

## **Measuring the Return on Investment for AFRICOM's African Enlisted Soldier Development Efforts II**

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**Abstract:** In October 2018, AFRICOM published its Africa Enlisted Development Strategy (AEDS) to codify its approach for facilitating the professional development of its African partners. During Academic Year (AY) 2020, a senior capstone design team from USMA partnered with AFRICOM to create a scale to subjectively assess how well African nations develop and empower their non-commissioned officers (NCOs). Known as the Enlisted Development Maturity Level (EDML) scale, it provided AFRICOM with an easy-to-implement tool to evaluate the high-level return on its investments; however, it did not measure investment, and it lacked granularity. To remedy this, in AY 2021 USMA extended the EDML effort to track investments and score African militaries on six core NCO competencies. Dubbed the AEDS Investment Tracker and the Enlisted Development Review, they provide AFRICOM with a way to monitor the return on its investments over time, enhancing the implementation of the AEDS.

**Keywords:** United States Africa Command, Africa Enlisted Development Strategy, return on investment.

### **1. Introduction**

The United States Africa Command (AFRICOM) is a geographic combatant command responsible for all US military operations and activities throughout the African continent. AFRICOM is currently commanded by General Stephen J. Townsend of the US Army, who is supported by his Command Senior Enlisted Leader (CSEL) Sergeant Major Richard D. Thresher of the US Marine Corps. Its primary mission is to “counter transnational threats and malign actors, strengthen security forces and respond to crises in order to advance US national interests” by promoting “regional security, stability and prosperity” throughout the African region (United States Africa Command, n.d.). To achieve this mission, AFRICOM developed the Africa Enlisted Development Strategy (AEDS). This strategy focuses on providing training and developing programs for enlisted soldiers to enhance the strength of AFRICOM's partner forces. To assist in the execution and implementation of the AEDS, this paper presents two design tools known as the AEDS Investment Tracker (AIT) and the Enlisted Development Review (EDR) survey. These tools help identify the returns generated from AEDS-related investments and help optimize AFRICOM's ability to allocate resources towards developing African militaries. The AEDS, supported by the AIT and EDR, can help contribute to efficient military development in Africa (United States Africa Command, n.d.).

## 1.1 Background and Customer Need

Africa is home to the fastest growing population in the world. It is expected to hold nearly 2.2 billion people by 2050 (Nagy, 2019). Despite its enormous stores of labor, land, raw materials, and natural resources, problems like insecurity, hunger, disease, and instability endanger the African continent and the people within it. These challenges are amplified by a growing population that places a significant strain on resources. Additionally, existing extremist activity and political corruption throughout Africa will likely persist should malign actors like Russia and China continue to engage in exploitative activities that undermine Africa's stability and America's security.

In order to establish a more stable and secure African continent and safeguard America's partnership with Africa, AFRICOM developed the AEDS, a comprehensive strategy that seeks to strengthen and develop African partners with a specific focus on enlisted soldier development. The AEDS identifies weaknesses in NCO development processes throughout African partner nations and aims to allocate funds, time, and resources to help these partners build Professional Military Education (PME) institutions, NCO academies, and other options for NCO development (Colon-Lopez, 2019). As General Townsend stated in his 2020 Posture Statement to Congress, "US-facilitated [training] exercises [in Africa] offer some of the best return on investment." He also stated that professional military education opportunities yield a high return on AFRICOM's investment (United States Africa Command, 2020). The joint US-African training exercises and educational opportunities AFRICOM provides through the AEDS enhances African military capabilities through effective enlisted development, thereby strengthening US partnerships with African nations and establishing a more stable African continent.

However, AFRICOM currently lacks a return on investment (ROI) metric that objectively measures the efficiency of AEDS-related training and development efforts for African enlisted soldiers. This poses a significant problem, as it limits AFRICOM's ability to assess progress surrounding enlisted development efforts and creates ambiguity about investments intended to further the objectives of the AEDS. To rectify this, this paper introduces the AEDS Investment Tracker (AIT) and the Enlisted Development Review (EDR). The AIT is a tool designed to capture the "investment" portion of the intended ROI metric for AEDS-related events. By measuring expenditures within specific investment characterizations such as education, training, conferences, and key leader engagements, AFRICOM's senior leaders can develop a detailed operating picture regarding the time, money, and personnel invested into various enlisted development initiatives. The EDR is another tool which intends to capture the "return" component of the intended ROI metric for AEDS-related events. This platform tracks and assesses the development of African NCOs across six NCO "core competencies" (the skills, knowledge, and abilities an NCO possesses) derived from seminal US leadership doctrine such as *ADP 6-22: Army Leadership and the Profession* (Department of the Army, 2019), *MCWP 6-10: Leading Marines* (United States Marine Corps, 2019), and the *Noncommissioned Officer and Petty Officer: Backbone of the Armed Forces* (Joint Chiefs of Staff, 2013). Together, the AIT and EDR serve as useful tools that not only capture the ROI for various AEDS efforts but also link tactical and operational actions to AFRICOM's strategic-level objectives such as strengthening partner networks and enhancing partner capability (United States Africa Command, 2019). This paper outlines the methodology used to construct the EDR and the AIT, highlights an interactive application for collecting and visualizing ROI results over time, and proposes a plan for implementation.

## 1.2 Methodology

The Systems Decision Process (SDP) is a comprehensive, value-focused methodology used to design solutions for complex problems. As depicted in Figure 1, Problem Definition, Solution Design, Decision Making, and Solution Implementation are the four phases comprising the SDP (Parnell, Driscoll, & Henderson, 2011). Each phase consists of three key tasks which are executed within a complex environment that influences the system and impose limits and constraints on the final solution. To generate an effective solution within this environment, continuous stakeholder input, feedback, and values guide the efforts throughout each phase of the SDP.

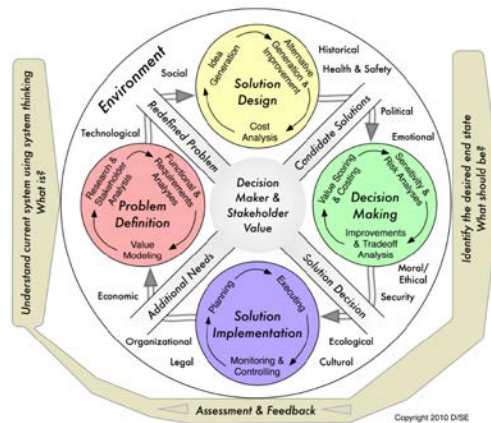


Figure 1. Systems Decision Process (Parnell, Driscoll, & Henderson, 2011, pp. 281-282)

## 2. Problem Definition

The Problem Definition phase started with a need to understand the outcome of previous efforts. First, it was necessary to consolidate past research to recognize the importance of the last year’s Enlisted Development Maturity Level (EDML) scale (Bochonok et al., 2020). Developed under the direction of AFRICOM’s senior NCOs, the EDML scale assesses the effectiveness and professionalism of NCOs using a ranking approach that starts at 1, representing an undeveloped, ineffective NCO corps, and ends at 6, representing a well-trained, effective NCO corps. Given its simplicity and ability to measure the high-level “return” in African NCO growth, AFRICOM adopted it.

Despite the EDML’s adoption, AFRICOM lacked a method to measure its AEDS-related “investments” in African countries. After identifying this initial shortcoming and discussing it with project stakeholders, detailed literature reviews followed. The topics included US development of African militaries, measuring the ROI for military training and development, Kenya’s military, Botswana’s military, and an assessment of the AEDS and AFRICOM’s campaign plan. These topics were specifically selected to provide the framework needed to continue with the Problem Definition phase.

After completing the literature reviews, a thorough stakeholder analysis was conducted with key senior leaders, most notably AFRICOM’s CSEL. Insight from the CSEL and his team guided the development of a platform to track the ROI of enlisted development efforts and influenced the inputs, controls, and mechanisms necessary to create useful outputs. These elements are summarized in the IDEF0 model shown in Figure 2.

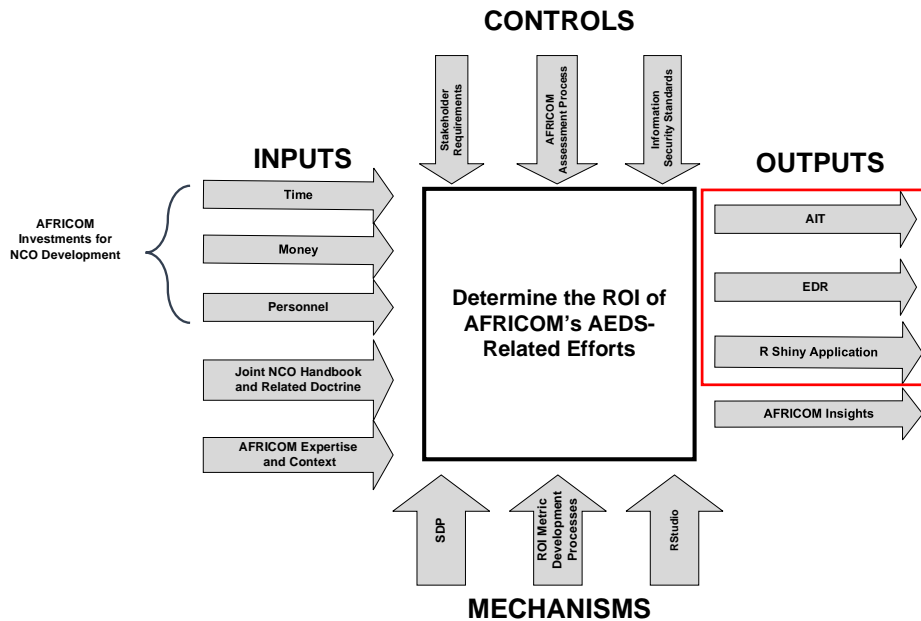


Figure 2. IDEF0 Model – Determine the ROI of AFRICOM’s AEDS-related Efforts

The inputs entering the left side of the box are the investments, doctrine, and stakeholder analysis needed to determine an ROI. More specifically, the key investments for NCO development are time, money, and personnel since these inputs represent the main resources that AFRICOM commits to each country. The outputs, exiting the right side of the box, are the final products created to derive insights from investment and NCO growth data. Emphasis is placed on the AIT, the EDR, and the R Shiny application, which will be discussed in Section 4 of this paper. These three outputs will gather investment information, track NCO growth and development, and visually depict important statistics via an interactive platform. The controls entering the top of the box are the constraints the ROI assessment must abide by, and the mechanisms entering the bottom of the box enable its development. The controls and mechanisms transform the given inputs into the desired outputs.

### 3. Solution Design

The Solution Design phase for this project involved designing candidate solutions that enable AFRICOM to capture the returns generated from AEDS-related investments. The initial approach considered formulating a mathematical equation that could determine the relationship between an NCO’s development and the number of resources AFRICOM invests into such development. However, this approach would require the derivation of an equation that must account for hidden factors and confounding variables to accurately measure the relationship between NCO development and AFRICOM investments. This approach was determined to be infeasible and of questionable value for AFRICOM stakeholders. Instead, two candidate solutions were designed to assist AFRICOM in collecting investment data related to NCO development and establish a useful approach for evaluating NCO development based on standardized core competencies. These tools are known as the AIT and the EDR.

Displayed in Figure 3a below, the AIT is a form that tracks the money, time, and personnel AFRICOM invests into every AEDS-related event. By categorizing these investments under specific investment characterizations such as education, training, conferences, and key leader engagements, the AIT can begin to develop a detailed operational picture that illustrates how AFRICOM is allocating resources towards NCO development. While the AIT captures the investment portion of ROI, the EDR survey captures the return. As displayed in Figure 3b, the EDR is a survey used to track African NCO development based on six core NCO competencies.

AEDS Investment Tracker	
1. Start date of event (mm/dd/yyyy)	11/17/2021
2. End date of event (mm/dd/yyyy)	11/25/2021
3. What African countries were involved in this event?	Botswana Kenya South Africa
4. In what country did this event take place?	Kenya
5. How would you characterize this event? (i.e. Regional/Leadership)	Conference (i.e. Regional/Leadership)
6a. Approximately how much of AFRICOM's money was spent on this event (USD)? (Planning, Execution, Travel, Supplies, etc.)	\$50,000
6b. Approximately how many AFRICOM person hours were invested in this event? (Planning and execution, including set-up, tear-down, and working hours only)	400 hours
6c. Approximately how many AFRICOM personnel were involved in this event (#)? (Planning and execution)	10
7. Approximately how many African servicemembers were involved in this event (#)?	55
8. Brief Description of Event	

Figure 3a. AIT Prototype  
 (Note: The data in this figure is notional.)

NCO Core Competency		Rating			
<b>Teaching</b> During this event's academic, developmental settings where the focus was on individual learning, the NCOs I observed were able to impart information and knowledge effectively and efficiently.					
<b>Coaching</b> During this event's real-world, competitive settings where the focus was on organizational winning, the NCOs I observed were able to develop skills, tasks, and specific behaviors in subordinates and oversee improvements in these areas.					
<b>Mentoring</b> During this event's relaxed, one-on-one settings where the focus was on the subordinate's self-fulfillment, the NCOs I observed were able to establish voluntary developmental relationships and provide holistic guidance on personal and professional growth.					
<b>Critical Thinking</b> During this event, the NCOs I observed were able to evaluate decisions and actions, answer tough questions, and challenge assumptions.					
<b>Empowerment</b> During this event, the NCOs I observed were able to encourage subordinates to think, behave, decide, and act on their own.					
<b>Force Development</b> During this event, the NCOs I observed in managerial roles were able to plan, resource, and execute training efficiently and effectively.					
<b>Comments (Optional):</b> Provide any additional comments regarding this event or your interactions with the NCOs.					
<b>EDR Rating Scale</b>					
NA / NO Not Applicable / Not Observed	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

Figure 3b. EDR Prototype

Ideally, one leader or manager in charge of an AEDS-related event would complete the AIT. This point of contact would possess enough knowledge of the event to accurately fill out the investment information on the tracker. If completed properly, the AIT will contain information regarding the start and end date of a specific event, the African countries involved, approximations of the time, money, and personnel allocated for the event, and finally the number of African servicemembers involved in the event. The tracker also provides a brief description of the event for cataloging purposes. The conceptual goal for the AIT is to provide a simple mechanism for AFRICOM to track AEDS-related investment data. After all, if the tracker lacks simplicity, then the point of contact will be less likely to input accurate information, stymying AFRICOM's ability to track its investments over time.

For the EDR survey, the six core competencies were developed by coordinating with key AFRICOM stakeholders and leveraging the leadership doctrine mentioned in Section 1. These competencies include teaching, coaching, mentoring, critical thinking, empowerment, and force development, which collectively provide an objective, holistic evaluation mechanism for African NCOs. Succinct definitions and distinguishing indicators for each core competency were then developed to provide further clarification. For example, the competency *teaching* is defined as "the ability to impart information and knowledge effectively and efficiently," with indicators of effective teaching including "ensuring subordinates possess the requisite knowledge for success in daily operations of the command or unit" and "sharing knowledge to ensure mental and physical preparedness, both of which contribute to mission readiness." A similar process was followed for the remaining core competencies, receiving verification and validation from AFRICOM throughout the process. To evaluate how well NCOs perform on a given competency, the EDR employs a Likert scale to measure the degree to which the surveyor witnessed each competency within the African NCOs participating in a given event. Ideally, this survey will be completed after every event by every AFRICOM-affiliated person attending the event, as this will maximize feedback on African NCO development.

#### 4. Decision Making and Implementation

The creation of the AIT and EDR establishes a useful avenue for tracking the returns on AFRICOM's investments regarding enlisted development. These tools provide AFRICOM with two significant operational benefits. First, with structured data from the AIT and the EDR, AFRICOM can begin to establish a database that actively tracks AEDS-related investments and NCO development across the region. Second, as the AIT and EDR database grows over time, statistical analysis can eventually help inform AFRICOM's strategic decision-making process by providing the command with a quantitative assessment of its progress towards strategic objectives.

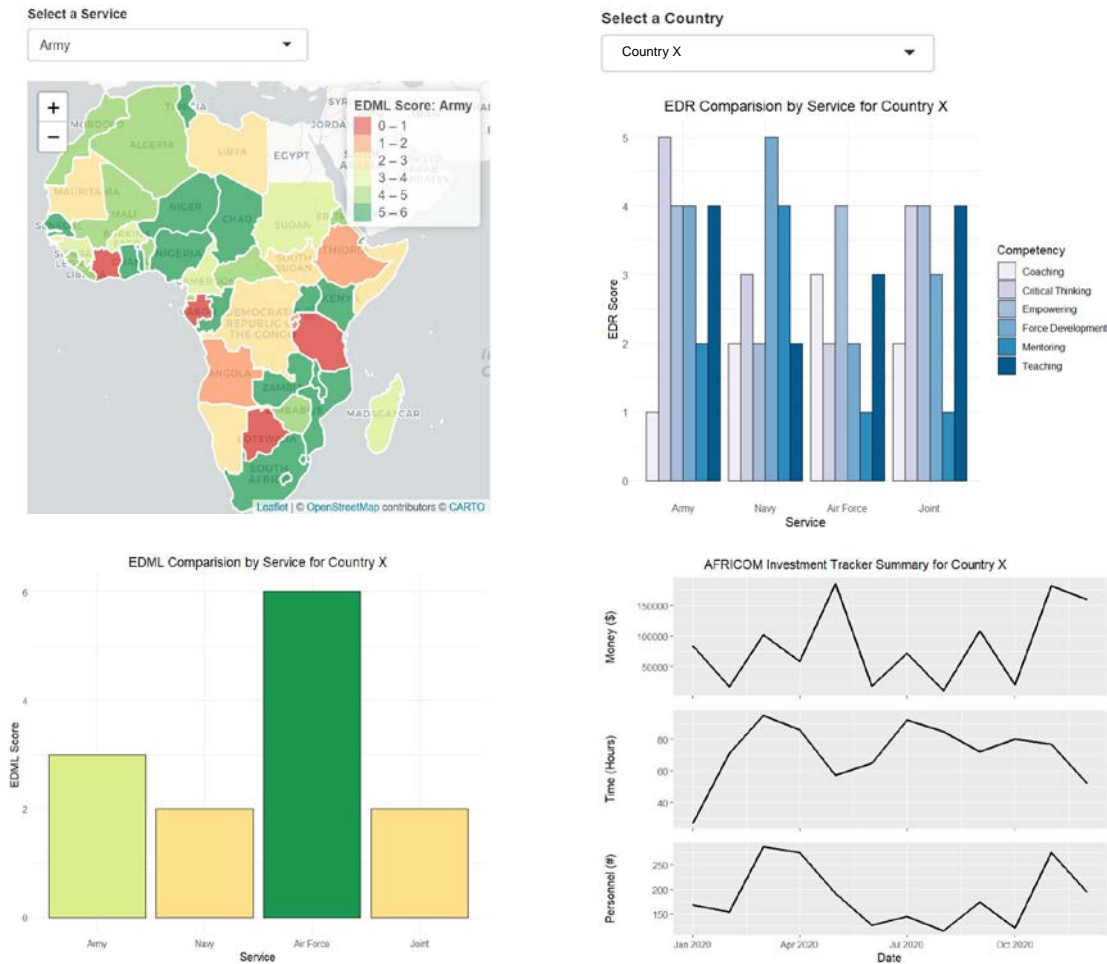


Figure 4. Prototype of Interactive ROI Application (Note: The data in this figure is notional.)

To properly communicate these statistical trends to AFRICOM’s senior leaders, an interactive Shiny application was prototyped in RStudio. This application provides visualizations and summaries that can be used to gain insight and generate hypotheses regarding African enlisted development, but it does not serve as a predictive model or run tests that allow the user to make statistically significant conclusions. As shown in Figure 4, these graphics provide AFRICOM with the ability to identify any significant changes in EDML ratings, track their investments by category over time, and monitor changes in NCO development by competency and service. More specifically, the top-left panel of Figure 4 shows a large-scale view of the current EDML scores for all African countries by service. Because these scores vary by service, the bottom-left panel of Figure 4 shows a more granular comparison of the EDML scores across services for a user-selected country. The right side of Figure 4 incorporates data from the AIT and EDR, where the top-right panel compares EDR scores across services for a selected country and the bottom-right panel shows the investment trends over time for a selected country. This information is crucial, as it provides AFRICOM’s senior leaders with objective strategic and tactical-level graphics that inform how they can best allocate resources to develop the enlisted ranks of their partner forces. Although the team has only developed prototypes for the AIT, EDR, and Shiny application using notional data, initial feedback from AFRICOM suggests they have significant real-world promise.

## 5. Conclusion

Over the past year, the research described in this report built upon the successes of last year’s work by leveraging the SDP to develop the AIT and EDR. Armed with these tools, AFRICOM can begin to develop a database that enhances its ability to measure AEDS-related investments and tactical-level returns throughout the region. Future work will need to be completed

to implement these concepts into AFRICOM's standard operating procedures, and AFRICOM analysts must determine the best approach to construct and operationalize these tools. Based on conversations with key AFRICOM stakeholders, it is recommended that these products be fielded in African countries that have the infrastructure and capability to effectively utilize these tools. This fielding effort also provides AFRICOM with an opportunity to develop a standardized database that compiles return and investment data on NCO development. Future efforts should also focus on developing user guides and training modules that explain how to properly complete the AIT and EDR, enhancing the quality of the captured data. Ultimately, these tools should provide AFRICOM with an efficient approach for assessing ROI over time and improve its ability to develop African NCOs, thereby providing for a more autonomous, secure, and stable region.

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