Capable of operating in extreme weather conditions (32-140°F/0-60°C), its use is eased by its lightweight of 6 oz/0.028 kg and pocket-size (10x10x5cm/4x4x2 in) and ability to attach to Molle or belts.

The kit was developed to be user-friendly, with minimum training required. American Innovations' solution includes a train the trainer instruction package, thus allowing the trainees to teach the course after completing a short training period.

Logistically, the shipment of the kits doesn't include any International Air Transport Association (IATA) restrictions. Operationally (and contrary to other brands), the detection kit is safe to use due to protection against the transfer of hazardous or cancerous particles. The results reading is immediate and easy to interpret [*See product description in annex 1*]. Finally, it mitigates the risk for counternarcotics forces to be inadvertently exposed to explosive material similar in appearance.



Figure 2: *Ai-HME-001 Homemade Explosives (HME) Precursor Identification Kit*

When: The provision of this Training and Equipping and Integration Program can commence within **60** days of contract in any desired native language or languages. (Examples: Swahili, Arabic, Soomali, French, Spanish, Portuguese, Yoruba, Amharic, Oromo, Hausa, Igbo, Zulu, Shona, among others.)

American Innovations, Inc. has the capability to supply AFRICOM:

- 3,000 kits during month two;
- 10,000 additional kits during month three;
- 20,000 additional kits during month four; and
- 50,000 additional kits during month five; and
- 100,000 Ai-HME-001 kits can be delivered monthly thereafter.

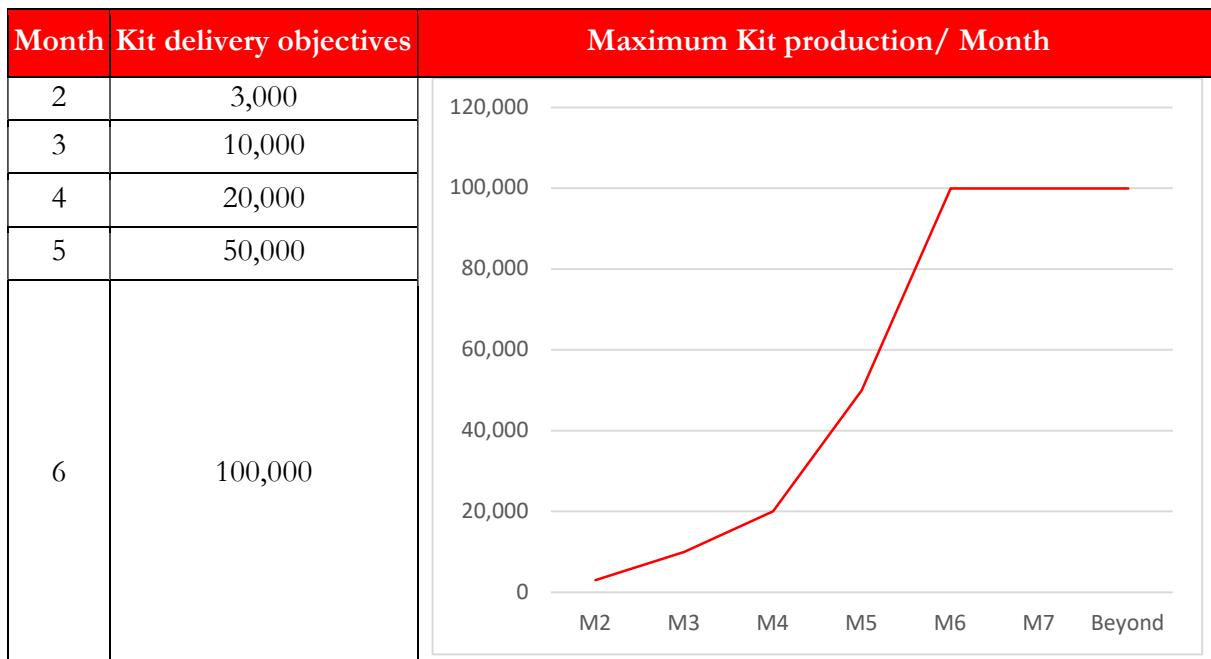


Figure 3: Ai-HME-001 HME Precursor Identification kit production capacity per month

Depending on the training facilities' capabilities and troops' availabilities, the **American Innovations, Inc.**'s instructors can train up to 3,000 soldiers and 50 trainers in month two, up to 10,000 additional soldiers and 100 additional instructors in month 3, and scale up fast to satisfy an increasing demand throughout the AFRICOM AOR.

Training Time: The one-hour user course can be delivered in-country with native language instructors as soon as the HME precursor identification kits are delivered. The training can be conducted in several countries concurrently. The train the trainer course is only two-hours.

Annex 1 – Description of the Homemade Explosives Precursor Identification Kit



Homemade Explosives (HME) Precursor Identification Kit

ONE TEST = 10 SECONDS

Train the Force • Attack the Networks • Disrupt Enemy Supply Chains

Endorsed by US, NATO and Partner Nation Forces

Safely detect and differentiate Nitrate, Chlorate and Peroxide HME Precursors in one test without swabbing for residues or touching people.

Decrease risk to security forces, civilians, critical infrastructure, and local systems of governance by increasing intel and decreasing enemy lethality.

Enhance Law Enforcement safety by analyzing for explosive precursors before narcotics.

Instructions in ANY Language

HME PRECURSOR IDENTIFICATION

STEP 1
ADD 1 Spoon of Sample Close Cap and Shake 3X

2
DIP Test Strip for 2 seconds

3
Bottom Pad Only ADD 1 Drop

**SEE A COLOR CHANGE AFTER STEP 2 OR 3?
IF YES, STOP TEST & CHECK RESULTS BELOW
DISREGARD COLOR CHANGES 10 SECONDS AFTER STEP 3**

INTERPRETING RESULTS

CHANGE BEFORE REAGENT CHANGE AFTER REAGENT

Peroxide or other Oxidizer Nitrate Detected

Chlorate Detected Nitrate Detected

Simple • Fast • Effective • Sustainable
Trainees Become Trainers!

Training Aid Pack

Differentiate HME precursors from non-target bulk materials. Includes:

- Calcium Ammonium Nitrate
- Potassium Chlorate
- Diammonium Phosphate (DAP)
- Urea Fertilizer
- Hydrogen Peroxide 3%

Model: BM-PTAK30 - 100 Tests

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Attaches to belts, molle gear, and fits in cargo pockets.

Size: 4x4x2 inch (1.5x1.5x0.78 cm) Weight: 6.8oz (192gr)

Ai-HME-001

Global Support Services

American Innovations, Inc. has been supporting Governments, military and law enforcement needs since 1995.

- Needs Assessment
- Program Development
- Training & Equipping
- Operations Support
- Sustainment



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Page 7 of 7