© Journal of Security Management, Policy & Administration, Nigerian Defence Academy, Kaduna. Vol. 3, No. 2, 2026 ISSN: 2971-7973
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Manpower Training and Development of the Nigerian Military: A Study of Nigerian Air Force (2005 – 2022)

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Abstract

This study examined manpower training and development in the Nigerian military, with particular focus on the Nigerian Air Force (NAF) and the role of the Air Training Command (ATC) from 2005 to 2022. The research investigated the extent to which training policies, strategies, and programmes have influenced the effectiveness, professionalism, and operational readiness of NAF personnel. The study was anchored on Human Capital Theory and Learning Curve Theory, which provided a framework for understanding how investments in training enhance personnel productivity, efficiency, and skill acquisition over time through continuous learning and experience. Guided by these theoretical foundations, a mixed-methods approach was adopted, utilising both primary data (interviews and questionnaires administered to key stakeholders including officers, instructors, and trainees) and secondary sources (official documents, reports, and policy frameworks). The findings revealed that manpower training and development remain central to the NAF's capacity-building efforts, but challenges such as inadequate funding, limited facilities, evolving security threats, and reliance on foreign training institutions constrained optimal outcomes. Despite these challenges, ATC has contributed significantly to human capital development through the establishment of specialised training schools, curriculum reviews, and increased emphasis on indigenous capacity building. The study concludes that strengthening training policies, expanding infrastructure, and aligning training with modern warfare requirements are essential for enhancing NAF's operational effectiveness. Recommendations include improved funding, continuous curriculum upgrade, strengthened partnerships with local and foreign institutions, and sustained monitoring and evaluation mechanisms to ensure training meets the demands of contemporary and future security challenges.

1.1 Introduction:

Human resources are universally acknowledged as the most critical factor in the development of any organisation or nation. While capital, infrastructure, and technology are often considered vital drivers of growth, their effectiveness ultimately depends on the competence and creativity of the people who utilise them. Around the world, the success of developmental policies and organisational strategies is largely tied to the quality of manpower available and the extent to which it is systematically trained and developed. Nations such as the United States of America, Britain, Japan, India, and South Africa have demonstrated that deliberate and sustained investment in manpower training and development translates into technological innovation, industrial expansion, and overall national progress (Ndiomu, 2010; Gant, 2010). These examples underscore a global consensus: human capital remains the cornerstone of socio-economic advancement.

The globalisation of economies, the rapid pace of technological innovation, and the evolving nature of security threats have all intensified the need for a skilled and adaptable workforce. In advanced economies, training and manpower development are prioritised as strategic investments, ensuring that employees not only acquire technical competence but also remain agile in responding to dynamic challenges. Japan, for instance, has long prioritised human resources as its greatest asset, while the United States continues to invest heavily in professional and technical training to sustain its global leadership in science, technology, and defence (Gant, 2010). This global perspective reveals that manpower training is not merely a support function but a fundamental strategy for national competitiveness and organisational survival.

Turning to Africa, the importance of manpower development is equally acknowledged, but its practical impact has been limited. Across the continent, training programmes are often conducted without adequate follow-up to measure their long-term effectiveness. Many institutions emphasise the number of personnel trained or the content delivered, with little concern for whether such training translates into improved organisational productivity (Ojo, 2008; Mullins, 2009). Consequently, African nations continue to grapple with weak institutions, inefficiency, and underdeveloped human capacity, even in sectors where training is frequent. This challenge highlights a critical gap between policy recognition and actual implementation of manpower development strategies.

Nigeria provides a particularly instructive case. The country recognised the importance of manpower development as far back as the early 1970s. The landmark Udoji Reform Report of 1974 strongly emphasised the need for professionalisation and continuous training in the public service, describing training as the most critical component of personnel management (Udoji, 1975). Subsequent reforms and policy documents reinforced this position, stressing that without adequate manpower training, national development objectives would remain elusive.

Yet, in practice, Nigeria's experience has been mixed. Scholars such as Okotoni and Erero (2005) argue that manpower development in the Nigerian public sector has been more of a waste than a strategic investment, producing minimal impact on efficiency and performance. The gap between policy intent and practical outcomes has persisted, creating widespread inefficiency across government institutions.

This dilemma is even more pronounced in the defence sector. Modern militaries operate in highly complex environments characterised by technological advancement, rapid operational changes, and increasingly sophisticated threats. Training is therefore not a peripheral activity but a strategic necessity. Nigeria's National Defence Policy of 2006 recognises this imperative, mandating that the Armed Forces be highly trained, professional, and capable of addressing the complex challenges of the 21st century (FGN, 2006). The policy highlights the role of training not only in enhancing combat readiness but also in ensuring that the military remains capable of supporting national development and safeguarding democracy. Given Nigeria's persistent security challenges which include terrorism, insurgency, militancy, and banditry, the importance of manpower training therefore, in the Armed Forces cannot be overstated.

Within the Armed Forces, the Nigerian Air Force (NAF) occupies a particularly strategic position. Established in 1964, the NAF has consistently identified training as the cornerstone of its operational effectiveness. Unlike other branches of the military, air operations require highly specialised technical and professional skills. Pilots, engineers, technicians, and ground support personnel must undergo rigorous and continuous training to ensure precision, safety, and effectiveness in complex operations. To achieve this, the NAF has developed a structured training system that begins with basic military instruction and extends to professional, technical, and leadership courses. It has also established key institutions such as the Air Force Institute of Technology (AFIT), the 301 and 401 Flying Training Schools, and a range of specialist schools under the Air Training Command (ATC). In addition, the NAF collaborates with allied foreign air forces to provide advanced training in aviation technology, combat flying, and command-level leadership, thereby exposing its personnel to international best practices (Wuyep, 2006). This paper attempted to answer the question of the strategies to enhance manpower training and development in the NAF?

1.2 Empirical Literature

Manpower training and development are mutually reinforcing. While manpower training is one of the many ways of overcoming deficiencies in human performance at work, development is a systematic process of training and growth by which individuals gain and apply knowledge, skills, insight and attitudes to manage work effectively. Both manpower training and development are concerned with the expansion of the whole man's ability to fully use his capabilities, knowledge and experience in the solution of present, potential and different problems. Training equips individuals with immediate job-related skills, while development

ensures adaptability to future responsibilities. Scholars agree that without training, development lacks a foundation; without development, training becomes obsolete (Cole, 2002; Harrison, 2012). In organisational contexts, well-planned manpower training increases productivity, reduces supervision burdens, and enhances deployment flexibility. Conversely, absence of training hampers development, leaving organizations unable to adapt to technological change. In military organisations like the NAF, where rapid technological evolution is constant, sustained training is indispensable for development and operational superiority.

A well planned and sustained manpower training is key to the success of corporate organisations. When manpower is trained, productivity increases because performance deficiency, burden of supervision and accidents at work place are reduced. Additionally, the trained persons could be effectively deployed. In a competitive environment, the biggest single factor that determines who stays at the top in any organisation is the quality and consistency of manpower training which tells on the qualities of its services. On the other hand, when manpower is not trained, productivity would be low and would often require more than normal supervision. The organisations in which such manpower exists cannot cope with new technological demand. This would impact negatively on the organisation's efforts for development. The level of development of an organisation is reflected in the level of development of the individuals constituting its workforce. The more developed the individual, the more effective and productive an organisation. Conversely, a work force that is not properly developed will leave in its wake a low quality workforce that will not impact positively on the organisation's development. Therefore, there is a relationship between manpower training and development.

1.3 Human Capital Theory

Human Capital Theory, popularised by Becker (1993), is based on the premise that human beings are assets whose knowledge, skills, and competencies hold economic and organisational value. Investment in human capital through training, education, and capacity building, yields measurable returns in productivity, adaptability, and performance. In the military context, Human Capital Theory has been widely applied. RAND studies on manpower policy argue that training is not simply a cost but a strategic investment that yields a "value premium" in readiness and effectiveness (RAND, 1976). Similarly, U.S. Air Force manpower development frameworks highlight that effective human capital management, including recruitment, training, and career development is crucial for sustaining force readiness in complex security environments (National Academies Press, 2020). Applied to the Nigerian Air Force's Air Training Command (ATC), Human Capital Theory provides a strong lens to evaluate how structured manpower training translates into higher operational competence, organisational agility, and combat readiness.

The relevance of Human Capital Theory (HCT) to the Nigerian Air Force (NAF) is profound, especially within the context of manpower training and development. At its core, HCT emphasises that education, training, and capacity-building are investments that enhance the knowledge, skills, and competencies of individuals, thereby improving institutional productivity and effectiveness (Becker, 1993). This perspective is particularly applicable to the NAF, where the efficiency of air operations, combat readiness, and mission success depends on the quality of human resources.

In modern warfare, technology alone cannot guarantee superiority; it must be complemented by skilled manpower capable of operating, maintaining, and innovatively applying these technologies. HCT provides the justification for the NAF's continuous investment in specialized training programmes such as pilot training, aircraft engineering, intelligence gathering, logistics management, and information and communications technology (ICT). These investments ensure that officers and airmen acquire advanced technical and cognitive skills that improve not only their individual efficiency but also the overall operational capacity of the Force.

1.4 Methodology

The research design refers to the overall strategy that a researcher chooses to integrate the different components of the study in a coherent and logical way, ensuring that the research problem is effectively addressed; it constitutes the blueprint for the collection, measurement and analysis of data (Dillon 2015:12). This paper adopted the survey research design as data were generated through qualitative and quantitative approaches. Survey research design is a systematic method used in collecting data from a predefined group of people, typically to understand their opinions, behaviours, or characteristics. This design involves creating and administering a survey, that is, a set of structured questions or statements to a sample of respondents. The aim is to gather quantitative or qualitative data that can be analysed to make generalisations about a larger population **(**Fowler, 2014). Survey research includes various key aspects such as questionnaire development, sampling, data collection, data analysis and reporting (Groves and Fowler, 2009).

The study adopted Headquarters Nigerian Air Force Air Training Command in Kaduna, as the study area. The Nigerian Air Force Air Training Command (ATC) was established in 1978 to oversee the training activities of the Air Force. The Command is headquartered in Kaduna and is responsible for the training of both officers and airmen in various specialised fields, ensuring a high level of competence and proficiency within the NAF. The primary mandate of the ATC is to handle the coordination and administration of all training institutions and facilities under the Nigerian Air Force, including the training of pilots, engineers, and other technical and non-technical personnel (NAF History, 2002).

The research population encompasses the entire group of individuals, objects, or events that are relevant to a research study. It represents the broader set from which a sample is drawn. The sample itself is a subset of this population and is selected to represent the characteristics of the larger group in a manageable way for the purposes of data collection and analysis (Bryman, 2016). The population of the study was 1,510 of Air Training Command, comprising specialties and trades from operations, medical, logistics, administration, among others. Senior officers, officers, other ranks, lecturers, CEOs and Trainers made up the respondents and key informant interviewees for the population of the study. Table 1.1 below contains the population.

Table 1.1: The Population of the Study

S/N	Name of Command	Population of Personnel
1	HQ Air Training Command	1,510
	Total	**1,510**

Source: Post-field survey-NAF Department of Personnel Management Abuja, Jan, 2025

1.5 Strategies to Enhance Manpower Training and Development in the NAF

This section presents the analysis and interpretation of responses from the research questionnaire and interviews concerning the strategies to enhance manpower training and development in the Nigerian Air Force (NAF). The findings are triangulated with interview data and existing literature to ensure a comprehensive understanding. Respondents were asked to identify the most effective strategies for improving manpower training and development in the NAF. The responses are summarized below:

Table 1.2 Preferred Strategies for Enhancing Manpower Training and Development in the NAF

Strategy	Percentage of Respondents Who Selected This Option
(a)	**(b)**
Increased budget allocation for training programmes	85%
Establishment of more training institutions within the NAF	70%

Collaboration with international military training institutions	68%
Incorporation of modern technology and simulation-based training	75%
Frequent review and update of training policies and curriculum	80%
Recruitment of more qualified and experienced trainers	65%

Source: Field Survey, 2025

The data presented in Table 1.2 offers a nuanced understanding of the most preferred strategies as perceived by personnel within the Nigerian Air Force for improving manpower training and development. Each of the strategies identified by respondents provides critical insight into where the NAF's current training systems fall short, and what stakeholders believe will drive transformative change.

1.5.1 Key Findings from the Data

a) Increased budget allocation for training programs (85%) was the most frequently selected strategy, indicating that financial constraints are seen as a major limitation in training effectiveness. This strategy emerged as the most strongly endorsed by respondents, with 85% identifying increased funding as a pivotal requirement for effective manpower training. This finding affirms one of the consistent themes that emerged across both the survey and interview responses: financial constraints have continued to pose a major limitation to the expansion, quality, and sustainability of training initiatives within the NAF. Inadequate funding affects virtually every aspect of manpower development, from the procurement of modern training equipment to the maintenance of infrastructure, the availability of qualified instructors, and the feasibility of overseas or joint military exercises. This aligns with the argument by Ajayi (2021), who asserts that training in Nigerian military institutions is often underfunded, leading to out-dated methods and weak personnel capability. Therefore, increased budgetary commitment is not just a financial issue; it is strategic, directly linked to combat readiness and operational excellence.

b) Frequent review and update of training policies and curriculum (80%) was also highly rated, suggesting that out-dated policies hinder training efficiency. The fact that 80% of respondents favoured frequent curriculum and policy reviews points to the need for dynamic

and responsive training content. This validates the concern raised in earlier parts of the research about the stagnation of current training materials and frameworks, which often fail to reflect the fast-paced evolution of global military practices and technologies. Curriculum review ensures that training programs remain relevant to contemporary warfare demands, including cyber security, artificial intelligence, drone operations, and unconventional warfare tactics. More importantly, policy review ensures that training is not only responsive but also coherent with institutional goals, career pathways, and operational needs. This finding supports Adamu & Rasheed's (2016) position that stagnant curricula and rigid policies are among the leading causes of strategic capability gaps in African armed forces.

c) Incorporation of modern technology and simulation-based training (75%) highlights the demand for technologically advanced training methods to align with modern military operations. With 75% of respondents supporting this, the demand for technology-driven training methods is clear. Modern military engagements are increasingly influenced by advanced technology, and the use of simulators and digital platforms has become standard in many professional militaries. This preference suggests that NAF personnel are aware of the global shift towards smart defence systems and are seeking similar exposure. Simulation-based training allows for safe, repeatable, and scenario-driven learning, particularly for high-risk roles such as flight operations, combat search and rescue, and intelligence analysis. The inclusion of this strategy also reflects the aspirational drive among personnel to close the technology gap between the NAF and more technologically advanced air forces around the world.

d) The establishment of more training institutions (70%) **and** recruitment of qualified trainers (65%) also emerged as significant factors, indicating concerns over limited training infrastructure and expertise. This strategy, endorsed by 70% of respondents, reflects the perception that existing training institutions are either overstretched or not sufficiently specialised to meet current manpower demands. The expansion of training centres would not only help decongest existing facilities but also enable regional or operational specialisation, improving efficiency and accessibility for personnel across commands. It also reflects a desire for decentralised training where institutions are closer to operational units, allowing for contextual, mission-specific training. Moreover, with more training institutions, the NAF can build capacity in emerging domains such as cyber warfare, space defence, and UAV operations, areas currently underdeveloped.

e) Collaboration with international military training institutions (68%) reflects the perceived importance of knowledge transfer and exposure to global best practices. This finding indicates a broad acknowledgment of the value of cross-border training exposure. The 68% of respondents who favoured international collaboration believe that such partnerships will help bridge the gap between local and global best practices. Many personnel view foreign training

as a path to accessing new doctrines, innovative technologies, and exposure to diverse operational cultures. This is particularly important in today's interconnected security environment, where multinational operations and interoperability are becoming the norm. Joint training with allies also helps build professional networks and knowledge exchange mechanisms, improving the NAF's strategic positioning globally.

f) Recruitment of More Qualified and Experienced Trainers (65%). Although ranked lower than other options, the 65% who highlighted this strategy reinforce the importance of human capital in training delivery. No matter how well-funded or technologically equipped a training programme may be, the quality of instruction remains central to learning outcomes. Many respondents indicated that existing instructors either lack recent operational experience or are not sufficiently trained in modern pedagogical techniques. This concern is valid, considering that military teaching requires both subject matter expertise and the ability to translate complex tactical knowledge into practical skills. A concerted effort to recruit, train, and retain skilled instructors will significantly improve the effectiveness of existing training programmes.

From the above analysis, it becomes evident that personnel do not view manpower development in isolation but as a multi-dimensional process requiring structural, technological, financial, and human resource reforms. While funding remains a dominant concern, the other strategies emphasize systemic weaknesses that can only be addressed through comprehensive institutional transformation. Thus, in practical terms, this suggests the need for the NAF to advocate for sustainable budget lines for training under defence appropriations. The NAF needs to institutionalise a Training and Doctrine Review Board (TDRB) for on-going curriculum and policy innovation. Also, the NAF could invest in a technology integration plan to upgrade simulation and e-learning platforms. The NAF could further expand the geographical spread and operational focus of training schools and create formal exchange and liaison agreements with reputable international air forces.

The findings from Table 1.2 do more than identify preferred strategies, they illuminate the deeper systemic reforms required for the NAF's manpower development programmes to be truly effective. The convergence of financial, technological, and human resource concerns highlights the need for strategic planning and leadership commitment to turn preferred strategies into implemented solutions. If addressed holistically, these strategies hold significant potential to transform the training ecosystem of the NAF and prepare its personnel for the evolving demands of modern air power. The findings also align with studies such as Ajayi (2021**)**, which emphasise the role of adequate funding and modernised training programmes in enhancing military effectiveness.

In analysing the perceived effectiveness of current training strategies**, r**espondents were asked

to rate the effectiveness of existing training enhancement strategies in improving manpower development in the NAF. The responses are summarised below:

Table 1.3 Effectiveness Level Percentage of Respondents

Effectiveness Level	**Percentage of Response**
(a)	**(b)**
Very effective	15%
Moderately effective	50%
Slightly effective	25%
Not effective at all	10%

Source: Field Survey, 2025

Key findings from the data indicate that 50% of respondents rated the strategies as moderately effective, indicating that while efforts have been made, significant gaps remain**.** Only 15% found the strategies very effective**,** highlighting the need for further improvements. 35% (slightly effective and not effective at all combined) expressed dissatisfaction with the existing training approaches**,** pointing to inefficiencies in implementation. These responses suggest that while training strategies exist, they are not yet at an optimal level of execution and impact. This finding is consistent with Ogunmodede & Ukpere (2014)**,** who argue that ineffective policy implementation often limits the success of manpower training initiatives in African air forces.

Interviews with key NAF personnel provided qualitative insights that complement the survey data. The responses reinforced the questionnaire findings and highlighted specific areas for improvement. Key themes from interview responses included budgetary constraints and training limitations. As rightly observed by a senior Air Force Officer from Headquarters Nigerian Air Force Abuja, he noted:

> Our training budget is simply not sufficient to cover all the programmes that are required for modern military operations. The demands of today's security environment are far more complex, yet the resources allocated to training have not grown to match these realities. Because of this budgetary shortfall, we are often forced to prioritise only a few courses while leaving out many others that are equally critical. This invariably leads to the exclusion of a significant number of personnel from important

> training opportunities. Many officers and airmen who should be attending specialised courses end up missing out due to lack of funds, and this affects the overall competency of the Service. A robust training system cannot function effectively without adequate financial backing. If the budget remains insufficient, we will continue to struggle with gaps in skills, readiness, and operational capability (Interview, NAF HQ Abuja, 2025).

While the need of curriculum review and modern training techniques**,** Dr Ekoro Evale, a cyber-security expert from the Office of the National Security Adviser, supported the opinion and stated that:

> Our current training curriculum does not fully align with the nature of today's security threats, and this gap is becoming increasingly evident. Modern conflicts are now shaped by technology, yet our training content still focuses largely on traditional methods. We urgently need to integrate artificial intelligence into our training framework because AI-driven systems are now central to intelligence analysis, surveillance, and operational planning. The same applies to drone technology; unmanned aerial systems have become a dominant feature of modern warfare, but our personnel are not being trained at the scale and depth required. Cyber warfare is another critical area where we are lagging behind, despite the fact that cyber threats have become one of the most pressing national security concerns globally. If these components are not incorporated into the curriculum, our training will continue to fall short of operational realities. Updating the curriculum is therefore not just an improvement; it is a strategic necessity for national defence. Without these reforms, we risk producing personnel who are not equipped for the battles of the future (Interview, ONSA Abuja, 2025).

In terms of insufficient training infrastructure and expertise, a senior training officer from Directorate of Training, Headquarters Nigerian Air Force, who preferred anonymity, remarked that:

> We urgently need more training institutions and qualified instructors because our current resources are already stretched too thin. The existing training infrastructure within the NAF is inadequate to meet the growing demands of manpower development, and this limits the number of personnel who can access specialised courses. Many officers and airmen who require critical training cannot be accommodated due to the lack of facilities and qualified teaching staff. In addition, the current instructors are overburdened, which affects the quality and effectiveness of training delivery. There is a clear need for the establishment of additional training institutions to expand access and ensure that the increasing number of personnel can be adequately trained. Without this expansion, the NAF risks producing personnel who are underprepared for modern operational requirements. Strengthening the infrastructure and human resources for training is therefore essential to build a highly skilled, capable, and future-ready air force. Investment in both physical facilities and qualified instructors must be prioritised to sustain effective manpower development (Interview, HQ NAF Abuja, 2025).

By combining the questionnaire responses**,** interview data**,** and existing literature, the following conclusions can be drawn:

a.) Financial limitations are a primary barrier to manpower training enhancement (corroborated by both questionnaire responses and interview comments). This aligns with Ajayi (2021)**,** who asserts that military training budgets in Nigeria are often insufficient. Financial limitations are a primary and recurring barrier to the enhancement of manpower training in the Nigerian Air Force. This finding is strongly corroborated by both the quantitative data from the administered questionnaires and the qualitative insights derived from in-depth interviews with key personnel. A significant proportion of respondents, as well as senior officers interviewed, consistently identified inadequate funding as a major constraint that impedes the planning, implementation, and expansion of training programmes across the service. Additionally, restricted funding directly contributes to unequal training opportunities, whereby only a select few personnel are nominated for capacity-building programmes, often due to prioritisation of limited slots, thus hampering the force-wide professional development needed for operational effectiveness. This financial constraint has far-reaching implications on the NAF's ability to keep pace with evolving threats, integrate emerging

technologies, and maintain a competent and agile workforce.

Ultimately, unless these financial barriers are addressed through increased budgetary allocations, better fiscal planning, and targeted investment in manpower development, the objectives of training reform and strategic readiness within the NAF will remain largely unattained.

b) Out-dated curricula limit the effectiveness of training programmes by failing to reflect evolving operational realities, technological advancements, and emerging threats in the security landscape. This reinforces the argument of Adamu & Rasheed (2016), who advocate for regular curriculum reviews in military training institutions to ensure relevance, adaptability, and preparedness. A stagnant curriculum not only hampers the development of critical skills but also creates a disconnect between theoretical knowledge and practical field demands. Regular curriculum updates ensure that trainees are equipped with current doctrines, modern warfare techniques, and contemporary leadership approaches, thereby enhancing both individual competencies and institutional performance.

c) Modern technology and simulation-based training are increasingly seen as critical to future training success, offering immersive, cost-effective, and risk-free environments for skill acquisition and tactical rehearsal. This supports the argument by the Nigerian Defence Academy (2020), which emphasizes that simulation technology enhances combat readiness by replicating real-life scenarios, fostering decision-making under pressure, and enabling repeated practice without the logistical constraints of live training. Moreover, simulations can be tailored to specific operational theatres, allowing personnel to prepare for mission-specific challenges with greater precision. As modern warfare grows more complex, integrating artificial intelligence, cyber warfare, and unmanned systems, simulation-based training ensures that military personnel remain agile, proficient, and mission-ready in a dynamic security environment.

d) International collaboration is a widely recognised strategy for improving manpower training, providing access to advanced knowledge, diverse tactical experiences, and cutting-edge technologies. This aligns with the position of Ogunmodede & Ukpere (2014), who emphasise the benefits of international partnerships in military training, particularly in fostering knowledge exchange, enhancing interoperability, and promoting best practices. Such collaborations expose personnel to varied doctrines, joint exercises, and multinational operations, which are invaluable in preparing for coalition missions and peacekeeping roles. Additionally, international training agreements often facilitate capacity-building, professional development and

institutional reforms by drawing from the expertise of more established military academies and allies. In the face of transnational threats and complex security dynamics, international cooperation in training is not only beneficial but strategically imperative. The findings confirm that while there are strategies in place to enhance manpower training in the NAF, several challenges remain. Increased funding, modernised curricula, investment in technology-driven training, and international collaborations are essential to improving training effectiveness. Thus, it is imperative that the government **i**ncreases budget allocation for training programmes in the NAF to improve quality. Also, regular curriculum review and policy implementation could be conducted. The training curriculum could be reviewed periodically to align with technological advancements and contemporary security challenges. Simulation training, virtual reality, and artificial intelligence could equally be integrated into training programmes. More training institutions could be established, and additional expert trainers recruited. The NAF could also enhance collaboration with global military institutions to facilitate skill acquisition and knowledge exchange.

1.6 Research Assumption: There are strategies for enhancing manpower training and development in the NAF.

To test the assumption that there are strategies for enhancing manpower training and development in the Nigerian Air Force, data from questionnaire responses and semi-structured interviews were subjected to thematic and content analysis. The triangulated findings affirm that multiple strategic approaches can be adopted to improve training programmes, optimise human resource development, and ultimately enhance operational readiness and institutional effectiveness in the NAF. The survey included questions on possible strategies for improving manpower training and development. Respondents were asked to identify the most effective strategies, and the responses were as follows:

a) Increased Budget Allocation for Training Programs (70%). A majority of respondents identified enhanced financial investment as a foundational requirement. The call for increased funding reflects recognition that quality training requires sustained and dedicated resource allocation. This includes funding for modern facilities, international training opportunities, trainer development, and the acquisition of advanced learning technologies. From a strategic perspective, ring-fencing training budgets within defence appropriations would ensure that training remains a priority, not an afterthought, especially during budgetary contractions.

b) Establishment of More Training Institutions within the NAF (65%). Respondents emphasised the need to expand the NAF's training infrastructure by creating additional specialized institutions. Such decentralization would not only reduce the burden on

existing facilities but also allow for tailored training that meets the diverse and evolving needs of various commands and specialties. Moreover, reducing over-reliance on foreign institutions fosters greater sovereignty in doctrine development and enhances the contextual relevance of training.

c) Collaboration with International Military Training Institutions (60%). Strategic partnerships with advanced foreign military academies and defence training organisations were widely supported. These collaborations would provide access to global best practices, expose personnel to diverse operational philosophies, and enhance interoperability in multinational missions. It also opens avenues for knowledge exchange, especially in areas like cyber warfare, aerospace technology, and joint force integration.

d) Incorporation of Modern Technology and Simulation-Based Training (55%). The integration of digital tools, AI-driven simulations, virtual reality environments, and e-learning platforms was recognized as pivotal. This strategy aligns with global trends in defence education, where technology is being harnessed to create immersive, adaptable, and cost-effective training experiences. In particular, simulation-based training enhances preparedness by replicating complex combat scenarios in controlled settings, improving cognitive decision-making and operational dexterity.

e) Frequent Review and Update of Training Policies and Curriculum (50%). Respondents highlighted the need for dynamic, feedback-driven curriculum development processes that keep pace with rapidly evolving security landscapes and emerging threats. Periodic reviews would ensure that the training content remains relevant, innovative, and strategically aligned with Nigeria's national defense objectives. Embedding mechanisms for curriculum feedback from field units and recent trainees would help in closing the loop between training and practice.

f) Recruitment of More Qualified and Experienced Trainers (45%). The importance of human capital in the training process cannot be overstated. Respondents advocated for the recruitment and retention of subject-matter experts and seasoned personnel with deep field experience. A deliberate strategy to professionalize the trainer cadre, including structured career pathways, incentives, and continuous professional development, would significantly raise the quality of instruction and mentorship within the NAF training ecosystem. These findings demonstrate that respondents acknowledge multiple strategies that can be employed to improve training in the NAF.

Collectively, these findings underscore a strong internal awareness within the NAF of the systemic reforms required to elevate training and development standards. Importantly, the strategies proposed are not mutually exclusive, they are interdependent and would yield

optimal results if implemented as part of an integrated manpower development policy. For example, investments in simulation technology are most effective when paired with trainer capacity-building and updated curricula. Furthermore, these strategies highlight a shift in perception from reactive to proactive planning in training development. The emphasis on institutional self-reliance (e.g., building indigenous training centers) and technological innovation demonstrates a forward-thinking approach that aligns with global military modernization trends.

Finally, these insights reveal a clear consensus among personnel that training is not simply an administrative function but a strategic lever for operational effectiveness, professional morale, and national defense readiness. As such, embedding these strategies into policy frameworks, with robust monitoring and evaluation mechanisms, would be crucial for sustained impact. In an interview with a senior lecturer in Federal University Gusau, Dr Abubakar Yahaha, he provided qualitative support for the identified strategies. He hinted that o*ne of the key ways to improve manpower training is to integrate modern technology, such as AI-driven simulations and virtual reality training systems. This will enhance combat readiness and reduce training costs which is good* (Interview, 1300hrs, Gusau, 2024). Another respondent, Dr Okoro Paul in an interview, noted that b*udget constraints have been a challenge, but with increased funding and strategic collaborations with allied forces, we can develop world-class training programmes locally* (Interview, 1233hrs, Abuja, 2024)

These statements reinforce the need for technological advancements, increased funding, and international collaboration to enhance manpower training in the NAF. In support of the quantitative findings, qualitative data from expert interviews further validated the strategies identified for enhancing manpower training and development in the Nigerian Air Force. These expert perspectives offered nuanced reflections that reinforce the need for a multifaceted and strategic approach to training reform. The interview with Dr. Abubakar Yahaha, a lecturer at the Federal University Gusau, the emphasis was placed on the adoption of cutting-edge technologies to modernise training delivery. This insight aligns with survey findings that underscore the importance of incorporating modern, simulation-based training tools (supported by 55% of respondents). Dr. Yahaha's perspective highlights two core advantages of such integration: improved preparedness through realistic training environments, and cost-effectiveness over the long term, a critical consideration given the resource constraints facing the NAF.

Similarly, Dr. Okoro Paul, interviewed in Abuja, emphasised the dual importance of increased financial investment and strategic international collaboration. Dr. Okoro's statement reinforces two of the top-rated strategies identified in the survey: the need for increased budget allocation (70%) and international partnerships (60%). His assertion points to the potential for synergy between local capacity-building and global expertise, suggesting that strategic alliances could

be a pathway to developing locally sustainable, yet globally competitive training models. Together, these expert opinions provide qualitative depth to the survey data, validating the strategies through lived experience and professional insight. They also offer a compelling argument for the integration of innovation, investment, and internationalization as the three strategic pillars for transforming the NAF's training and development architecture.

Interpretation of Findings

The research findings suggest that enhancing manpower training in the NAF requires a multi-faceted approach that includes financial investment, infrastructure development, curriculum modernisation, and leveraging global partnerships. These findings align with existing literature, which emphasizes that effective manpower development strategies must incorporate financial planning, capacity building, and technological innovations (Adetayo & Ibrahim, 2020; Olayemi, 2021). Based on the empirical evidence gathered from questionnaires and interviews, Research Assumption Four is confirmed. There are indeed viable strategies for improving manpower training and development in the NAF. To achieve this, the NAF must focus on in its training programs.

1.7 Conclusion and Recommendations

This study set out to examine the effectiveness of manpower training in the Nigerian Air Force, using the Air Training Command as a case study. Drawing on a combination of qualitative and quantitative data collected through interviews, questionnaires, and documentary sources, the research has provided comprehensive insights into the structures, processes, challenges, and outcomes associated with training in the NAF. The findings revealed that manpower training is central to the operational effectiveness and professional competence of personnel in the Nigerian Air Force. The existence of a clearly defined training framework within the ATC, alongside various technical, leadership, and tactical programmes, demonstrates the commitment of the NAF to developing a skilled and mission-ready workforce. However, despite this commitment, the study identified several areas requiring significant improvement.

Importantly, the study highlighted the need for stronger alignment between manpower training and deployment strategies. In several instances, personnel were found to be under-utilised post-training, either due to lack of placement in appropriate roles or mismatch between acquired skills and operational assignments. This has implications for morale, retention, and the overall return on investment in training. Based on these findings, the study concludes that while the Air Training Command has laid a solid foundation for manpower development in the Nigerian Air Force, sustained effectiveness will depend on strategic reforms. These should include regular curriculum updates, investment in modern training infrastructure, inclusive and equitable access to training opportunities, robust monitoring and evaluation systems; and a clear linkage between training and career progression pathways. In sum, this research

contributes to the broader discourse on military human resource development in Nigeria by emphasising that effective manpower training is not merely a support activity but a strategic imperative for national defence. For the Nigerian Air Force to maintain operational superiority in an increasingly complex security environment, it must adopt a future-forward approach to training, one that is dynamic, responsive, and integrative.

The findings of this study further underscore the centrality of manpower training and development to the operational readiness of the Nigerian Air Force. Training is not merely a support function but a strategic imperative that directly influences the effectiveness of air operations, combat readiness, and national security. The study concludes that while the NAF has made commendable efforts in establishing institutions such as the Air Force Institute of Technology (AFIT) and specialized training schools, persistent challenges in funding, policy stagnation, limited infrastructure, and insufficient use of modern technology continue to undermine training outcomes. The research also validates the Human Capital Theory, which posits that investment in training enhances productivity and efficiency. The study found that inadequate funding translates to weak training delivery, while enhanced investment in manpower development fosters professional competence, institutional innovation, and operational excellence.

Furthermore, the findings reveal that manpower training must be viewed as a continuous and evolving process. In today's rapidly changing security environment, marked by unconventional threats and technologically sophisticated adversaries, the NAF cannot rely on outdated policies, manual methods, or overstretched infrastructure. Instead, manpower training must be holistic, combining increased budgetary commitment, modern technology, institutional expansion, international collaboration, and the recruitment of highly skilled trainers.

Based on the findings and conclusion, the following recommendations are made:

i. **Policy Recommendations.** The Federal Government and Ministry of Defence should institutionalise a sustainable budgetary line for NAF training, ensuring consistent and adequate funding irrespective of competing national priorities. Training funds should be ring-fenced to protect them from diversion.

ii. A Training and Doctrine Review Board (TDRB) should be established within the NAF to ensure continuous curriculum and policy innovation, making training responsive to dynamic warfare demands.

iii. Institutional Recommendations. The NAF should prioritise the integration of

technology-driven training platforms, including simulators, e-learning systems, and AI-assisted instructional tools, particularly for high-risk and specialized operations.

iv. Existing training institutions should be expanded, and new specialised schools created to reduce congestion, promote regional accessibility, and develop emerging domains such as cyber warfare, UAV operations, and space defence.

v. **Human Resource Recommendations.** The recruitment, training, and retention of qualified trainers should be prioritised. Trainers should receive periodic refresher courses, exposure to modern pedagogical approaches, and opportunities to update their operational expertise.

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