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HEADQUARTERS
TRAINING AND DOCTRINE COMMAND
NIGERIAN ARMY

POLICY ON RESEARCH AND
DEVELOPMENT, TEST AND EVALUATION

Prepared under the direction of

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COMMANDER
TRAINING & DOCTRINE COMMAND
NIGERIAN ARMY
MINNA

Minna
September 2022

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FOREWORD

Globally, the military has remained at the forefront of innovation and discoveries through research and Development (R&D) either exclusively or in collaboration with other research institutes or centres. Admittedly, the same military remains the greatest beneficiary of the innovative products even though most eventually find non-military applications. The Nigerian Army NA cannot be an exception in this regard especially as we face daunting challenges demanding innovative solutions. HQ TRADOC in conjunction with Department of Army Transformation and Innovation remain the arrow head of the efforts. The development of this policy would not only deepen this collaboration but also provide clear delineation, identify areas of interface and outline guides for the NA Research and Development, Test and Evaluation. Albeit, in exhaustive, its provides adequate framework for execution and bases for subsequent thematic expansion.

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CHAPTER 1

INTRODUCTION

1. Research and Development (R&D) is generally innovative activities undertaken by individuals and organised groups. The Nigerian Army Research and Development Policy (NA R&D, 2021) defines R&D as the explorative process of research and scientific discovery. It involves the application of intellectual and material resources to the interrogation, discovery of new knowledge/information and investigation of linkages between cause and effect. It encompasses the exploration of new ways/techniques of solving problems and exploring opportunities. In the final analysis, R&D its purpose is the application of discovered knowledge to innovate or invent new technologies, services, processes, and systems.

2. This Training and Doctrine Command (TRADOC) policy document is an extract from the NA R&D Policy 2021, which clearly spells out the core mandate and responsibilities of TRADOC with respect to the central focus of the NA R&D objectives.

3. This TRADOC R&D policy document is segmented into 5 mutually reinforcing chapters. Chapter 1 provides an introductory background to the imperatives of R&D in the NA. Chapter 2 unveils the Vision and Mission Statements and Policy Objectives of the NA R&D Policy, 2021. Chapter 3

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outlines the TRADOC R&D Policy Statement which is derived from the general NA R&D Policy 2021. Chapter 4 focuses on TRODOC Strategies for Actualising the NA R&D. Chapter 5 outlines Test and Evaluation Processes TRADOC would focus on in order to achieve its stated core objectives.

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CHAPTER 2

GENERAL OBJECTIVES OF NA R&D

4. The NA R&D Policy (2021) outlines the general objectives NAR&D as follows:

- a. Produce innovative and relevant research leading to groundbreaking knowledge and ideas, concepts, technologies and capabilities to transform the NA.
- b. Establish Test and Evaluation infrastructures that will maintain and advance R&D capabilities.
- c. Exploit existing civil technologies in Nigeria for military applications.
- d. Collaborate with relevant stakeholders in the production of Military Ordinance. Promote innovations in the NA through the maintenance of institutions, organisations and policies necessary to give effect to various R&D efforts embarked upon.
- e. Inspire and facilitate the aggregation of all indigenous stakeholders' contributions in the development of home-grown Military Industrial Complex (MIC) with attendant product of world class military hardware.
- f. Organise and showcase NA R&D at exhibitions on a biennial basis while extending participation to

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other developing countries in order to generate healthy competition and exchange of ideas.

g. Utilise the findings and recommendations of analytical research to transform mindsets, processes, institutions and other non-STIR&D activities of the NA.

h. Establish appropriate institutional framework to achieve the afore-stated objectives.

POLICY OBJECTIVE

5. The policy objective of the NAR&DPOL2021 is to continually modernise the NA through the utilisation of local and foreign R&D to develop its military hardware and software, training systems, logistics, ICT, medicals and Human Resources Development (HRD). R&D breakthroughs in the world would be sought and made available to DHQ, in order to coordinate and enhance the effectiveness and efficiency of military R&D efforts in Nigeria.

CORE OBJECTIVES

6. The core objectives of NA R&D 2021 are geared towards:
- a. Creating a new mindset amongst personnel that focuses on becoming self-reliant in defence equipment production.
 - b. Increasing the efficiency, durability and availability of all NA equipment and platforms.

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- c. Developing an effective human resource base to execute R&D activities in the NA.
- d. Developing the human capacity.
- e. Developing new doctrine (tactics, techniques and procedures) for new concepts and equipment.
- f. Developing doctrine, strategy and tactical concept of employing any new development or introduction of equipment in the NA.

POLICY FOCUS

7. The Policy Focus of NA R&D shall include all aspects of innovations and technologies as well as promotion of international cooperation with other militaries of the world. As top priority, the NA shall initiate appropriate steps to explore the use of R&D especially reverse engineering to develop and improve military and non-military equipment for the benefit of the NA and the Nation. This would ensure that the NA becomes a powerhouse and one of the competitive leaders in R&D. Consequently, the NA R&D shall focus on the following core disciplines:

- a. Development of Military Hardware and Software technology.
- b. Development of Guided Weapon System.
- c. Development of Automation Engineering.
- d. Development and Manufacture of Military Vehicles with locally sourced materials.

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- e. Development of Telecommunication System.
Design of Indigenous Data Encryption Systems.
- f. Design of Indigenous Data Encryption Systems.
- g. Development of Space Technology System.
- h. Development of an effective interrogation system lessons learnt from deployment and engagement of the NA.
- i. Development of Efficient Crisis Management System.
- j. Development of Efficient Logistics System.
- k. Development of Bio-technology and Bio-engineering.
- l. Development of Domestic and alternative Medicine and Pharmaceutical products.
- m. Human Resource Development (HRD).
- n. Enhancement of NA Doctrine Development Process.
- o. Development of a method of employment of newly introduced equipment into the NA.
- p. Any other field that may be directed by ASA from time to time.

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CHAPTER 3

TRADOC R&D POLICY STATEMENT

MANDATE AND POLICY STATEMENT

8. TRADOC shall be responsible for the coordination of the R&D cells of NA corps/schools/centres through Department of Research and Development, Test and Evaluation (DRDT&E). The core mandate of TRADOC as regards R&D is therefore to organise, streamline and evaluate the research efforts of these cells and NA schools for the NA.

OBJECTIVES

9. The objectives of TRADOC with regards to R&D shall be:
- a. Review the technology needs of NA as proposed by the corps.
 - b. Ensure that corps R&D efforts conform with required specifications to meet the operational requirements and needs of the NA.
 - c. Supervise the corps in modifying the existing equipment design for improve performance.
 - d. Collate and recommend to AHQ DATI specific areas of human capacity needs of the corps.
 - e. Coordinate and closely monitor the progress of R&D cells in NA schools and share details of these with AHQ DATI.

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- f. Review NA training syllabi to cater for NA requirements in R&D in conjunction with AHQ DATI.
- g. Carry out appropriate technical needs assessment for NA in conjunction with corps and schools.

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CHAPTER 4

TRADOC R&D STRATEGIES

STRATEGIES

10. The strategies for accomplishing TRADOC R&D objectives are as follows:

- a. Organising innovative competition for R&D cells and NA schools.
- b. Organising conferences, workshops, seminars and symposia.
- c. Establishing links and partnering with civil institutions committed to R&D in liaison with NA Schools and AHQ DATI.
- d. Accessing and utilising funds from DRDB for the purpose of R&D.
- e. Regularly conducting the R&D needs assessment of R&D cells and NA schools and make recommendations to AHQ DATI.
- f. Harmonising R&D effort in all NA Schools to achieve synergy.

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CHAPTER 5

TEST AND EVALUATION OF R&D PROJECTS

11. Test and evaluation is a critical component of the NA R&D architecture. As carefully outlined in the NA R&D Policy 2021, its purpose is to ensure all R&D leveraged on by the NA meet the highest standards of performance and safety. Thus, all NA R&D products shall undergo test in the presence of independent evaluators from AHQ DASE and other specialists. Localised test and evaluation shall also be conducted by R&D cells of various corps/schools. This level of test and evaluation shall form a vital link between the user corps and the Department of RDT&E in TRADOC NA. When applicable, industrial sector practitioners will be invited to ensure that the equipment being tested achieves the desired standard.

TRADOC PRINCIPLES OF TEST, EVALUATION AND CERTIFICATION

12. For testing to be effective, there is need to introduce some guiding principles for its conduct. The TRADOC principles of Test, Evaluation and Certification include the following:

- a. **Realism** Testing and evaluation of products shall be conducted in realistic conditions and within

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real-life parameters. Destructive testing are to be carried out on certain items to verify their durability.

b. **Economy** Testing and evaluation of R&D products shall be done at reasonable cost to the approving authority. Thus, avenues for wastage shall be reduced and efforts will be made to ascertain the reliability and durability of the product under test.

c. **Safety** Safety measures must be considered in all test and evaluation processes as applicable. Adequate safety distances shall be adhered to and the proving grounds shall be located far away from populated areas to avoid collateral damage.

d. **Ruggedness** During testing and evaluation of R&D products, efforts shall be made to pass the products through stringent environment and physical conditions to evaluate its ruggedness.

e. **Certification** Proven R&D products are to be certified by AHQ DATI in conjunction with AHQ DASE before induction into Service.

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STEPS TO BE TAKEN BEFORE AND DURING R&D BY NA CORPS/SCHOOLS/CENTRES

BEFORE

13. Forward R&D proposal to HQ TRADOC for Approval.

This is to ensure that the R&D is:

- a. Relevant to the NA.
- b. Consistent with roles/ functions of the school/ corps.
- c. Ensure lack of duplication of with NA and any other corps.
- d. Ensure sustainability.
- e. Ensure Capability.
- f. Verify organizations to collaborate with.

DURING

- a. Provide timelines and benchmarks.
- b. Determine test/evaluation frameworks.

COMPOSITION OF TRADOC TEST AND EVALUATION COMMITTEE

14. There shall be a TRADOC Test and Evaluation Committee (TTEC). The Committee shall responsible for conducting all TRADOC level of R&D testing and evaluation activities and submit detailed reports of test carried out on the R&D

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products to the AHQDATI for appraisal prior to forwarding to DRDB further action. The Committee shall be made up of the following:

- | | | | |
|----|-------------------------|---|-----------|
| a. | CRDT&E (TRADOC) | - | Chairman |
| b. | NA School Comdt | - | Member |
| c. | Rep of DASE | - | Member |
| d. | Rep. of DATI (AHQ DATI) | - | Member |
| e. | D R&D (TRADOC) | - | Secretary |

The Comd. TRADOC could co-opt other members as is necessary.

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