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## FOREWORD

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Strategic planning is all about setting the long-term goal or roadmap for an organization, and how it plans to reach them. It is the path the organization will take towards its goals. It takes cognizance of evolving realities of the society and so call for constant evaluation and review from time to time in order to stay competitive and keep abreast of trends within the business environment. Strategic planning is a global best practice competitive and innovative organisations adopt World over to remain in active and relevant in their found business niche and environment.

Strategising is not guesswork nor a figment of one's imagination. It is a conscious effort that is deliberately mapped out to drive the vision of any organisation. It takes a visionary and purpose-driven institution to have a well-crafted strategic plan document which encapsulates its top priorities and how to make them realities in the short, medium and long terms. NNMDA has taken the right step by recognizing the need for a Strategic Plan in 2018 and taken the step to develop Strategic Plan (2019 – 2023) the first in the history of the Agency.

The fascinating thing about the 2023-2027 NNMDA's Strategic Plan is that it is an improvement on the existing document. It points out how the existing one helped the Agency to realise its goals, isolates its pitfalls and shows how time-tested methodologies were adopted to design a new document that will guide the activities of the institution in the next five years. It needs to be stressed that this is an all-inclusive document as inputs of members of staff as well as other critical stakeholders who are involved in the day-to-day activities of NNMDA form the basis upon which this strategic plan is developed.

Without doubt, NNMDA, has demonstrated with this new Strategic Plan that it is ready to go a top-notch higher in the delivery of its mandates, particularly in the ever-changing environment of the 21st Century that is volatile, uncertain, complex and ambiguous. Adhering to the content of this document will not only reposition the Agency but also make it a go-to institution for Nigerian herbs and natural therapies within the national healthcare delivery system.

**Dr. (Senator) Adeleke Mamora**  
Honourable Minister

*Federal Ministry of Science, Technology and Innovation*

## PREFACE

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Strategic planning (SP) is an organisational management activity that is used to set priorities, focus energy and resources, strengthen operations, ensure that employees and other stakeholders are working towards common goals, establish agreement around intended outcomes/results, as well as assess and adjust the organisation's direction in response to a changing environment. The strategic plan is a requirement for sustained competitive advantage for organisations.

NNMDA, in her history, has not consciously engaged in strategic planning until the 2018. The effort which was led by the Director-General/CEO, Dr. Samuel Etatuvi and facilitated by SWOOT Technology Solutions Ltd., led to the development of the agency's first Strategic Plan (2019 – 2023). The effort has been generally adjudged by stakeholders' including the supervising ministry, FMSTI, members of staff and practitioners in the subsector to be a huge success. Some striking achievements of the Strategic Plan (2019 – 2023) include: the passage of the agency's Establishment Act (2019), resuscitation of the College of Natural Health Technology, establishment and take-off of 4 additional zonal offices and completion of ultra-modern laboratory complex among others.

With these notable achievements in the bag, it becomes very convenient and sensible to embark on an in-depth evaluation and review of the Strategic Plan (2019 – 2023) and development of a revised Strategic Plan (2023 – 2027). Thus, it becomes very important to document achievements from evaluation learn important lessons and consolidate on the gains. Similarly, the business and technological landscape has changed rapidly in the last 4 years and since the development of Strategic Plan (2019 – 2023). For instance, the entire world was ravaged by COVID-19 pandemic which sent shocks and wreak havocs on many nations' healthcare systems including the Nigeria's. The entire world resorted to many solutions to prevent and provide treatment for the infected including herbal medicine and natural therapies. A number of herbal products were developed within and outside the country to prevent and treat the disease. Furthermore, herbal medicine and natural medicine are scientific and constitute an integral part of the National STI policy which was recently revised. The policy has also called for improvement in herbal medicine and natural therapies in Nigeria. These events and happenings call for immediate review of the NNMDA Strategic Plan. It is with this understanding that this document tag "Strategic Plan (2023 – 2027" has been developed.

On a final note, having personally participated actively in the process leading to the development of this strategic plan and witnessing firsthand how it is done and with the quality of facilitation by SWOOT Technology Solutions Limited and their first-rated resource persons shows that without doubt NNMDA has taken the right step in the right direction. I therefore on behalf of the Governing Board pledged the full support for the implementation of this document.

**Pharm. Victor Terah-Patrick**  
Chairman, Governing Board  
*Nigerian Natural Medicine Development Agency (NNMDA)*

## **ACKNOWLEDGEMENTS**

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The successful drafting of this Strategic Plan (2023 – 2027) is a collective effort of all the stakeholders of NNMDA. At every stage of developing this document, the commitment and dedication of everyone have been phenomenal! This has thus made this Strategic Plan a document by all and for all of us. To this end, we sincerely thank all who are involved in rebirthing this final document.

The Management of this Institute appreciates the Chairman Governing Board, Pharm. Victor Tera-Patrick and his members in particular for making it possible for the Agency to evaluate and review the extant Strategic Plan (2019 -2023) and develop an improved version Strategic Plan (2023 – 2027) with the purpose of consolidating for greater impacts in herbal medicine and natural therapies and contributing to the realisation of some of the sustainable development goals. This shows the vision the Governing Board has for the organisation! We do not take this gesture for granted.

The roles of all individual members of staff, especially the departmental/unit delegates to the 3-day Management Retreat, the Strategic Planning Committee led by Mr. Adedoyin, the Director of Administration, and the heads of departments and units cannot be underestimated in ensuring that we have a Strategic Plan that reflects the organisation's yearnings and aspirations. Your cooperation, openness and honest feedbacks have resulted into this document.

Above all, NNMDA is profoundly grateful to SWOOT Technologies Limited, the Agency's Management Consultant on this Strategic Plan, for its thoroughness and professionalism in the production of this document. SWOOT Technologies Limited demonstrated deep understanding of the subject and guided the Agency in evaluating and reviewing the previous strategic plan and facilitate actions to producing this Strategic Plan (2023 – 2027) using with the global best practices.

**Dr. Samuel Oghene Etatuviea**  
Director-General/Chief Executive Officer  
*Nigerian Natural Medicine Development Agency (NNMDA)*

# EXECUTIVE SUMMARY

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The Nigeria Natural Medicine Development Agency (NNMDA) was established in 1997 by the Federal Government of Nigeria to research, develop, document, preserve, conserve and promote Nigeria's Natural Medicine (traditional/indigenous healthcare systems, medications and non-medications healing arts, science & technology) and assist/facilitate their integration into the national healthcare delivery system, and by so doing contribute to the nation's wealth and job creation, socio-economic growth and development efforts.

Since the debut effort of NNMDA to consciously engage in strategic planning for the first time in 2018, all stakeholders including the supervising ministry FMSTI, members of staff and practitioners have lauded it a huge success. Some striking achievements of the Strategic Plan (2019 – 2023) include: the passage of the agency's Establishment Act (2019), resuscitation of the College of Natural Health Technology, establishment and take-off of 4 zonal offices among and completion of ultra-modern laboratory complex among others. Given the foregoing, it becomes very necessary to evaluate the performance of the extant Strategic Plan to document gains/positive actions, identify persistent challenges and learn valuable lessons which would guide the development of a new strategic plan for the period 2023-2027.

To this end, an evaluation survey was conducted. An evaluative framework along the themes of the strategic plan was adopted with key components including activities, inputs, outputs, outcomes and impacts. Besides the evaluation survey, in-depth interaction with key stakeholders took place at a 3-day management retreat which featured environmental scanning using SWOT and PESTEL analyses; review and formulation of the strategic objectives; implementation planning; monitoring and evaluation and risk assessment and management. These activities were carried out in a participatory manner which ensures all voices and opinions were heard, recorded and considered while at the same time ensuring consensus was built on divergent issues. The summary of key outcomes of the evaluation and applications of SWOT and PESTEL analysis are as follows.

Analysis of engagements in demand-driven research for development indicated that the agency is actively involved in research for development activities. The agency has about 12 projects currently ongoing at the agency, new research departments/units have been created while number of publications have been on a steady rise. All these are good indicators of steady progress moving the agency closer to the actualization of its vision and mission. These efforts should be strengthened further for continuous improvement. As indicated by the findings, such improvement should include stronger and more active engagement with the development partners for research grants, supports or aids which is currently missing.

As a strategic organization, NNMDA's Infrastructure and facilities including ICTs' are essentials to productivity and actualization of mandates, construction of NGLC started 4 years ago have been completed and functional, all zonal centres have taken off and more plant farms have been established. There is indication that MIS has been deployed to library/documentation and management of research information. Deploying MIS is of paramount importance so to preserve valuable indigenous knowledge relevant to herbal medicine and natural therapies of the nation, should be given utmost attention. Access to fast internet service and basic ICT equipment is reportedly at an average level in dire need of improvement. There is also the need to improve on health safety and environment in labs and offices essentially to protect life and prevent harms while at work.

At NNMDA, art of the strategies for moving forward the education and training programme of the agency is the resuscitation of the agency of College of Natural

Medicine Technology, regular mounting of workshops and improved publicity, the purpose was to propagate the use of herbal medicine/natural therapy with a view to generating revenue. The College was successful resuscitated, however more efforts and drive are needed to admit student and kickstart academic activities. There is also the need to improve on regular organization of seminars, workshops and conferences targeting specific areas of the agency's activities.

In terms of funding, government funding remains the only source of funding at the agency. The efforts at improving the agency's IGR through grantsmanship, commercialization and consultancy services have not yielded the desired results, therefore the need for a rethink of a new strategy to tackle the persistent challenge in the revised strategic plan.

Topping the list of the challenges is inadequate power supply (59%), followed very closely by lack of some basic resources and equipment (53%) to perform daily tasks. The results also revealed inadequate funding (41%), lack of training (28%), inadequate electricity (18%), infrastructural challenges especially office spaces (18%) and inadequate office resources and laboratory raw materials as the top five (5) challenges departments encountered. The top five (5) solutions offer by staff include: adequate training and seminars (49%) provision of basic office items, tools and laboratory raw materials (38%), improve infrastructure and facilities, provision of stable electricity (28%) and improve staff welfare/motivation. Most of the challenges facing the agency revolved could largely be resolved by increased funding. Therefore, the need for a rethink on financial stability and sustainability at the agency in order to attend to most of the highlighted challenges and implement the solutions.

To effectively address the gaps identified, emerging trends and challenges in the business environment, eight (8) strategic objectives have been crafted leading to the development of strategies and action plans structured into eight (8) strategic thematic areas with matching key performance indicators. The eight (8) critical areas were to develop an encompassing plan to lead the agency into the desired future. These are: Demand-driven R&D, New Product Development, Bioresource Documentation and Development, Education and Training, Improved Human Resource Management, Infrastructural Facilities and Equipment, Education and Training, Promotion, Advocacy Networking and Collaboration, and Improved Funding and Internally Generated Revenue. This strategic plan is also supported with a carefully crafted implementation plan (detailing activities and cost estimates), a monitoring and evaluation framework and a risk assessment/management framework.

Summarily, the purpose of this strategic plan is to consolidate on the gains of the previous strategic plan for better-quality performance and enhanced productivity. A number of strategies have been developed for implementation under each thematic areas with matching key performance indicators. This strategic plan is also supported with a carefully crafted implementation plan (detailing activities and cost estimates), a monitoring and evaluation framework and a risk assessment/management framework. However, without commitment and synergy from all stakeholders and interest groups, this document remains an ordinary piece of work. In order to give meaning to the efforts and resources committed in putting plan together, it has to be implemented to the letters.



# 1 INTRODUCTION

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## 1.1 BACKGROUND

The Nigeria Natural Medicine Development Agency (NNMDA) was established in 1997 by the Federal Government of Nigeria to research, develop, document, preserve, conserve and promote Nigeria's Natural Medicine (traditional/indigenous healthcare systems, medications and non-medications healing arts, science & technology) and assist/facilitate their integration into the national healthcare delivery system, and by so doing contribute to the nation's wealth and job creation, socio-economic growth and development efforts. The agency Establishment Act was assented by the President Muhammed Buhari in 2019 which has further reinforced the foundation of the agency as full-fledged institution of the Federal Government of Nigeria.

The agency is under the supervision of the Federal Ministry of Science, Technology and Innovation (FMSTI) which is saddled with the management of the nation's STI and the national innovation system.

Series of activities led to its development including: evaluation survey; interaction with stakeholders; 3-days management retreat; environmental scanning with SWOT and PESTEL analyses; review and formulation of the strategic objectives; implementation planning; monitoring and evaluation and risk assessment and management. These activities were carried out in a participatory manner which ensures all voices and opinions were heard, recorded and considered while at the same time ensuring consensus was built on divergent issues.

Summarily, it can be said that all participants including stakeholders and actors in the subsector supported the key decision in the form of strategies and actions taken and documented in this Strategic Plan (2023 – 2027). It was in their hope that the decision should be implemented appropriately to actualize the goal of Federal Government of Nigeria which is to integrate herbal and natural medicine and therapies into the national healthcare delivery system and contributing to achieving some of the sustainable development goals (SDGs).

## 1.2 HERBAL MEDICINE, NATURAL THERAPIES AND THE SDGS

The evolution of human societies has heavily relied on the use of biodiversity, where plant species, particularly those with medical properties, have been crucial for human survival. Medicinal plants have provided humankind with curative treatments since their earliest beginnings dating back to 8500 BC. Today herbal medicine has gained cumulative popularity in medical practice. These treatments are the synthesis of therapeutic experiences of generations of traditional physicians for over hundreds of years. However, most of these applications are unorthodox, with over 80% of the world's population depending on some form of traditional medicine. The increase in the use of herbal products is due to their cultural acceptability, availability, affordability, efficacy and safety claims. This rapid use of herbal medicine has led to the improvements in the quality and analysis of herbal products to be made with clinical research advancements in their safety and efficacy.

The Sustainable Development Goals (SDGs) are the blueprint to achieve a better and more sustainable future for all. SDGs address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. The 17 goals of the Sustainable Development Goals (SDGs) and 169 targets which were approved in 2015, include a broad range of issues that must be addressed in order to meet people's needs both now and in the future.

The promotion and integration of herbal medicines into primary healthcare is crucial and should be considered a sustainable pathway to achieve adequate enhancement capacity. It has the ability to promote the Sustainable Development Goals (SDG) and the World Health Organization's (WHO) promotion of herbal medicines, as well as enable new medication discoveries, increased access to healthcare, the preservation of forest resources, and assistance in closing socioeconomic gaps. A development that can be seen as a strategy to achieve sustainable development and directly addresses the SDG 1 (No poverty), SDG 2 (Good Health and well-being), and SDG 15 (Life on land) (United Nations, 2021).

Poverty extends beyond the economic dimension with strong interference on freedom, health, and education (Global Goals, 2022). For instance, in developing countries, rural poverty is driven by poor provision of infrastructure and services, rural inequalities, and environmental degradation, low productivity among others. Environmental problems are on the rise due to climate change issues, therefore the world needs to build resilient system to combat sustainability disasters, where agroforestry and integration of medicinal plants can contribute to increased livelihoods and an eradication of poverty in all its forms (Global Goals, 2022).

Good health and well-being are essential for sustainable development and an integration of herbal medicines in healthcare systems provides an opportunity to grant greater access to health both in rural as well as in urbanized areas. Considering the effects from the Covid-19 pandemic and the spread of diseases such as AIDs, malaria and neglected tropical diseases, good health and well-being is critical to human survival. Medicinal plants are very central to the search of new medicines to extend the sustainable healthcare delivery.

Sustainable use of land is essential for protection, restoration, and promotion of ecosystem services and biodiversity. Increased use and demand for medicinal plants can lead to the standing forest and its biodiversity being reconned and valued. Therefore, creating a direct link between biodiversity and medicinal plants that stimulates the conservation of species and ecosystems as well as equitable sharing of genetic resources.

The quality of health in developing countries, mainly tropical regions is impinged by high cultural diversity but characterized by poverty and infectious diseases (Geck et al., 2020; Mphande, 2016). The World Health Organisation (WHO) and the African Union (AU) recognised and acknowledged the immense contribution/huge potentials of natural/traditional Medicine to the health of many people and has continue to encourage and support its promotion, documentation, research and development. More importantly, the World Health Organization has as therefore, implemented strategies, supporting the member countries to integrate herbal medicines with the aim of reassuring that knowledge about medicinal plants is sustained, making health accessible for all.

According to WHO, 70–85% of the population in Sub-Saharan Africa, depend on the numerous and varied services and products of indigenous medicine knowledge, healing arts, science and technologies, not only for their healthcare delivery needs, but also for social, economic and community issues. For most of this populace, it is the only source of healthcare delivery available, accessible, affordable and acceptable. Thus, making it a powerful tool for national economic growth and development. Worldwide, there is an increased demand for indigenous healthcare services and products. The estimated annual business volume of herbal medicine alone is over USD 100 billion. This worldwide business space is largely dominated by Asian Tigers, most especially the Chinese and the Indians. Nigeria, despite the country's huge biodiversity and bio-resources, is contributing very little.

In Nigeria, to address national health and socio-economic challenges, the nation's vast indigenous medicine knowledge, huge biodiversity and bio-resources must be harnessed, explored and sustainably exploited. To most Nigerians living in rural areas (about 64% of the population), and as previously indicated, traditional medicine is the only available, easily accessible and affordable source of healthcare. The barriers and persistent arguments against the adoption of natural/traditional Medicine in Nigeria as identified in the NNMDA's Strategic Plan (2019 – 2023) still lingers and include the following:

- the multi-functional features of medicinal herbs as claimed by Traditional Medicine Practitioners (TMPs);
- the challenge of dosage and measurements;
- the crudeness of the drug production processes and administration procedures;
- the 'unscientific' claims on pathology of diseases/ailments by TMP which has been further reinforced by the belief that there are spiritual dimensions to some diseases and ailments and the occasional need for rituals;
- open preference for Orthodox Medicine over Natural/Traditional Medicine by the government has largely weakened the propensity for the development of the Indigenous Health Technologies; and
- corruption and the quest for foreign aids from western nations among others.

Despite these difficulties, testimonies and success stories from users of natural and traditional medicines have been astounding, demonstrating beyond a shadow of a doubt that the dream of incorporating natural and traditional medicine and practices into Nigeria's national healthcare delivery system is very feasible. The establishment of NNMDA more than decade ago, following by the creation of a National Policy on Natural/Traditional Medicine by the Federal Ministry of Health, and the full recognition of Traditional Medicine Practitioners (TMP) by the Nigerian Government under the auspices of National Association of Natural/Traditional Medicine Practitioners of Nigeria all serve as evidence that natural/traditional medicine and practices currently enjoy good government support (NANTMPs). Some of the herbal products that dominate the pharmacy stores and drug dispensary have been seen bearing approvals from the National Agency for Drug and Food Administration (NAFDAC) certifying their efficacy and safety.

Recently in 2019, Nigeria has taken another concrete step towards actualizing the integration of herbal medicine and natural therapies in the national healthcare delivery system by the passage of the Act establishing the Nigerian Natural Medicine Development Agency. This connotes the agency now have full government support to lead, steer, and dominate activities within the sector in Nigeria. Therefore, in order to hit the ground running it makes a lot of sense for the agency to developed a strategy. This ensures the agency to actively and within a short period time fill the gaps in the national health system by supporting the practitioners in the sector, demystifying the myths through cutting-edge research, fast-racking products development process with modern technologies, conserving and preserving herbs and natural healing arts via proper documentation among others. By so doing contributing to the realization of the some of the SDGs in Nigeria.

## 2 SITUATIONAL ANALYSIS

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Being an organization going through the process of strategic planning for the second time in the last five years, it becomes very necessary to evaluate the performance of the extant Strategic Plan to document gains/positive actions, identify persistent challenges and learn valuable lessons which should be incorporated in the strategic planning cycle. To this end, an evaluation survey was conducted. An evaluative framework along the themes of the strategic plan was adopted with key components including activities, inputs, outputs, outcomes and impacts. The items of evaluation include: engagement in research, human resources, education and training, infrastructural development, dissemination of research outcomes, and internally generated revenue. In addition, key challenges and future outlooks were analysed. This was done with the aid of structure questionnaires targeting the members of staff and management team. The data obtained was subjected to statistical analysis and discussed in this section.

Furthermore, for any organisation developing a strategic plan, it is a pre-requisite to have a holistic view of the happenings and trends of events in the business environment; hence, the need to carry out environmental scanning and identify the critical gaps in such business ecosystem. This was done to support the result of the evaluation survey. The business environment can be broadly categorised into two (2): the internal, and external business environment. The internal business environment comprises the organisation itself, the board, management, members of staff, service/product offerings, its financial resource, business strategic intent, etc. The external business environment comprises its clients and customers, competitors, government regulatory frameworks/policies, suppliers, pandemic, and public utilities, among others.

There are a wide and varied tools/models that can be deployed when scanning the business environment; some of these are SWOT analysis, PESTEL analysis, Boston Consulting Group (BCG) Matrix, Scenario Planning, Porter's Five Forces, among others. However, the SWOT and PESTEL analyses are adopted here after careful considerations. The SWOT analysis generates information that is helpful in matching an organisation or group's goals, programmes, and capacities to the social environment in which it operates. In contrast, PESTEL analysis looks in detail at specific types of issues that frequently have an impact on implementation of projects/initiatives and tries to qualify and/or quantify their effect. Both are instruments within strategic planning, and when combined with dialogue, the process becomes participatory and highly rewarding.

Both the SWOT and PESTEL analyses were deployed and the results are discussed and used alongside the evaluation results to formulate strategic objectives and plan implementation.

### 2.1 EVALUATION OF STRATEGIC PLAN (2019 – 2023) KEY OUTCOMES

Performance evaluation is an important phase in every plan, project, policy or programmes. In the case of Strategic Plan, it specifically involves taking a more critical look at the articulated goals, objectives, strategies, actions, their implementation and juxtaposing the results achieved in both tangible and intangible form to discern, quantify and qualify possible outputs, outcomes and impacts. Critical attention is usually required in particular regarding resource mobilization and/or allocation, monitoring and evaluation framework and risk management/assessment to have a holistic and comprehensive evaluation. Performance evaluation has its numerous

advantages, but importantly it helps stakeholders and actors to understand the merit, worth, and usefulness of a strategic plan, policy or programmes.

This performance evaluation essentially is to help NNMDA to document gains and failures of the NNMDA’s Strategic Plan (2018 – 2022) in resource mobilisation, performance (outputs), effectiveness (goals vs outputs), efficiency (inputs per unit of outputs) and processes to inform learning.

The logical evaluation framework i.e., activities, inputs, outputs, outcomes and impact, was adopted along each thematic area of the strategic themes. Key performances indicators articulated along each thematic area were tracked, benchmarked against the baseline in 2018 and target set in the implementation plan. Detailed description of the framework is as follows:

Table 1: Evaluative Framework

SN	Log Component	frame	Description
1	Activities		What was done based on the strategic objectives?
2	Inputs		What are the requirements (Efforts) e.g., fund, people etc.?
3	Outputs		Short term Results (Yield)
4	Outcomes		Medium term results (Consequences
5	Impact		Long term Results (Change)
6	Stakeholders		What are the opinions of the actors and /or beneficiaries?

Data collection was done with the aid of two research questionnaires to elicit data and information on relevant key performance indicators along the 8 thematic areas from the management and staff of the agency. The first questionnaire in addition to general background information, measures the key performance indicators in different thematic areas on a Likert scale. The questionnaire also measures key competencies and skills among the staff rated from excellent to very poor and lastly, solicited for challenges, solutions and future outlooks from the respondents. The second questionnaire targeted at the DG/CEO and management staff was to gather data and information on the relevant KPIs in numerical terms. This is to properly, measure the achievements along the thematic areas, identify the challenges that are persistent and develop workable solutions to the challenges.

The data obtained were analyzed and the results were presented and discussed with reference to 2018 baseline and target set in the Strategic Plan (2019 – 2023) implementation plan.

## 2.2 GENERAL INFORMATION

### 3.3.1. Demographic Information

Figures 1 and 2 present the gender and age of staff members that participated in the survey. Majority of the respondent were male. There were 46 male (60%) and 31 female (40%). Although male staff are more than their female counterpart, the study shows that females are well represented in the workforce of the agency.

On the age of staff members, which was categorized into four groups: 26 – 35, 36 – 45, 46 – 55 and 56 – 65. The total respondent falls under four different age groups. The highest age group of the respondent were between 46-55 while the lowest was

found between 56-65. Majority of the respondent (32) fell under the age group 46-55, 30 respondents fell within the age group of 36-45, 12 respondents fell within the age group of 26-35, while 4 respondents fell within the age group of 56-65. The results shows that majority of the staff are very agile and youthful. Summarily, the respondent under review were majorly middle-aged men with a lot of energy to drive developments and drive new initiative at the agency.

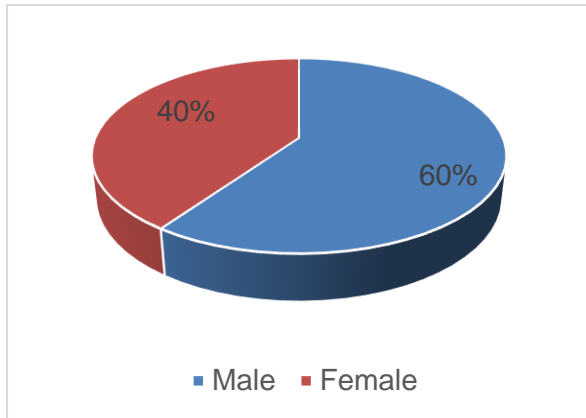


Figure 1: Gender of respondents

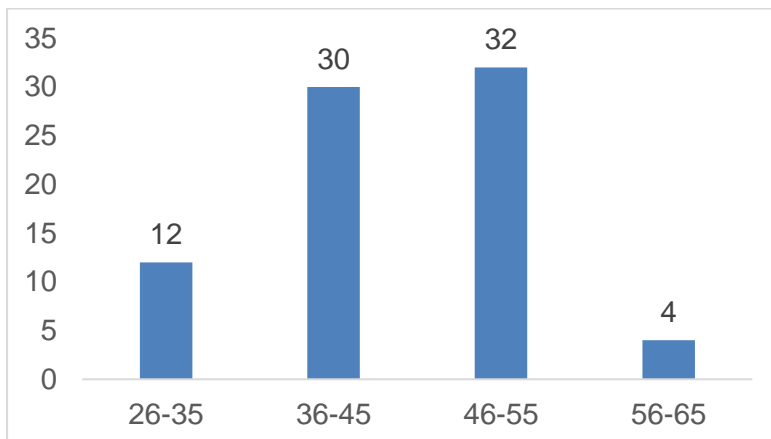


Figure 2: Age Group of respondents

This result, as presented in table 3, shows the year of appointment of staff members the year 1999 to 2022. 42.7% of the staff were appointed between 1992 and 2003, 36.0% appointed between 2004 and 2008, 10.7% appointed between 2009 and 2013, and 1.3% appointed between the year 2014 and 2022. This result indicated that there is no major recruitment exercise in the last 4 years. It is therefore indicative to note that a major recommendation of the Strategic Plan (2019 – 2023) has not been implemented. This may not be unconnected with the embargo on recruitment by the Federal Government largely due to dwindling government resources which has been worsened by the pressure from COVID-19 Pandemic.

Table 1: Year of Appointment of Staff

Year	Frequency	Percent
1999-2003	32	42.7%
2004-2008	8	10.7%
2009-2013	7	9.3%
2014-2018	27	36.0%

2019-2022	1	1.3%
	75	100.0%

### 3.3.2. Academic and Professional Qualifications

Figures 4 and 5 present the highest academic qualification of respondents as at 2018 and current highest academic qualification. The purpose was to capture a significant change in academic quality of personnel at the agency. In 2018, among the staff members, 4% were holders of national diploma, 59% were degree/HND holders, 24% had master's, 7% had PhD, 1% had advanced certificate in computer, 1% had certificate in postgraduate studies and 4% ordinary school leaving certificate. Figure 3 shows that respondents with first degree or higher national diploma were more than others with other academic qualifications in the year 2018.

As at 2022, presented in figure 4, among the members of staff, 55% were degree/HND holders, 25% were master's holders, 9% were PhD holders, 5% had advanced certificate in computer, 5% had OND certificate and 1% had advanced certificate in computer. Similar to 2018, as at 2022, majority of the staff members are first degree/HND holders. A review of the 2018 gap analysis result, revealed that only 3 members of staff had PhD with 4 undergoing the training. However, the situation has changed with about 7 members of staff now having PhD degree. The members of staff undergoing PhD study in 2018 must have completed their training or maybe more staff with PhD have been recruited leading to a significant increase in that category. The proportion of staff with first degree/HND remains about the same in 2018 and 2022. Therefore, there is the need to further encourage this category to seek higher degree to enhance their quality and productivity.

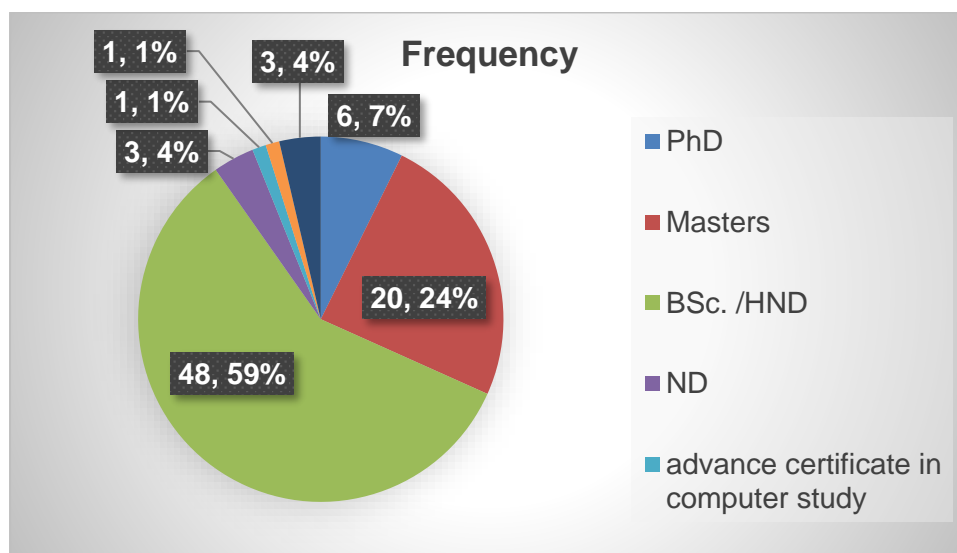


Figure 3: Highest Academic Qualification as at 2018

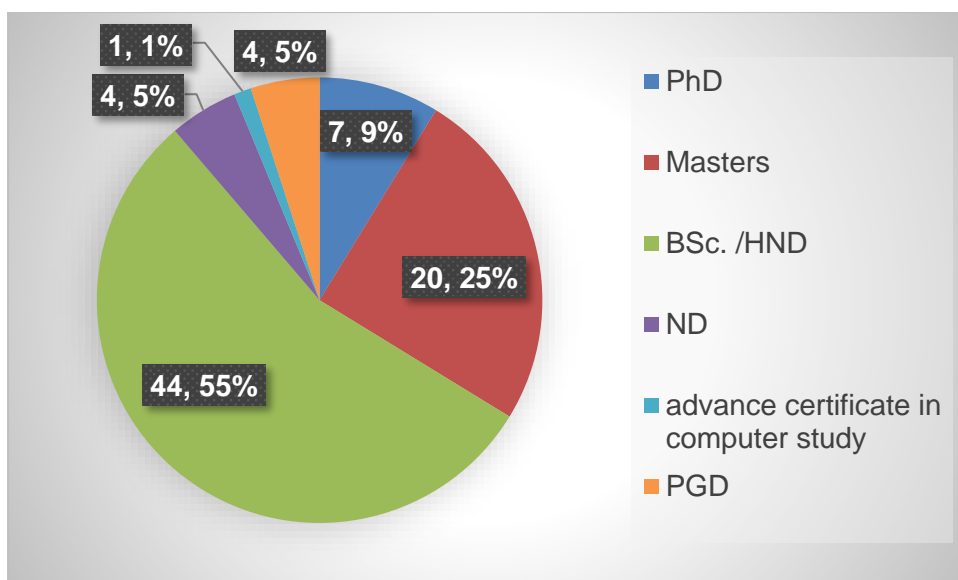


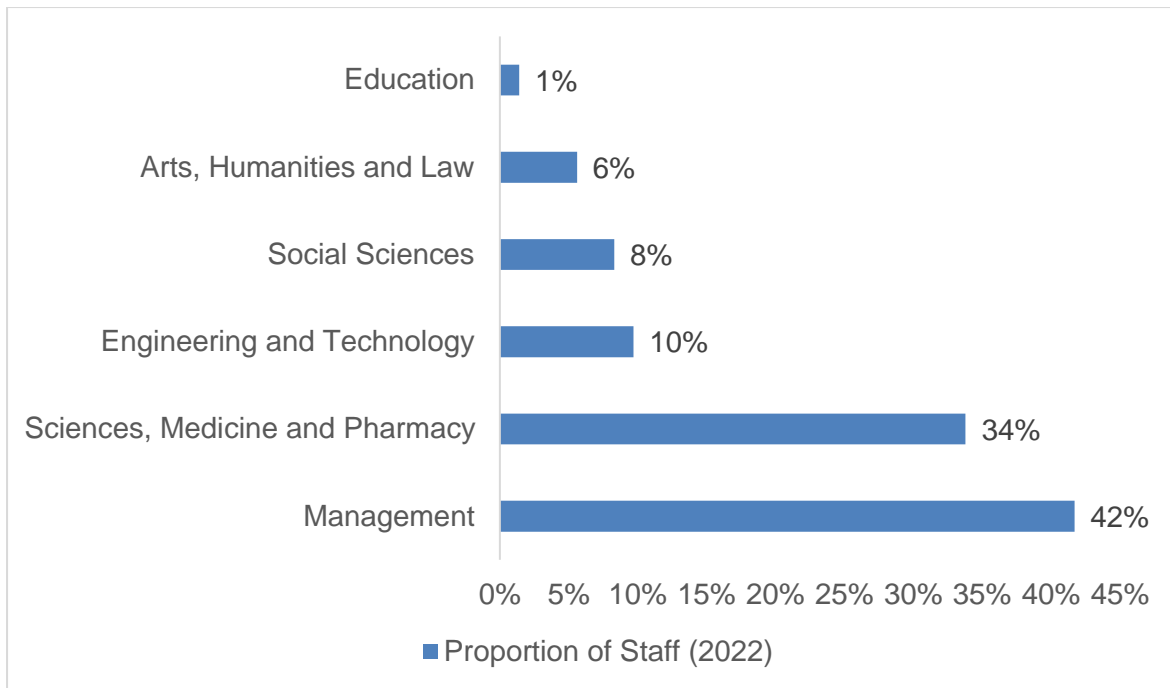
Figure 4: Present Highest Academic Qualification (2022)

It is also very encouraging to note that 36 (42.3%) of the staff have one professional certification or another, or are registered members of professional bodies such as Institute of Chartered Accountant of Nigeria (ICAN), Institute of chartered chemistry of Nigerian (ICCON), Nigerian Institute of Food Science Technology, among others.

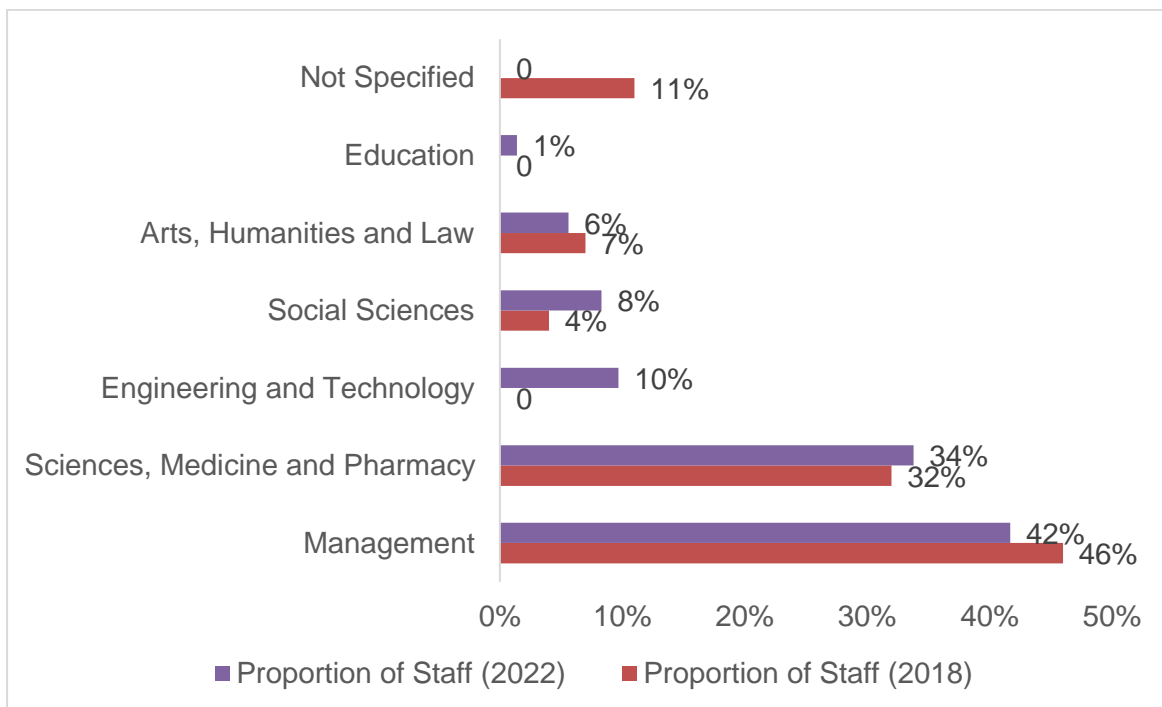
### 3.3.3. Field of Studies

Figure 5 presents the field of study of the members of staff; management 42%, sciences, medicine and pharmacy 34%, engineering technology 10%, social sciences 8%, arts, human and law 6%, while education 1%. Management, sciences, medicine and pharmacy were the more predominant field of study among the members of staff. The field of studies among the staff are relatively diverse and encouraging and on very similar trajectory as obtained in 2018 (Figure 6). However, as a research institute aspiring to conduct research to generate inventions and innovations, there is the need for future recruitment to target sciences, medicine and pharmacy which are more central to the mandate of agency.





**Figure 5: Field of studies/disciplines among staff members**



**Figure 6: Field of studies/disciplines among staff members (2018 vs 2022)**

## 2.3 STRATEGIC THEMES EVALUATION

### 3.3.4. Engagement in Research for Development

As indicated in section 3, one of the major strategic themes of the Strategic Plan (2019 – 2023) is engagement in research for development. Staff opinions on how the agency has performed in the last five years in research for development was evaluated and the result is presented in Table 2.

The majority (68.7%) agreed and 30.0% strongly agreed to the fact that the organization was actively involved in research activities aiming at demystifying the myths surrounding natural/traditional medicine, while a minority to it and few others were undecided. Majority (52.9%) agreed and 38.3% strongly agreed on engaging in collaborative research with other relevant institutions, and 5.9% were undecided. Furthermore, the majority (53.1%) agreed and 18.5% strongly agreed that the organization have improved on patenting records and intellectual property rights protection, 22.2% were undecided and just a few (1.2%) strongly disagreed. The majority (56.4%) agreed to have facilitated the commercialization of products and inventions with the help of relevant institutions, while the minority (17.9%) tended to disagree. Furthermore, the majority (52.5%) agreed and 32.5% strongly agreed that the organization was in continuous engagement with NANTMPs to foster natural and herbal resource documentation. Lastly, a larger percentage of the staff (33.8%) were undecided and 26.3% strongly disagreed that the organization was partnering with key development partners for either research grants or support or aids. The agency has an average of about 12 ongoing research projects per year, also signed an average of two (2) MOUs per year in the last four (4) years and publications have been on a steady rise averaging 10 – 15 per year.

Summarily these results suggest that the agency is actively involved activities relevant to research for development in herbal and natural medicine including myths demystification, collaborative research, registered more patents and intellectual properties, commercialized products and inventions, continuously engaged NANTMPs develop herbal/natural medicine resources. These efforts should be strengthened further for continuous improvement. However, there is a need for stronger and more active engagement with the development partners for research grants, supports or aids. Going forward, it will be very necessarily for the agency to develop a strategy of engagement with the development partners and actively pursue it.

Table 2: Engagement in Research for Development

Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
We actively engage in Research for Development targeted at demystifying the myths surrounding Natural/Traditional Medicine	25(30.1%)	57(68.7%)	1(1.2%)	0 (0.0%)	0 (0.0%)
We have been engaging in collaborative research in Natural and Herbal Medicine with relevant Institutions	31(38.3%)	45(52.9%)	5(5.9%)	0 (0.0%)	0 (0.0%)
We have improved on our patenting records and intellectual property right protection of discoveries, products and processes	15(18.5%)	43(53.1%)	18(22.2%)	4 (4.9%)	1(1.2%)
We have facilitated commercialisation of products and inventions with support from relevant institutions	3(3.8%)	44(56.4%)	17(21.8%)	14 (17.9%)	0 (0.0%)
We continuously engage NANTMPS to further strengthen the Natural and Herbal Resource Documentation	26(32.5%)	42(52.5%)	11(13.8%)	1 (1.3%)	0 (0.0%)

We are partnering with Key Development Partners including WHO for research grants, aid and supports.	8(10.0%)	24(30.0%)	27(33.8%)	21 (26.3%)	0 (0.0%)
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### 3.3.5. Human Resources

Table 3 presents individual respondents' responses relative to the agency's contributions to welfare, capacity development and career advancement of the workforce among others.

Table 3: Improved Human Resources

Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Staff have been supported to embark on self-improvement courses	7(8.4%)	35(42.2%)	9(10.8%)	24(28.9%)	8 (9.6%)
Staff have received financial support for their postgraduate programmes	1(1.2%)	14(16.9%)	19(22.9%)	31 (37.3%)	18(21.7%)
We regularly organise knowledge sharing forum, briefing and interaction among staff	7(8.4%)	36(43.4%)	21(25.3%)	14(16.9%)	5(6.0%)
More staff now attend trainings, workshops and conferences (local and international)	3(3.7%)	14(17.3%)	18(22.2%)	34(42.0%)	12(14.8%)
There is improved team spirit, synergy and good attitude to work among staff	6(7.2%)	47(56.6%)	11(13.3%)	17 (20.5%)	2(2.4%)
There are adequate working tools and enabling environment for staff.	2(2.4%)	39(47.6%)	12 (14.6%)	22 (26.8%)	7(8.5%)
We have recruited more qualified researchers in the last 5 years	12(14.5%)	48(57.8%)	13(15.7%)	8(9.6%)	2(2.4%)
We have recruited other qualified staff in the last 5 years for headquarters and zonal offices	14(16.7%)	51(60.7%)	12(14.3%)	7(8.3%)	0
We engaged in Internal rearrangement, realignment and reallocation of key functions within and among existing departments as well as created new ones	3(3.6%)	52(62.7%)	19(22.9%)	7(8.4%)	2(2.4%)

#### 3.3.2.1. Capacity Development

Among the staff, about 42.2% agreed and 8.4% strongly agreed to the statement that the organization has been supporting staff in taking self-improvement courses, while 28.9% disagreed, 9.6% strongly disagree and 10.8% were undecided. Furthermore, among the staff 16.9% agreed to have received financial support from the organization for their postgraduate programs, while 37.3%, 21.7% and 25.5%, disagree, strongly disagree, and undecided respectively. Similarly, about 21% of the staff strongly agreed (3.7%) and agreed (17.3%) that more staff now attend trainings, conference and

workshops at local and international levels, while majority (79.0%) were undecided (22.2%), disagreed (42.0%) and strongly disagreed (14.8%). An average of 12 trainings was organized for members of staff with about 38 participating in local training workshops and conferences annually in the last four years. Approximately 50% of the staff were positive about getting support for self-improvement courses only 16.9% were positive about receiving any financial support and just about 21.0% could claim an increment in number of staff attending training, workshops and conferences locally and internationally. This calls for immediate action for improvement.

### **3.3.2.2. Working Tools, Environment, Synergy and Knowledge Sharing/Interaction**

About 8.4% of the staff strongly agreed and 43.4% agreed to the statement that the agency regularly organised knowledge sharing forum, briefing, and interaction among the staff, 25.3% were undecided, 16.9% disagreed and 6.0% strongly disagreed. Furthermore, a larger percentage (63.8%) of the staff strongly agreed (7.2%) and agreed (56.6%) that there is improved team spirit, synergy and good attitude to work among staff while 20.5% disagreed, 2.4% strongly disagreed and 13.3% were undecided. Similarly, about 50% of the staff strongly agreed (2.4%) and agreed (47.6%) that there are adequate working tools and enabling working environment for staff, while 26.8% agreed, 26.8% disagreed, and 8.5% strongly disagreed. The frequency of knowledge sharing forum was abysmally low with about two (2) organized per year. These results are indication that the overall working environment/working tools in the agency, team spirit/synergy among staff, knowledge sharing/briefing are still at the very average level, therefore there is a need for improvement.

### **3.3.2.3. Internal Rearrangement and Realignment of Functions**

Majority of the staff 65.3% strongly agreed (3.6%) and agreed (62.7%) that there was internal rearrangement, realignment and reallocation of key functions within and among existing departments and new ones were created, just about 10% disagreed and strongly disagreed, while 22.9% were undecided. Six(6) new research departments/units were created to support research for development efforts of the agency. Internal rearrangement and realignment of functions was a major recommendation of the strategic plan under review, this result is an indication that the recommendation has being implemented to a very large extent.

### **3.3.2.4. Recruitment of researchers and other categories of staff**

On staff recruitment, about 62.3% of the staff agreed or strongly agreed that more qualified researchers were recruited while just about 12% disagreed/strongly disagreed and 15.7% were undecided. About 76% of the staff also agreed/strongly agreed that other categories of staff were recruited. This recruitment was both at the headquarters and zonal offices in the last 5years. 42 staff including 19 researchers and 23 other professionals was recruited in 2018. This an indication of conscious effort by the management to improve on the staff strength at the agency which was a major recommendation of the strategic plan under review, however, that was the last time in the last five years.

### **3.3.2.5. Skills sets and competencies of staff**

The survey also examined the skills sets and competencies available among the rank and file of the agency. The result is depicted in Figure 6. The areas of strength of the agency's staff included research methods, project management, new product development, collaborative problem-solving and presentation skills. The obvious areas of weakness included UAVs surveillance, software development, knowledge management/information systems, bioinformatics, and data science, analytics and big

data. There is therefore the need to improve on the areas of weakness by developing capacities, consolidating on the strengths and other valuable skills sets.

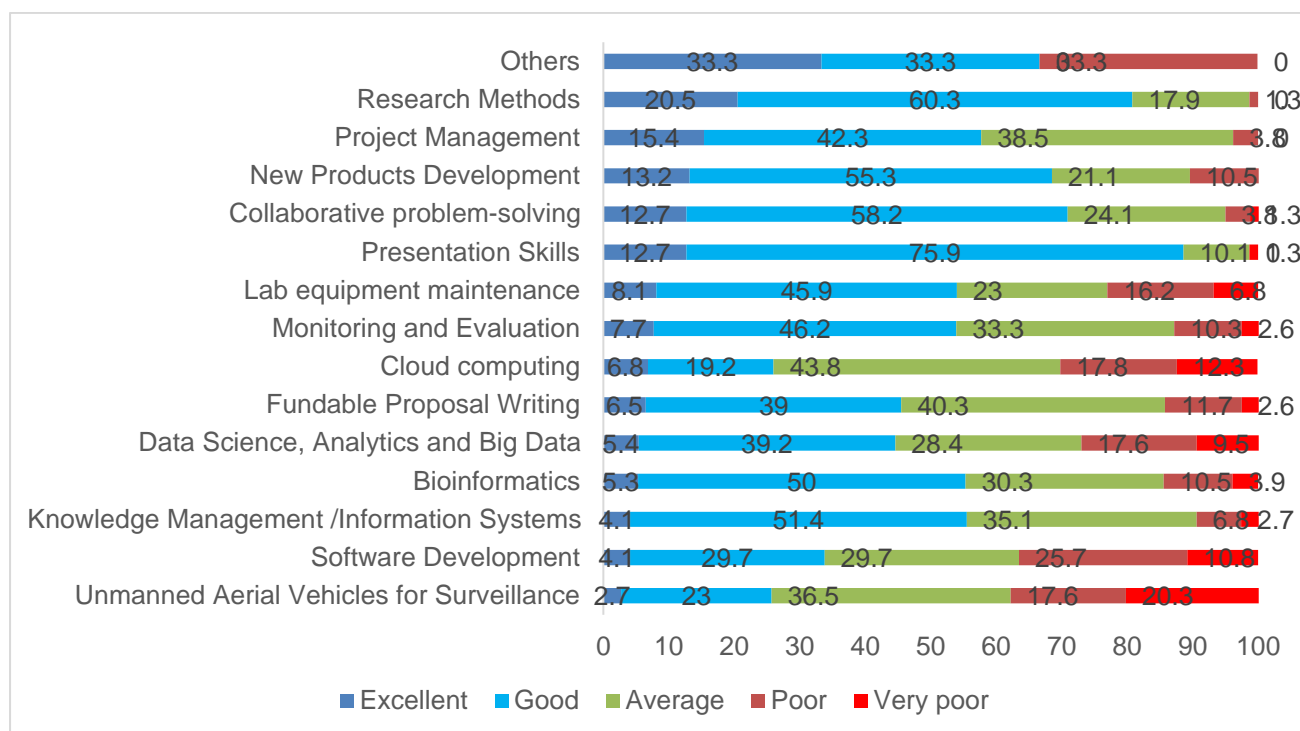


Figure 5: Skills sets and competencies of staff

### 3.3.6. Infrastructural Development

The organization's infrastructure development was looked at. The findings, as shown in Table 4, indicate that almost 41% of staff agreed, and 22.9% strongly agreed that the organization had completed and furnished a new laboratory with working equipment and facilities, while 19.3% were undecided and about 17% agreed/strongly disagreed. The majority 54.2% agreed to have secured office facilities for take-off at zonal centres, 1.2% disagreed, while others vary between strongly agree and undecided. In addition to that, the majority 63.4% attest to the fact that the organization has established additional plant farms in other locations by agreeing to the statement, while 7.3% disagree and 9.8% were undecided. On the automation of the organization's library and deployment of management information system (MIS) for research activities and documentation of herbal products, about 56.6% agreed on the use of an automated library. Some of the staff were undecided, while an equal percentage of 9.6% strongly agreed and disagreed. In terms of quick access to the internet, 33.3% of the respondents disagreed to have had better internet access and speed in every of their offices. Additionally, about half of the respondents affirmed that they have access to basic ICT equipment in their offices. The majority of the respondents occupied disagreed and gave undecided positions on the improvement of health safety and environment in their offices and laboratories. Lastly, regarding the establishment and furnishing of the zonal offices with human and materials resources, the majority of the respondents occupied agreed and strongly agreed with the position. Number of office spaces increases from 46 in 2019 to 70 in 2022 and all zonal offices have taken-off successfully.

Summarily, it can be deduced that the NGLC have been completed and functional, some zonal centres have taken off, more plant farms have been established and on the average MIS has been deployment to library/documentation and management of research information. Access to fast internet service has not greatly improved while access to basic ICT equipment is a just at an average level. Improvement of health

safety and environment in labs and offices is just about average. These results indicate that there is a lot of room for improvement in the quality of infrastructure and facilities at the agency and should be considered.

Table 4: Infrastructural Development

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
We have completed and fully furnished the New General Laboratory Complex (NGLC) with modern and functional equipment and facilities	19(22.9%)	34 (41.0%)	16(19.3%)	13(15.7%)	1(1.2%)
We secured office facilities for take-off at zonal centers	32(38.6%)	45(54.2%)	5(6.0%)	1(1.2%)	0
We established additional/new medicinal plants farms in other locations	16(19.5%)	52(63.4%)	8(9.8%)	6(7.3%)	0
We have automated our Library and deployed MIS for research and documentation of Herbal Products	8(9.6%)	47(56.6%)	20(24.1%)	8(9.6%)	0
Our internet access and speed have improved in all our offices	9(10.7%)	22(26.2%)	19(22.6%)	28(33.3%)	6(7.1%)
We have access to basic ICT equipment in our offices	5(6%)	42(50%)	18(21.4%)	16(19.0%)	3(3.6%)
We have improved on Health Safety and Environment in our offices and labs	1(1.2%)	37(44.6%)	26(31.3%)	13(15.7%)	6(7.2%)
We have established and fully furnished 6 zonal offices with human and materials resources	20(23.8%)	43(51.2%)	14(16.7%)	5(6.0%)	2(2.4%)

### 3.3.7. Education and Training

Table 5 presents the status of education and training of the institutions. The majority of the respondents agreed that the institution's college of natural medicine technology has been revived, which indicates that the college is presently in a better situation than it was previously. While 31% were unsure of their decision, 28.6% fully disagreed, 34.5% agreed and 2.4% strongly agreed that the institutions are now arranging workshops, seminars, and conferences with a clear objective. Regarding whether the institution's training programs are demand-driven, 47.6% and 8.3%, respectively, agreed and strongly agreed, while 27.4% were undecided and 15.5% strongly disagreed. The majority 51.2% of the respondents also affirmed that the training programs and activities of the institution are usually and aggressively publicized before the activities are taking place. Only two(2) workshops was organized in the last 4 years with about 60 participants in attendance on both occasions.

Resuscitation of the agency of College of Natural Medicine Technology is a major recommendation of the extant strategic plan targeted at propagating the use of herbal medicine/natural therapy with a view to generating revenue. Successful resuscitation should be highly commended. Although majority affirmed that training programmes for TMPs are more demand driven, however, there is need to improve on regular organization of seminars, workshops and conferences targeting specific areas of the agency's activities.

Table 5: Education and Training

Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
We have resuscitated our College of Natural Medicine Technology	31(37.3%)	34(41.0%)	17(20.5%)	1(1.2%)	0
We now regular organise workshops, seminars and conferences with specific objectives	2(2.4%)	29(34.5%)	26(31.0%)	24(28.6%)	3(3.6%)
Our training programmes for TMPs are now demand-driven	7(8.3%)	40(47.6%)	23(27.4%)	13(15.5%)	1
We aggressive publicise our training programmes and activities.	5(6%)	43(51.2%)	18(21.4%)	13(15.5%)	5(6.0%)

### 3.3.8. Dissemination of Research Results

The dissemination of the research findings to the general public is shown in Table 6. The majority of staff (57.1%) agreed that the agency has filed for more patents and majority (71%) agreed/strongly agreed that the quantity of research papers and other academic pieces has increased significantly. About 40% agreed/strongly agreed that more staff participated in local and international conferences/workshops while majority 64.7% agreed/strongly agreed that the agency now regularly produces newsletter. Furthermore, majority (59.6%) also agreed/strongly agreed that the agency's web and social media presence has improved and another majority 54.6% agreed/strongly agreed that strategic activities are now properly documented. Number of journal publications have been on a steady rise ranging from 10-15 per year and number of books and book chapters ranging from 2-3 per year.

In all, it can be deduced that there are significant improvements in different areas of dissemination of research results including patenting, scholarly publications, web and social media presence. However, there is need for greater participation of staff in local and international conferences in herbal/natural medicine development and practices.

**Table 6: Dissemination of Research Results**

Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
We have filed for more patents	0	44(57.1%)	25(32.5%)	8(10.4%)	0
Our number of publications i.e., scholarly journal articles, book chapters, books and conference papers have increased substantially	13(15.5%)	47(56.0%)	24(28.6%)	0	0
More of our staff have participated in local and international conferences/workshops	6(7.3%)	27(32.9%)	18(22.0%)	17(20.7%)	14(17.1%)
We now regularly produce newsletters/policy briefs	19(23.2%)	34(41.5%)	17(20.7%)	12(14.6%)	0
Our web and social media presence have improved considerably	4(4.8%)	46(54.8%)	15(17.9%)	14(16.7%)	5(6.0%)
We now properly document strategic activities including training, seminar, and conferences	3(3.7%)	42(51.9%)	24(29.6%)	10(12.3%)	2(2.5%)

**3.3.9. Government Funding and Internal Generated Revenue**

The institution's funding level from government and internally generated revenue is shown Figure xx and in Table 7. Appropriations and releases were at about the same level in 2018 and 2019, both went very deep in 2020 which may not be unconnected to the shocks from COVID-19 pandemic. However, from 2021 there has been substantial improvement with capital budget appropriation and releases nearing One Billion Naira. The agency's overhead is hovering around N50-N60 million annually while personnel in nearing N400m per annum.

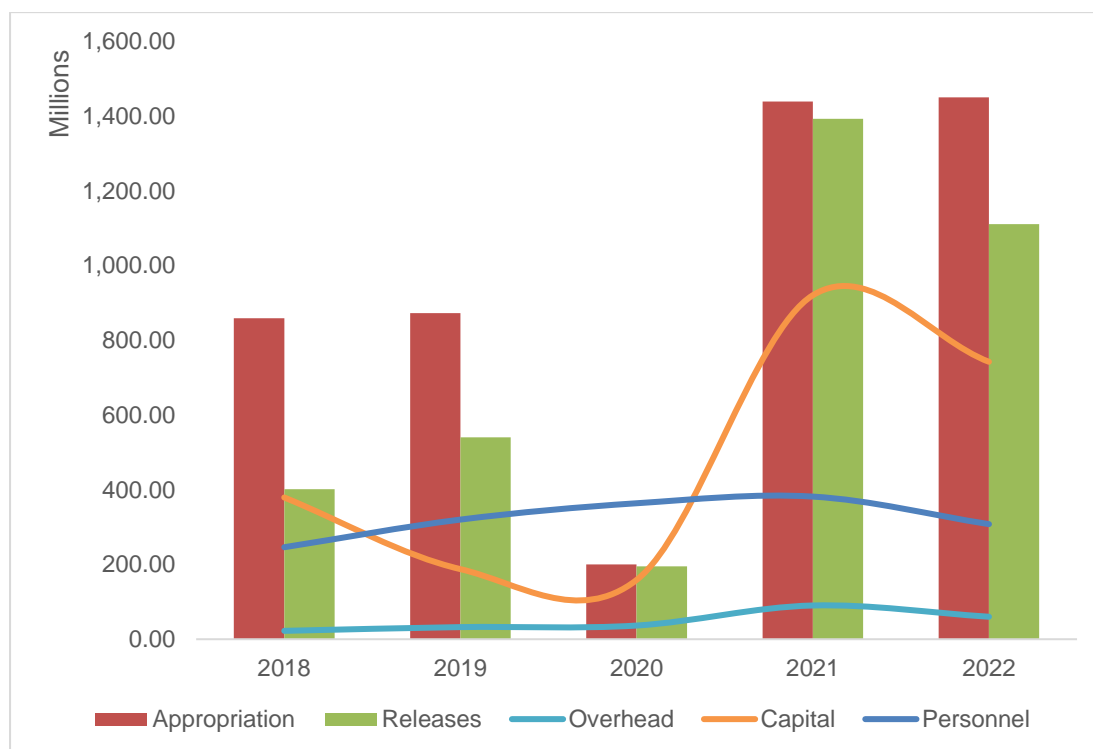


Figure 6: Government funding of NNMDA since 2018



In Table 7, about 41.9% of staff agreed/strongly agreed that they had received training on how to write bankable grant proposals, 28.4% disagreed, and 23.5% said they were unsure about their opinions. According to the results, 45.1% strongly agreed/agreed that agency is consciously applying for grants, assistance, and support, while 35.4% were unsure and about 20% disagreed/strongly disagreed. Majority (61.8%) of staff strongly agreed/agreed that the agency has provided consulting services for product development; 25% were undecided, while 13.8% strongly disagreed. Majority (56%) strongly agreed/agreed that the agency have commercialized or supported the commercialization of products while 6.2% were undecided and 17.9% disagreed/strongly disagreed. Lastly, just a minority of the staff 16.9% agreed that the internally generated revenue of the organization has improved significantly, while majority were undecided, disagreed or strongly disagreed.

Summarily, the major source of funds for the agency remains government allocation which are fairly regular but may not be sufficient to meet all the needs of the agency, thus the need to resort to other funding avenue. There is an indication of improved consciousness at the agency to attract and secure grants in order to support internally generated revenue. Similarly, there are also significant efforts targeted at developing new products and commercialization. However, these efforts have not yielded significant improvement in IGR.

**Table 7: Internal Generated Revenue**

Internally Generated Revenue	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
We have been trained on bankable grant proposal writing	7(8.6%)	27(33.3%)	19(23.5%)	23(28.4%)	5(6.2%)
We are more conscious about applying for grants, aids and supports	7(8.5%)	30(36.6%)	29(35.4%)	12(14.6%)	4(4.9%)
We have undertaken consultancy services in product development	5(6.3%)	44(55.0%)	20(25.0%)	11(13.8%)	0
We have commercialized or supported commercialisation of some products.	3(3.6%)	44(52.4%)	22(6.2%)	12(14.3%)	3(3.6%)
Our IGR has improved substantially	1(1.2%)	14(16.9%)	38(45.8%)	22(26.5%)	8(9.6%)

### 3.3.10. Challenges and Future Outlooks

This section documents the challenges encountered by the agency in the implementation of the Strategic Plan 2019-2023 in various dimensions. It also presents staff perspective, the solutions and suggestion on way forward for the agency.

Presented in Figure 6 are the most common challenges individual staff encountered in the discharge of their duties on daily basis. Topping the list of the challenges is inadequate power supply (59%), followed very closely by lack of some basic resources and equipment (53%) to perform daily tasks. Also affecting substantial number of staff is the inadequate personal emoluments (36%), inadequate internet access and IT resources (38%), inadequate training for staff (36%) and inadequate staff welfare and motivation (32%). There is also a significant number of staff worried about the weak means of communication (20%) and working spaces in the agency (16%). These challenges will definitely affect staff productivity in the discharge of their duties and invariably, on the collective outputs as well as the overall performance of the agency. Going forward, there will be the need to address these challenges.

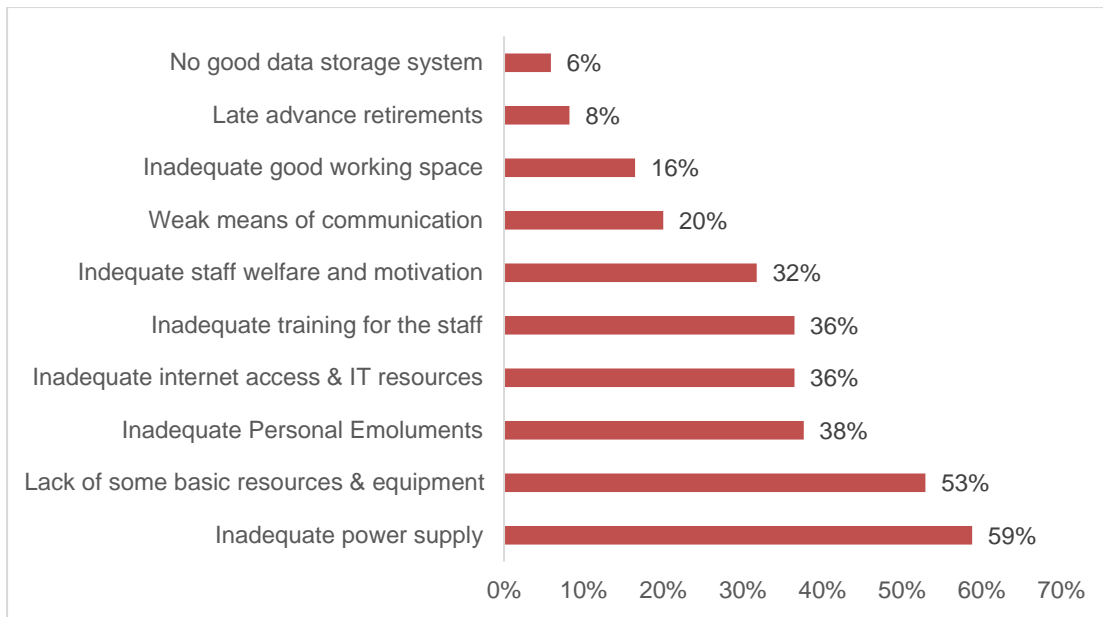


Figure 7: Challenges individual staff encountered daily in discharge of duties

The challenges encountered by departments and units at the agency in implementing the strategic plan (2019 – 2023) was also looked into in Figure 7. The results revealed inadequate funding (41%), lack of training (28%), inadequate electricity (18%), infrastructural challenges especially office spaces (18%) and inadequate office resources and laboratory raw materials are on top five (5) of the list. Others that needed attention included limited free flow of information and internal communication (11%) and inadequate internet and IT resources (9%).

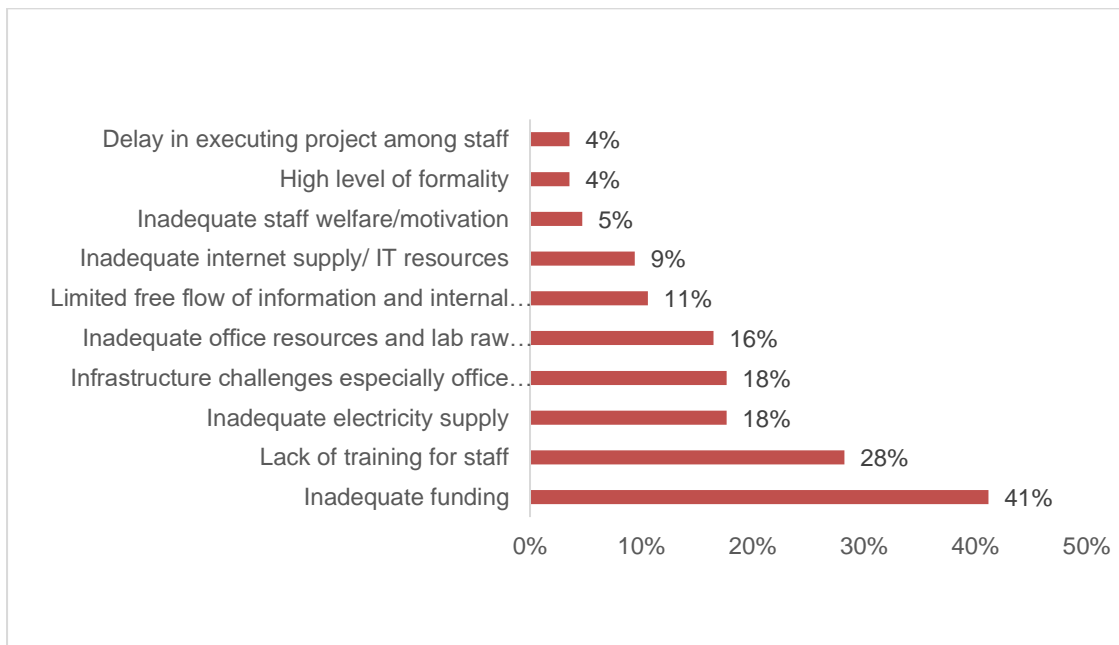


Figure 8: Challenges Departments/units encountered in implementing Strategic Plan (2019 – 2023)

It is not sufficient to only highlight the challenges, there is the need to provide options for improvement. The options for improvement were captured and presented in Figure 8. The top five (5) solutions offer by staff include: adequate training and seminars

(49%) provision of basic office items, tools and laboratory raw materials (38%), improve infrastructure and facilities, provision of stable electricity (28%) and improve staff welfare/motivation. A proportion of the staff (25%) also see grants, supports and aids from donor agencies and development partners as a way of addressing some the enumerated challenges, so also the provision of internet/IT resources (15%) and regular general meeting/communication.

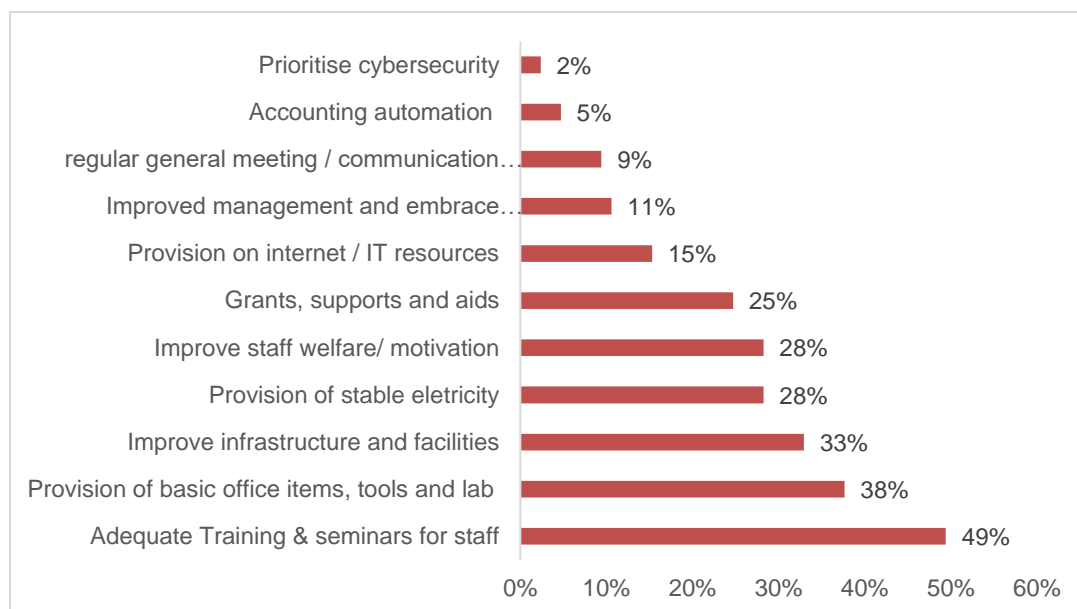


Figure 9: Solution to the challenges

Finally, staff suggested key areas of focus for the revised strategic plan, they are represented in Figure 9. Top five (5) on the list include staff development and promotion (41%), research and innovation (24%), improvement in welfare (24%), collaboration and partnership with other MDAs (21%) and commercialization (14%). Staff also suggest the need to focus on full take-off of the College of Natural Medicine Technology (13%) and improvement in finances and grants (12%). The suggested areas should be given properly attention when developing strategic objectives and action plan for the Strategic Plan (2023 – 2027).

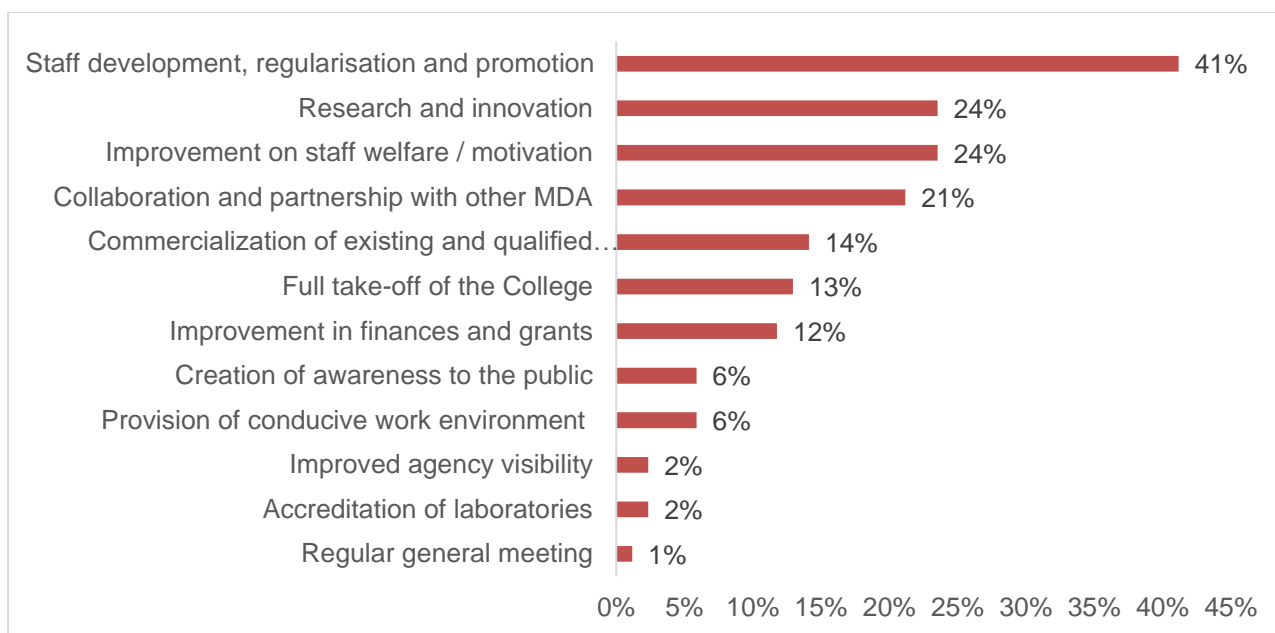


Figure 10: Suggested focus for the revised Strategic Plan

## 2.4 SUMMARY OF KEY OUTCOMES AND IMPLICATIONS

An analysis and review of staff demographic information indicated that there is adequate gender representation at the agency (60% male and 40% female). Majority of the staff of the agency are still within the productive of age groups 26-35, 36 – 45 and 45 – 55. This is indication of a very active, energetic and resourceful workforce and with the right working environment and motivation could drive the very many new and evolving programmes, projects and initiatives at the agency.

The staff strength and highest academic qualifications among staff were about the same in the last 4 years. The last recruitment at the agency was in 2018 with about 42 recruited including 19 researchers and 23 other professionals. Although this recruitment preceded the strategic plan under review, it is an indication of the commitment of the management at strengthening internal capacity at the agency. Recruitment of staff especially technical staff with degrees in sciences, medicine and pharmacy to expand the research faculties at the agency was a major recommendation of the Strategic Plan (2019 – 2023). However, there are difficulties in increasing the staff strength as indicated by non-recruitment of staff in the last 4 years. Some changes were noticeable in the quality of the staff with a slight increment in number of staff with PhDs., and BSc/HND holders. The field of studies among the staff are relatively diverse and encouraging and on very similar trajectory as obtained in 2018. Going forward this should be revisited so as to adequately resource the agency with more competent staff to be behind the laboratory benches and engaged in demand-driven research for the development and innovations. Adequate support and motivations may be needed encourage more staff to seek higher qualifications, this has strong implication for the quality of outputs, outcomes and impacts of the agency.

In addition to increasing staff strength and encouraging them to seek higher qualification, staff capacity can also be enhanced through exposure to relevant training and participation in local and international conferences. The evaluation results indicated the need for a lot of improvement in this regard with only 21.0% could claimed to have participated in training, workshops and conferences locally and internationally. In terms of skills and competencies, the areas of strength of the agency's staff included

research methods, project management, new product development, collaborative problem-solving and presentation skills. The obvious areas of weakness included UAVs surveillance, software development, knowledge management/information systems, bioinformatics, and data science, analytics and big data. It is very essential to turn the weaknesses into strengths through exposure to relevant trainings/capacity building programs. Similarly, the results indicated the need for improvement in the overall working environment, provision of working tools/materials, team spirit/synergy among staff and knowledge sharing and interaction in the agency. These among other among could rejuvenate operations at the agency for enhanced productivity and performance.

Engagement in demand-driven research for development was a thematic area in the strategic plan under review. The evaluation results indicated that the agency is actively involved in research for development activities. The agency has about 12 projects currently ongoing at the agency, new research departments/units have been created while number of publications have been on a steady rise. All these are good indicators of steady progress moving the agency closer to the actualization of its vision and mission. These efforts should be strengthened further for continuous improvement. As indicated by the results such improvement should include stronger and more active engagement with the development partners for research grants, supports or aids which is currently missing.

Infrastructure and facilities including ICTs are essentials to productivity and performance. The NGLC under construction 4 years ago have been completed and functional, all zonal centres have taken off and more plant farms have been established. There are indication that MIS has been deployment to library/documentation and management of research information. Deploying MIS is of paramount importance so to preserve valuable indigenous knowledge relevant to herbal medicine and natural therapies of the nation, should be given utmost attention. Access to fast internet service and basic ICT equipment is just at an average level and needs to be improved because it is now a standard for all forward-thinking organisation to deploy ICTs in all of their operations. There is also the need to improve on health safety and environment in labs and offices essentially to preserve life and property at the agency. Generally, the results indicate that there is a lot of needs for quality of infrastructure, equipment and facilities at the agency and should be considered in the revised strategic plan.

Part of the strategies for moving forward the education and training programme of the agency is the resuscitation of the agency of College of Natural Medicine Technology, regular mounting of workshops and improved publicity, the purpose was to propagate the use of herbal medicine/natural therapy with a view to generating revenue. The College was successful resuscitated, however more efforts and drive are needed to admit student and kickstart academic activities. Doing so helps to propagate herbal medicine and natural therapies and enlist the interest of the youths in the profession and boost IGR. Training programmes for TMPs are more demand driven, however, there is need to improve on regular organisation of seminars, workshops and conferences targeting specific areas of the agency's activities.

Government funding remains the only source of funding at the agency. The efforts at improving the agency's IGR through grantsmanship, commercialization and consultancy services have not yielded the desired results, therefore the need for a rethink of a new strategy to tackle the persistent challenge in the revised strategic plan.

Topping the list of the challenges is inadequate power supply (59%), followed very closely by lack of some basic resources and equipment (53%) to perform daily tasks. The results also revealed inadequate funding (41%), lack of training (28%), inadequate electricity (18%), infrastructural challenges especially office spaces (18%) and

inadequate office resources and laboratory raw materials as the top five (5) challenges departments encountered. The top five (5) solutions offered by staff include: adequate training and seminars (49%) provision of basic office items, tools and laboratory raw materials (38%), improve infrastructure and facilities, provision of stable electricity (28%) and improve staff welfare/motivation. Most of the challenges facing the agency revolved could largely be resolved by increased funding. Therefore, the need for a rethink on financial stability and sustainability at the agency in order to attend to most of the highlighted challenges and implement the solutions.

Top five (5) on the list include staff development and promotion (41%), research and innovation (24%), improvement in welfare (24%), collaboration and partnership with other MDAs (21%) and commercialization (14%). Staff also suggest the need to focus on full take-off of the College of Natural Medicine Technology (13%) and improvement in finances and grants (12%). The suggested areas are very germane to deliver on the mandates, vision and mission of the agency and should be given properly attention when developing strategic objectives and action plan for the Strategic Plan (2023 – 2027).

In a nutshell, the very essence of this evaluation is to provide evidence indicative of substantial level of implementation of the Strategic Plan (2019 – 2023) and this has been achieved to a very large extent. As observed, some of the gaps identified in 2018 have been filled considerably including the development of new general laboratory complex, improvement in research for development activities, resuscitation of College of Natural Medicine Technology, establishment of all zonal centers, establishment of plants farms, improvement in quality of staff among others. However, some challenges still persist including inadequate electricity, inadequate staff welfare, poor access to fast internet and basic ICT tools, inadequate laboratory materials and resources, inadequate support for training and participation in local and international conferences among others. Going forward, these challenges need to be addressed, however, to have a holistic view and sustainably resolved them, they should be considered together with the revised SWOT and PESTEL analyses results and the needs assessments results conducted by various department/units of the agency. This will ensure the development and implementation of actionable strategies that can ameliorate the challenges and spur innovative performance at the agency.

## **2.5 ENVIRONMENTAL SCANNING**

Furthermore, participants at the retreat, carried out the SWOT and PESTEL analysis on the Agency. This involved grouping the participants into four (4), with a group working on all the four quadrants of the SWOT methodology, two groups worked on PES/TEL analysis and the last group worked on Strategic Intent and Core Values of the Agency. Each group made a presentation of the results of their respective analysis after which the results were collated, streamlined and debated.

### **2.5.1 The SWOT Analysis**

SWOT stands for Strengths, Weaknesses, Opportunities and Threats. SWOT analysis summarizes the perceptions of an internal constituency (i.e. leadership and staff) regarding the internal strengths of the organisation, its weaknesses, the external opportunities for improved productivity, and the external threats to consider.

The SWOT methodology was deployed for input gathering from members of staff that are involved in the day-to-day running of the agency's programmes strategies and activities. The following key areas were considered:

- Capacity to deliver the intended services;

- Core competencies (i.e. what the agency is fundamentally good at doing) and business processes (i.e. how work gets done);
- Staffing (i.e. roles, skills, knowledge);
- Assets (i.e. buildings and equipment); and
- Financial resources (i.e. budget).

This methodology was thoroughly explained to the management and staff of the Agency at the strategic management retreat meeting. The final outcome of the SWOT analysis is presented in table 8.

Table 8: Result of the SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>i. Competent manpower in all areas</li> <li>ii. Competence to carry out research in Traditional medicine</li> <li>iii. Competence to develop herbal product</li> <li>iv. Provision of standard laboratory with ISO/17025/2017</li> <li>v. Passage of Agency's Act/Gazette</li> <li>vi. Competence to carry out some laboratory functions at international level/recognition</li> <li>vii. Approval of the College of Natural Medicine Technology</li> </ul>	<ul style="list-style-type: none"> <li>i. Inadequate Manpower</li> <li>ii. Inadequate Training</li> <li>iii. Poor funding</li> <li>iv. Lack of Motivation</li> <li>v. Inadequate working tools/equipment</li> <li>vi. Lack of visibility</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>i. Government Policy</li> <li>ii. Job Creation/Employment</li> <li>iii. Collaboration with the TMPs</li> <li>iv. Cultivation of Medicinal Plants</li> <li>v. Commercialization of market-based products</li> <li>vi. Research and Development of traditional medicine products</li> <li>vii. Commercialization of the laboratory services and research products</li> </ul>	<ul style="list-style-type: none"> <li>i. Encroachment in our mandates by other agencies</li> <li>ii. Global Warming/Climate Change</li> <li>iii. Inflation as it affects the raw materials</li> <li>iv. Land Encroachment/Desertification</li> <li>v.</li> </ul>

### 2.5.2 PESTEL ANALYSIS

PESTEL, a complementary tool to SWOT, expands especially on the analysis of external context by looking in details at specific types of issues that frequently have impacts on implementation of project/initiatives. The term 'PESTEL' refers to the domains it considers: Political, Economic, Social, Technological, Environmental and Legal. As applied to NNMDA, PESTEL involves identifying the factors in each of these six domains that are relevant to the operations of the Agency. Similar approach to the one deployed to SWOT analysis was adopted in conducting the PESTEL analysis. The participants brainstormed on each domain of PESTEL and arrived at a consensus on the list of factors in each domain and their impact, whether positive or negative, on the institute. The outcome is as presented in Table 9.



**Table 9: PESTEL Analysis Results**

Negative				Positive		
HIGH	MEDIUM	LOW	IMPACT	LOW	MEDIUM	HIGH
			<b>P-POLITICAL</b>			
			Government Policy (Infrastructure development in terms of College, and research facilities)			H
H			Insufficient funding			
H			Non-integration of herbal medicine into Healthcare delivery system			
			<b>E-ECONOMIC</b>			
H			Exchange Rate			
H			High cost of raw materials			
H			High Inflation rate			
	M		Epileptic power supply			
			<b>S-SOCIAL</b>			
			High Population			H
H			Inability of farmers to access farm because of Insecurity			
H			Advocacy in terms of products, publicity, marketing and advertisement through social media			
			<b>T-TECHNOLOGICAL</b>			
H			Evolving technology and high cost acquiring new technologies			
H			Unfavourable law policy/regulations			
			Digitization of Agency's library		M	
			Technological advancements aid the acquisition of new equipment for production			M
			New technologies help to enhance standardization of herbal products			M
			<b>E- ENVIRONMENTAL</b>			
			Good amount of rainfall			H
			Potentials of Green-house farming			H
H			Flooding/Natural disaster			
H			Deforestation			
H			Increased urbanization			
	M		Varied herbal components or nutrients due to soil components			
			<b>L-LEGAL</b>			
			Agency's Act			H
H			Bureacractic Bottleneck			
			TMP's distrust in releasing some information			H

Summarily, both SWOT and PESTEL analyses and their outcomes provided useful insights into the most important issues needing attention in the internal and external environment of the Agency. The lesson here however is to develop strategic objectives that will ensure areas of strengths are consolidated, turn areas of weaknesses to become strengths, opportunities harnessed and exploited; while threats are mitigated.

The PESTEL analysis results provided useful insights into the events in the external environment and their impact on the Institute's activities.

### 3 NNMDA'S STRATEGIC INTENT

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One of the major highlights of the 2022 retreat was reconsidering the extant vision and mission statements for adequacy, appropriateness and relevance. Vision and mission statements should be inspirational, truly focused and provide direction. The extant vision and mission statements are as followed:

**Vision:**

*"To be an internationally recognized centre of excellence in the research, development, documentation and promotion of Nigeria's indigenous medicine for sustainable integration into the national healthcare delivery system."*

**Mission:**

*"To facilitate the integration of Nigeria's indigenous medicine into the national healthcare delivery system through research, documentation, promotion and collaboration for enhanced health and wellness of the citizenry."*

The extant vision and mission statements as suggested by members of staff needs to be reviewed to reflect the highlights of discussions during the retreat. A syndicate group comprising seven (7) participants reviewed the agency's strategic intents. This was presented to the whole house and considered to capture the Agency's purpose, and the renewed drive for research and development. In addition, the group suggested that the Mission Statement of the Agency should reflect the following concepts "Publicity, Entrepreneurship, Dissemination and Collaboration". After a fairly extensive discussion/debate and scrutinizing, participants at the retreat agreed on the following:

#### 3.1 NEW VISION

The agency's new vision statement is as follows:

*"To be a global reference centre for traditional Nigerian herbs"*

#### 3.2 NEW MISSION

The agency's new mission statement is as follows:

*"To facilitate the integration of Nigeria's indigenous medicine into the national healthcare delivery system through research, documentation, promotion, dissemination, and collaboration for enhanced feasibility and visibility."*

#### 3.3 MANDATES

The mandates of the Agency remained as stated in the establishment act and are the following:

- i. Research, collate, document, develop, promote and preserve knowledge, practice and products of Natural Medicine (Traditional Systems, Traditional Medication and non-Medication Healing Arts, Sciences and Technology) with a view to facilitating its integration into the National Healthcare Delivery System;
- ii. Identify, document and maintain a comprehensive National Inventory of Nigeria's Medicinal, Aromatic and Pesticidal Plants (MAPPs), animal and

- animal parts and minerals and other natural products, used for human and veterinary/livestock healthcare management, maintenance, care and support;
- iii. Facilitate the Cultivation, preservation and conservation of MAPPs and maintain pilot and/or experimental medicinal farms, gardens and herbaria in the six geopolitical zones of Nigeria and promote sustainable use of natural medicine resources through the development of good Agro-techniques for the cultivation and conservation of medicinal plants;
  - iv. Develop and maintain Herbarium of Nigeria Medicinal Plants as focal reference centre for research & development;
  - v. Promote the production of standardized extracts, nutraceuticals, health foods, dietary supplements, body care products and galenicals of Traditional remedies from local herbs and MAPPs through appropriate public-private partnership schemes, for further research and commercialization;
  - vi. Facilitate the development of low cost and appropriate process and packaging technologies for small and medium scale industrial production and commercialization of Traditional Medicines;
  - vii. Develop post-harvest and process technologies on collection, process and storage of Medicinal Aromatic and Pesticidal Plant materials to ensure good quality stock and proper value addition to end products and formulations;
  - viii. Promote manpower development and training, public sensitization and awareness creation in all areas of Natural medicines (indigenous traditional health systems, medication and non-medication healing arts, sciences and technologies);
  - ix. Initiate appropriate mechanisms for the development of Intellectual Property Right regime (IPR) for Traditional Medicine Knowledge and Practice (TMKP);
  - x. Develop a Digital Virtual Library, a dedicated focal reference centre for research and development of Traditional Medicine and Medicinal, Aromatic and Pesticidal Plants (MAPPs) of Nigeria.

The above mandates remain the mandate of the Agency as provided for in the Agency Enabling Law. However, in order to maintain focus and streamline efforts this strategic plan is putting forward for implementation eight (8) strategic objectives as follows:

### **3.4 STRATEGIC OBJECTIVES**

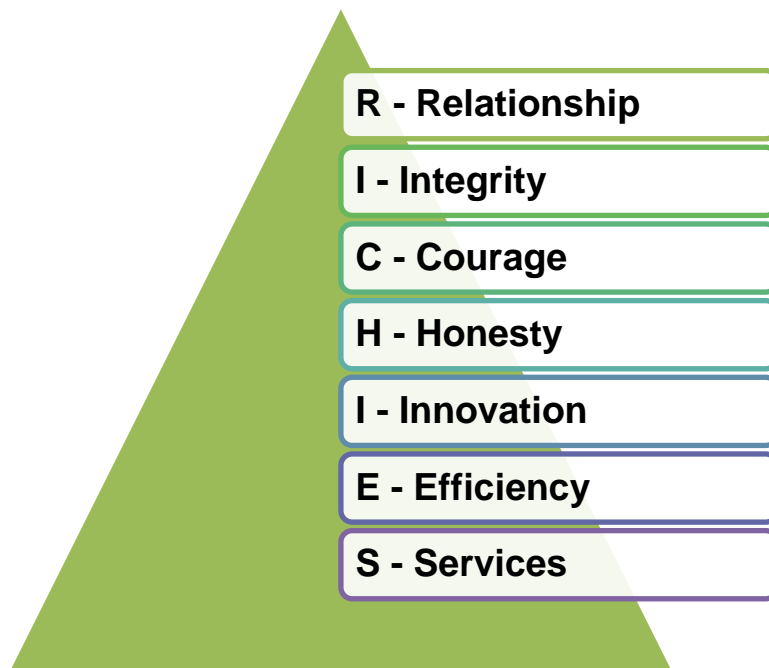
- i. to enhance institutional capacity for R&D and actively engaged in research for development in herbal medicine and natural therapies;
- ii. to build up the critical mass of human resource to facilitate the development and integration of Nigeria herbs and natural therapies in the national health care delivery system;
- iii. to exploit Nigeria medicinal herbs and natural therapies by developing them into new and safe products for use by Nigerians and across West-Africa.
- iv. to develop, document, and preserve Nigeria's herbs and natural therapies using various technologies including ICTs;
- v. to develop critical infrastructural, facilities, equipment and material resources to support research, new product development, education/training, laboratory and consultancy services in herbal medicine and natural therapies;
- vi. to promote conducive working environment, welfare and improved conditions of service of staff;
- vii. to substantially improve financial resources available and ensure accountability; and

viii. establish networks and actively collaborate with reputable local and international organisations for research and training in herbal medicine and natural therapies.

The eight (8) strategic objectives have been broken down into strategies with key performance indicators attached under 8 key thematic areas (see section 4). Various actionable steps are articulated using a one-to-one mapping of strategies to actions for seamless implementation of the strategic objectives (see section 5).

### 3.5 CORE VALUES

The Agency's activities are guided by the underlisted Core Values & Principles encapsulated as {RICHIES}.



The core values are still relevant today as they have always been.

## 4 STRATEGIC THEMATIC AREAS

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New strategies to be deployed in order achieve the Agency's mandates are in eight (8) categories, they include; Demand-driven R&D, New Product Development, Bioresource Documentation and Development, Education and Training, Improved Human Resource Management, Infrastructural Facilities and Equipment, Education and Training, Promotion, Advocacy Networking and Collaboration, and Improved Funding and Internally Generated Revenue. Details of these are explained in the following subsections.

Performance indicators play a vital role within a strategic plan in determining how well the organisation or office is progressing towards achieving each strategic goal. They also help to focus management discussion on the right issues relating to achievement. The selection of relevant and useful performance indicators is one of the more challenging tasks in strategic planning. Most often, organisations tend to measure what has historically been measured or what is easily measurable – rather than developing what should be measured. For each strategy highlighted, a set of indicators was developed to provide a view toward how well the strategies are being deployed/achieved. The performance indicators are explicitly stated against each strategy.

Of paramount importance is the need to review and update performance indicators periodically because it will amount to an aberration to believe these performance indicators are 100% accurate and appropriate all the time. Thus, it is imperative that key performance indicators (KPIs) are utilized and reviewed, if possible, annually.

## 4.1 DEMAND-DRIVEN RESEARCH AND DEVELOPMENT

<b>SO1: To enhance institutional capacity in R&amp;D and actively engaged in research for development in herbal medicine and natural therapies</b>		
<b>Areas</b>	<b>Strategies</b>	<b>Key Performance Indicators</b>
<b>1. Research</b>	1.1. Active engagement in Research for Development especially targeted at demystifying the myths surrounding Natural/Traditional Medicine	<ul style="list-style-type: none"> <li>• Increment in patronage Nigeria herbal products</li> </ul>
	1.2. Conducting research projects in identified areas of needs in the national healthcare system	<ul style="list-style-type: none"> <li>• Number of research project completed,</li> <li>• Number of research outputs in the areas of needs</li> </ul>
	1.3. Engaging in collaborative research in Natural and Herbal Medicine with relevant Institutions	<ul style="list-style-type: none"> <li>• Outputs of engagement with partners</li> <li>• Number of functional research engagements with partners</li> </ul>
	1.4. Facilitating the recruitment of top-quality staff (PhDs) in relevant areas and encouraging staff with Masters to pursue PhD.	<ul style="list-style-type: none"> <li>• Increment in number of PhD holders</li> <li>• Number of MSc., holders supported to obtain PhD</li> </ul>
	1.5. Facilitating the training and development of manpower in critical areas and global best practices in R&D such as grants application, advanced research methodologies, etc	<ul style="list-style-type: none"> <li>• Number of staff trained in critical areas</li> <li>• Increment in rate of productivity (measured by average number of publications per staff)</li> </ul>
	1.6. Institutionalising a guide for setting research agenda and management	<ul style="list-style-type: none"> <li>• Concise and well communicated Research Policy</li> </ul>
	1.7. Providing adequate human and material resources for laboratory services to support research for development efforts	<ul style="list-style-type: none"> <li>• Newly recruited laboratory staff</li> <li>• Adequate supply of laboratory materials</li> </ul>
<b>2. Dissemination of Research Results</b>	2.1 Encouraging staff to publish in high-rate journals and supporting their participation in local and international conferences	<ul style="list-style-type: none"> <li>• Increased publications i.e. scholarly journal articles, book chapters, books and conference papers</li> <li>• Increased participation in local and international conferences/workshops</li> </ul>
	2.2 Developing and sustaining the production of newsletters, press releases on usability of herbal and natural products	<ul style="list-style-type: none"> <li>• Regular production of agency's newsletters/press release on products</li> </ul>
	2.3 Improving web and social media presence	<ul style="list-style-type: none"> <li>• Regular update of website and social media channels</li> </ul>

## 4.2 EDUCATION AND TRAINING PROGRAMMES

<b>SO2:</b> to build up the critical mass of human resource to facilitate the development and integration of Nigeria herbs and natural therapies in the national health care delivery system;		
<b>Areas</b>	<b>Strategies</b>	<b>Key Performance Indicators</b>
<b>1. Education and Training</b>	1.1. Revitalising and commencing academic/training programmes at the College	<ul style="list-style-type: none"> <li>• Inaugurated Academic Board</li> <li>• Revised curriculum</li> <li>• Approved Academic Calendar</li> <li>• Accredited courses</li> </ul>
	1.2. Developing and organising demand-driven training workshops, seminars and conferences with specific objectives	<ul style="list-style-type: none"> <li>• Number of training programmes organised</li> <li>• Number and list of participants</li> </ul>
	1.3. Enhancing the capacity of principal officer and teaching faculties through exposure pedagogical training	<ul style="list-style-type: none"> <li>• Number of staff trained</li> <li>• Improved quality of staff</li> </ul>
<b>2. Educational and training Infrastructure and facilities</b>	2.1 Procuring new teaching and learning facilities and upgrading of existing one to accommodate online learning	<ul style="list-style-type: none"> <li>• New and functional facilities procured</li> <li>• Implemented Learning Management Systems</li> <li>• Dedicated website/portal for the college</li> </ul>
	2.2 Securing and developing permanent physical infrastructure and facilities for the college	<ul style="list-style-type: none"> <li>• Approved survey plan</li> <li>• Approved structural and architectural design</li> </ul>

### 4.3 NEW PRODUCT DEVELOPMENT

<b>SO3:</b> To exploit Nigeria medicinal herbs and natural therapies by developing them into new and safe products for use by Nigerians and across West-Africa.		
<b>Areas</b>	<b>Strategies</b>	<b>Key Performance Indicators</b>
<b>1. New Product Development</b>	1.1. Facilitating the development of herbal and natural products to prevent, treat and manage diseases including Sickle cell, Asthma, Ulcer/Gastrointestinal ailment, Infertility, Tuberculosis and Fibroid	<ul style="list-style-type: none"> <li>• At least one product developed per disease</li> <li>• Availability of products for use by Nigerians</li> </ul>
	1.2. Facilitating the development of nutritional supplements including Immune Booster/Blood builders for infants, pregnant women and the aged	<ul style="list-style-type: none"> <li>• At least one nutritional supplement products developed for the target users</li> <li>• Availability of products for use by Nigerians</li> </ul>
	1.3. Facilitating the development of Anti-Lipidemics drugs to manage lipids related ailments	<ul style="list-style-type: none"> <li>• At least one drug products developed</li> <li>• Availability of products for use by Nigerians</li> </ul>
	1.4. Facilitating the development of Anti-scabies (Bathing formulation) and Antiseptics to treat and manage skin conditions and wounds	<ul style="list-style-type: none"> <li>• At least one drug products developed for each condition</li> <li>• Availability of products for use by Nigerians</li> </ul>
	1.5. Facilitating the development of veterinary products for various use in animal husbandry	<ul style="list-style-type: none"> <li>• At least one vet. products developed for each condition</li> <li>• Availability of products for use by Nigerians</li> </ul>
	1.6. Enabling and supporting the protection and commercialization of products and inventions with support from relevant institutions	<ul style="list-style-type: none"> <li>• commercialised</li> <li>• Number of patents</li> <li>• Number of products</li> </ul>



## 4.4 BIORESOURCE DOCUMENTATION AND DEVELOPMENT

<b>SO5: To develop, document, and preserve Nigeria's herbs and natural therapies using various technologies including ICTs;</b>		
<b>Areas</b>	<b>Strategies</b>	<b>Key Performance Indicators</b>
<b>1. Bioresource Documentation and Herbarium Development</b>	1.1. Strengthening the Natural and Herbal Resource Documentation through ethnographic surveys, comparative analysis of phytochemical etc.	<ul style="list-style-type: none"> <li>• Number of surveys conducted</li> <li>• Published outputs and outcomes</li> </ul>
	1.2. Facilitating actions towards conservation of endangered species and transfer of natural healing arts knowledge and skills	<ul style="list-style-type: none"> <li>• Number of launched conservation projects</li> <li>• Number of people trained on natural healing arts</li> </ul>
	1.3. Reorganising the herbarium to include carpological/pickles	<ul style="list-style-type: none"> <li>• List of added specimens</li> </ul>
	1.4. Facilitating engagement between National Association of Natural and Traditional Medicine Practitioners (NANTMPS), scientist and researchers to document Nigeria herbs and natural therapies.	<ul style="list-style-type: none"> <li>• Number of interactive workshops organised</li> <li>• Active participation from all stakeholders</li> </ul>
	1.5. Establishing indigenous health systems and technologies department (outpatient clinic) to provide health consultation services to the public.	<ul style="list-style-type: none"> <li>• Established and functional department</li> <li>• Level of patronage</li> </ul>
	1.6. Digitising the herbarium and natural healing arts to increase visibility and availability to wider audience	<ul style="list-style-type: none"> <li>• Digitalised herbarium</li> <li>• Improved accessibility to the herbarium</li> <li>• Well documented natural healing arts</li> </ul>
<b>2. Plant Farms Management</b>	2.1 Improving the management of plants farms by deploying good agricultural practices such as greenhouse, drip irrigation system, good harvesting practices.	<ul style="list-style-type: none"> <li>• Well maintained plant farms</li> </ul>
	2.2 Sustaining cordial relationship especially among women and youths in communities hosting plant farms	<ul style="list-style-type: none"> <li>• Improved security at the plant farms</li> </ul>

## 4.5 IMPROVED HUMAN RESOURCE MANAGEMENT

<p><b>SO1:</b> To enhance institutional capacity in R&amp;D and actively engaged in research for development in herbal medicine and natural therapies</p> <p><b>SO2:</b> To build up the critical mass of human resource to facilitate the development and integration of Nigeria herbs and natural therapies in the national health care delivery system</p>		
Areas	Strategies	Key Performance Indicators
1. <b>Staff Development and Welfare</b>	1.1. Supporting and encouraging staff to embark on postgraduate programmes, self-improvement and career advancement courses	<ul style="list-style-type: none"> <li>• Increment in number of staff with PhDs</li> <li>• Number of staff trained yearly</li> </ul>
	1.2. Stimulating academic culture through knowledge sharing forum among staff	<ul style="list-style-type: none"> <li>• Regularity of academic seminars</li> </ul>
	1.3. Supporting staff to participate conferences (local and international);	<ul style="list-style-type: none"> <li>• Level of participation in conferences</li> </ul>
	1.4. Inculcating of team spirit, synergy and good attitude to work among staff	<ul style="list-style-type: none"> <li>• Zero petition</li> </ul>
	1.5. Providing adequate facilities, working tools, materials and enabling environment for staff.	<ul style="list-style-type: none"> <li>• Access to fast internet services</li> <li>• Installed alternative power supply</li> <li>• Regular procurement of laboratory materials</li> </ul>
2. <b>Qualitative Staff</b>	2.1 Recruiting quality staff with PhDs and MScs to increase academic staff to about 60% of the workforce within the next five years	<ul style="list-style-type: none"> <li>• Number of PhDs and MScs recruited</li> </ul>

## 4.6 INFRASTRUCTURAL FACILITIES AND EQUIPMENT

<b>SO6: To develop critical infrastructural facilities, equipment and material resources to support research, new product development, education/training, laboratory and consultancy services in herbal medicine and natural therapies;</b>		
<b>Areas</b>	<b>Strategies</b>	<b>Key Performance Indicators</b>
<b>1. Physical Infrastructure</b>	1.1. Developing critical infrastructure such as clinical research facilities, product development facilities, modern herbarium, insectary, and farm houses	<ul style="list-style-type: none"> <li>Completed and furnished infrastructure</li> </ul>
	1.2. Developing of the headquarters complex at Abuja	<ul style="list-style-type: none"> <li>Completed and furnished HQ complex</li> </ul>
<b>2. Facilities and equipment</b>	2.1 Exploiting ICTs for Full Library Automation and MIS for research and digitisation of Herbal Products and Natural Therapies	<ul style="list-style-type: none"> <li>E-library</li> <li>Digitised herbarium</li> </ul>
	2.2 Acquiring operational vehicles for logistics support	<ul style="list-style-type: none"> <li>Functional operational vehicles</li> </ul>
	2.3 Upgrading of internet facilities, uninterrupted power supply, offices spaces, etc.	<ul style="list-style-type: none"> <li>Access to fast internet</li> <li>Uninterrupted power supply in offices</li> </ul>

## 4.7 PROMOTION, ADVOCACY, NETWORKING AND COLLABORATION

<b>SO7:</b> To establish networks and actively collaborate with reputable local and international organisations for research and training in herbal medicine and natural therapies.		
<b>Areas</b>	<b>Strategies</b>	<b>Key Performance Indicators</b>
<b>Promotion and Advocacy</b>	1.1. Improving publicity and visibility of the Agency, its activities and products on all media platforms	<ul style="list-style-type: none"> <li>• Improved participation in agency's programme</li> <li>• Improved social media presence and volume of followers</li> <li>• Improved visits to website</li> </ul>
	1.2. Improving synergy among departments, units and zonal centres by harnessing smooth and free flow of information	<ul style="list-style-type: none"> <li>• Improved internal communication</li> </ul>
	1.3. Improving documentation of strategic activities including trainings, seminar and conferences	<ul style="list-style-type: none"> <li>• Well documented activities in audiovisuals and reports</li> </ul>
<b>Networking and Collaboration</b>	2.1. Identifying role model organisations and establishing partnership in herbal medicine and natural therapies	<ul style="list-style-type: none"> <li>• One role model and partner in China</li> </ul>
	2.2. Facilitating joint training and research programmes with relevant institutions in countries of the world	<ul style="list-style-type: none"> <li>• Number of joint training and research with partners</li> <li>• Outputs from the collaborations</li> </ul>
	2.3. Leveraging existing networks and initiate new ones for research, consultancies and staff exchanges	<ul style="list-style-type: none"> <li>• Number of contract research/ consultancies executed</li> <li>• Number of staff on exchange programmes</li> </ul>

## 4.8 IMPROVED FUNDING AND INTERNALLY GENERATED REVENUE

SO8: To substantially improve financial resources available and ensure accountability		
Areas	Strategies	Key Performance Indicators
1. Government Funding	1.1. Deploying participatory approach to planning, programming and budgeting	<ul style="list-style-type: none"> <li>Improved planning and budgeting system</li> <li>Zero-based Budgeting</li> <li>Improved level of performance across all KPIs</li> </ul>
	1.2. Improving engagement government funding agencies and supervisory ministry	<ul style="list-style-type: none"> <li>Prompt releases of funds</li> <li>Increased funding level</li> </ul>
	1.3.	
2. Grants, Supports and Aids	2.1. Prioritising the attraction of external funding from donor agencies and development partners.	<ul style="list-style-type: none"> <li>Volume of external funds attracted</li> </ul>
	2.2. Facilitating training for faculties on grants proposal writing	<ul style="list-style-type: none"> <li>Enhanced confidence in staff</li> <li>Level of participation in training</li> </ul>
	2.3. Institutionalising reward system and sharing formular for secure grants	<ul style="list-style-type: none"> <li>Guide for grants management</li> </ul>
3. Internally Generated Revenue	3.1. Improving and expanding the marketing of training and academic programmes in herbal and natural medicine technologies	<ul style="list-style-type: none"> <li>Number of new programmes developed</li> <li>Increase in IGR due to expanded scope</li> </ul>
	3.2. Facilitating activities towards commercial exploitation of herbal products, natural healing arts, laboratory services and production/processing technologies	<ul style="list-style-type: none"> <li>Increased IGR</li> </ul>
	3.3. Commercialising Laboratory services to the include sample testing and analysis for other related institutions, scientists and researchers	<ul style="list-style-type: none"> <li>Funds accrued from laboratory services</li> <li>Increment on IGR</li> </ul>

## 5 IMPLEMENTATION PLANS: PROJECTS/ACTIVITIES IN AREAS OF NEEDS AND TIMELINE

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An implementation plan is an addendum or supporting document that links strategic objectives and rationale to key activities that when implemented would support the actualisation of the strategic plan. The implementation plans outline actors and/or stakeholders responsible for the implementation of strategic objectives, **with the details of all resources required to undertake them** and timeframe for completion of actions. The implementation plans (see appendix 9.1) considered major activities needed in the short, medium and long terms to enable effective monitoring and performance evaluation of the strategic plan.

## 6 THE MONITORING AND EVALUATION (M&E) FRAMEWORK

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The primary aim of the M&E is to determine the performance of the objectives of the strategic plan. Another reason for conducting M&E is to understand the efficiency, effectiveness, impact and sustainability of the strategic plan. To effectively monitor and evaluate the implementation of this strategic plan and in addition to the existing internal mechanism, a Project Monitoring and Evaluation Committee (PMEC) should be constituted. The membership of the committee should cut across all functional areas of activities of the Institute. The goal of the PMEC is to oversee the implementation of this strategic plan and other projects task by task and to ensure completion within the scope, time, and budget. Specific terms of reference include:

- i. Review the performance of projects activities in line with the objectives, outputs and expected outcomes;
- ii. Compares actual performance with planned performance;
- iii. Identify corrective actions needed and monitor corrective changes;
- iv. Document accurate and timely information on project/activities outputs;
- v. Prepare a quarterly report for submission to the office of the Director-General/CEO.

The PMEC shall convene bi-monthly to monitor progress and review performance based on the key performance indicators articulated under each strategic objectives and thematic areas in section 4.

## 7 RISK ASSESSMENT AND MANAGEMENT

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According to ISO 31000:2009, 'risk is the effect of uncertainty on objectives'; where uncertainty simply connotes the state (even partial) of deficiency of information relating to the understanding or knowledge of a decision or an occurrence. Simply put, the exposure to the possibility of a bad outcome is risk. If all decisions, including strategic decisions, have some chance of things not going as expected, it is critical to deliberately take actions to shift the odds in the organisation's favour through appropriate risk management approaches.

Key factors that could affect the implementation were analysed and considered as part of the overall assessment/management framework. The first step to mitigating the risk effects of a workable mandate will involve crucial processes such as identifying, quantifying and documenting the risks as threat. Risk management strategies for this strategic plan include continuous review of actions, monitoring and evaluation of performance; ensuring enabling working environment, building team spirit and synergy, placing high premium on staff welfare and development, among others. This will mitigate and reduce potential threats and set the institute on a more sustainable path. This also gives room for the institute to effectively respond with an approach that reduces the likelihood of bad outcomes and increases the upside to the strategy. Ultimately, the expectation is continued and enhanced opportunities for sustainable growth through value creation and protection.



## 8 SUMMARY AND CONCLUSION

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Summarily, this strategic plan document is a deliberate effort, put together to serve as a roadmap for NNMDA for the next five years (2023-2027). The plan aims to chart a new and more rewarding pathway for NNMDA and her stakeholders for better-quality performance and enhanced productivity. To achieve this, seven strategic objectives were articulated alongside strategies to guide implementation of the plan. In order to have a holistic view of the happenings and trends of events in NNMDA's ecosystem, environmental scanning was carefully implemented to identify the critical gaps in the institute. Consequently, SWOT and PESTLE analytical tools were adopted to examine the strengths, weaknesses, opportunities and threats within and around/outside the institute. Data/Information were cautiously sought through staff engagement, questionnaire survey, focus group discussion, experts and stakeholder's consultations, in-depth interview and technical meetings with the Strategic Planning Implementation Team (SPIT).

Information gathered were structured along the lines of eight (8) thematic areas namely; Demand-driven R&D, New Product Development, Bioresource Documentation and Development, Education and Training, Improved Human Resource Management, Infrastructural Facilities and Equipment, Education and Training, Promotion, Advocacy Networking and Collaboration, and Improved Funding and Internally Generated Revenue.

To effectively achieve the objectives and future outcomes set out in this document, a number of action plans have been developed for implementation under the eight (8) strategic thematic areas with matching key performance indicators. This strategic plan is also supported with a carefully crafted implementation plan (detailing activities and cost estimates), a monitoring and evaluation framework and a risk assessment/management framework.

In conclusion, the goals of embarking on this critical assignment and the expected outcomes of formulating this strategic plan document might not be achieved unless all stakeholders and concerned interest groups are committed to the plan. Firstly, it is pertinent that all members of staff are sensitized, and departmental goals are aligned with the strategic plan document. Also, the provision of adequate human and financial resources to drive the actualization of the implementation plan is key. Lastly, a structured mechanism should be put in place for effective and regular monitoring and evaluation.

## 9 APPENDICES

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The following sections constitute the appendices to the Strategic Plan (2023 – 2027).

## 9.1 IMPLEMENTATION PLAN

### 9.1.1. DEMAND-DRIVEN RESEARCH AND DEVELOPMENT

Strategies	Actions/Projects/Programmes	Budget	Time	KPIs
<b>Research for Development and Dissemination of Research Results</b>				
1.1. Active engagement in Research for Development especially targeted at demystifying the myths surrounding Natural and Traditional Medicine	<ul style="list-style-type: none"> <li>Conduct clinical trials on products and widely propagate key outcomes on efficacies and safety</li> <li>Trainings on Packaging techniques for TMPs to meet international standard and global practices</li> </ul>	<ul style="list-style-type: none"> <li>240m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1 - 5</li> </ul>	<ul style="list-style-type: none"> <li>Number and outcomes of clinical trials conducted</li> <li>Increment in patronage Nigeria herbal products</li> </ul>
1.2. Conducting research projects in identified areas of needs in the national healthcare system	<ul style="list-style-type: none"> <li>Studies and Development of Herbal hypertension and Diabetes Therapies</li> </ul>	<ul style="list-style-type: none"> <li>220m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2</li> </ul>	<ul style="list-style-type: none"> <li>Project reports documenting key findings and outcomes</li> </ul>
	<ul style="list-style-type: none"> <li>Studies and Development of herbal triple action antimicrobial cream and soap for the management of various skin diseases</li> </ul>	<ul style="list-style-type: none"> <li>75m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2</li> </ul>	<ul style="list-style-type: none"> <li>Project reports documenting key findings and outcomes</li> </ul>
	<ul style="list-style-type: none"> <li>Further standardization and phase 1 clinical Trial of Immune Booster Anti-infective for the prevention and Management of viral Infections including COVID-19 (NNMDA'S koviron</li> </ul>	<ul style="list-style-type: none"> <li>250m</li> </ul>	<ul style="list-style-type: none"> <li>Year 3</li> </ul>	<ul style="list-style-type: none"> <li>Project reports documenting key findings and outcomes</li> </ul>

	<ul style="list-style-type: none"> <li>Phase 1 Clinical Evaluation of Agency's NAFDAC listed Products (Anti-Malaria &amp; Anti-Diabetic)</li> </ul>	<ul style="list-style-type: none"> <li>250m</li> </ul>	Year 3	<ul style="list-style-type: none"> <li>Project reports documenting key findings and outcomes</li> </ul>
	<ul style="list-style-type: none"> <li>Continuation of Development of Tea form, Tablets and Caplets Herb – Herb Combination of Anti Malaria Therapy from Artemisia Anua Moringa and others</li> </ul>	<ul style="list-style-type: none"> <li>190m</li> </ul>	Year 4	<ul style="list-style-type: none"> <li>Project reports documenting key findings and outcomes</li> </ul>
	<ul style="list-style-type: none"> <li>Continuation of Research, Development Production of Herbal Arthritis creams, Lotions and Balms</li> </ul>	<ul style="list-style-type: none"> <li>256m</li> </ul>	Year 2	<ul style="list-style-type: none"> <li>Project reports documenting key findings and outcomes</li> </ul>
1.3. Engaging in collaborative research in Natural and Herbal Medicine with relevant Institutions	<ul style="list-style-type: none"> <li>Facilitate active participation of partners in any of the research listed in 1.2</li> </ul>	N/A	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Outputs of engagement with partners</li> <li>Number of engagements with partners</li> </ul>
1.4. Facilitating the recruitment of top-quality staff (PhDs) in relevant areas and encouraging staff with Masters to pursue PhD.	<ul style="list-style-type: none"> <li>Recruitment of PhDs in Research and other needed cadres.</li> </ul>	<ul style="list-style-type: none"> <li>70m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-4</li> </ul>	<ul style="list-style-type: none"> <li>Increment in number of PhD holders</li> <li>Number of MSc., holders supported to obtain PhD</li> </ul>
1.5. Facilitating the training and development of manpower in critical areas and global best practices in R&D such as grants application, advanced research methodologies, etc	<ul style="list-style-type: none"> <li>Expose research staff to training on global best practices in R&amp;D such as grants application, advanced research methodologies in areas of herbal medicine</li> </ul>	<ul style="list-style-type: none"> <li>50m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2 - 3</li> </ul>	<ul style="list-style-type: none"> <li>Number of staff trained in critical areas</li> <li>Increment in rate of productivity (measured by average number of publications per staff)</li> </ul>
1.6. Institutionalising a guide for setting research agenda and management	<ul style="list-style-type: none"> <li>Develop a Policy on R&amp;D and Innovation for the Agency</li> </ul>	<ul style="list-style-type: none"> <li>20m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1</li> </ul>	<ul style="list-style-type: none"> <li>Concise and well communicated Research Policy</li> </ul>

1.7. Providing adequate human and material resources for laboratory services to support research for development efforts	<ul style="list-style-type: none"> <li>Scientific Equipment, Accessories, Reagents and Materials</li> </ul>	<ul style="list-style-type: none"> <li>1.5b</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-5</li> </ul>	<ul style="list-style-type: none"> <li>Newly recruited laboratory staff</li> <li>Adequate supply of laboratory materials</li> </ul>
2.1 Encouraging staff to publish in high-rate journals and supporting their participation in local and international conferences	<ul style="list-style-type: none"> <li>Provide support staff to publish in high-rated journal and participation in local and international conferences</li> </ul>	<ul style="list-style-type: none"> <li>50m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2 - 5</li> </ul>	<ul style="list-style-type: none"> <li>Increased publications i.e. scholarly journal articles, book chapters, books and conference papers</li> <li>Increased participation in local and international conferences/workshops</li> </ul>
2.2 Developing and sustaining the production of newsletters, press releases on usability of herbal and natural products	<ul style="list-style-type: none"> <li>Produce regularly newsletter and press releases on efficacy of products</li> </ul>	<ul style="list-style-type: none"> <li>50m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Regular production of agency's newsletters/press release on products</li> </ul>
2.3 Improving web and social media presence	<ul style="list-style-type: none"> <li>Regularly engage the public through social media on activities of the agency</li> </ul>	<ul style="list-style-type: none"> <li>5m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Regular update of website and social media channels</li> </ul>

## 9.1.2. EDUCATION AND TRAINING PROGRAMMES

Strategies	Actions/Projects/Programmes	Budget	Time	Key Performance Indicators
<b>Education and Training, Infrastructure and facilities</b>				
1.1. Revitalising and commencing academic/training programmes at the College	<ul style="list-style-type: none"> <li>Inaugurate Academic Board, review of the Natural Medicine Curriculum to meet current trends around the globe and facilitate accreditation of courses by relevant regulatory bodies</li> </ul>	<ul style="list-style-type: none"> <li>5m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2</li> </ul>	<ul style="list-style-type: none"> <li>Inaugurated Academic Board</li> <li>Revised curriculum</li> <li>Approved Academic Calendar</li> <li>Accredited courses</li> </ul>
1.2. Developing and organising demand-driven training workshops, seminars and conferences with specific objectives	<ul style="list-style-type: none"> <li>Organisation of National Workshops, Seminars &amp; Conferences on Nigeria Traditional Medicine Education: Problems &amp; Prospects.</li> </ul>	<ul style="list-style-type: none"> <li>125m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2</li> </ul>	<ul style="list-style-type: none"> <li>Number of training programmes organised</li> <li>Number and list of participants</li> </ul>
1.3. Enhancing the capacity of principal officer and teaching faculties through exposure to pedagogical training	<ul style="list-style-type: none"> <li>Expose faculties and principal officers to pedagogical training</li> </ul>	<ul style="list-style-type: none"> <li>20m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2</li> </ul>	<ul style="list-style-type: none"> <li>Number of staff trained</li> <li>Improved quality of staff</li> </ul>
2.1 Procuring new teaching and learning facilities and upgrading of existing one to accommodate online learning	<ul style="list-style-type: none"> <li>Acquire state of the art teaching facilities and upgrade existing ones to support and facilitate effective teaching and learning</li> </ul>	<ul style="list-style-type: none"> <li>100m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2</li> </ul>	<ul style="list-style-type: none"> <li>New and functional facilities procured</li> <li>Implemented Learning Management Systems</li> <li>Dedicated website/portal for the college</li> </ul>
2.2 Securing and developing permanent physical infrastructure and facilities for the college	<ul style="list-style-type: none"> <li>Acquire parcel of land with relevant documentations</li> </ul>	<ul style="list-style-type: none"> <li>200m</li> </ul>	<ul style="list-style-type: none"> <li>Year 3</li> </ul>	<ul style="list-style-type: none"> <li>Approved survey plan</li> <li>Approved structural and architectural design</li> </ul>

### 9.1.3. NEW PRODUCT DEVELOPMENT

Strategies	Actions/Projects/Programmes	Budget	Time	Key Performance Indicators
<b>New Product Development</b>				
1.1. Facilitating the development of herbal and natural products to prevent, treat and manage diseases including Malaria Sickle cell, Asthma, Ulcer/Gastrointestinal ailment, Infertility, Tuberculosis and Fibroid	<ul style="list-style-type: none"> <li>Research/Products for the Prostate, breast and colon cancer</li> </ul>	<ul style="list-style-type: none"> <li>158m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-3</li> </ul>	<ul style="list-style-type: none"> <li>At least one product developed per disease</li> <li>Availability of products for use by Nigerians</li> </ul>
	<ul style="list-style-type: none"> <li>Herbal Medicine for prostate enlargement &amp; management of erectile dysfunction</li> </ul>	<ul style="list-style-type: none"> <li>200m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-3</li> </ul>	<ul style="list-style-type: none"> <li>Availability of products for use by Nigerians</li> </ul>
	<ul style="list-style-type: none"> <li>Malaria Vector Control Projects Development of Effective and Long Lasting Herbal Cream, Indoor Residual spray and outdoor Larvicide/Insecticide using non-Pyrenthoid Plants.</li> </ul>	<ul style="list-style-type: none"> <li>200m</li> </ul>	<ul style="list-style-type: none"> <li>Year 3-4</li> </ul>	<ul style="list-style-type: none"> <li>Availability of products for use by Nigerians</li> </ul>
1.2. Facilitating the development of nutritional supplements Including Immune Booster/Blood builders for infants, pregnant women and the aged	<ul style="list-style-type: none"> <li>Develop immune boosters and blood builders for infants, aged and pregnant women</li> </ul>	<ul style="list-style-type: none"> <li>200m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-3</li> </ul>	<ul style="list-style-type: none"> <li>At least one nutritional supplement products developed for the target users</li> <li>Availability of products for use by Nigerians</li> </ul>
1.3. Facilitating the development of Anti-Lipidemics drugs to manage lipids related ailments	<ul style="list-style-type: none"> <li>Develop Anti-Lipidemics drugs to manage lipids related ailments</li> </ul>	<ul style="list-style-type: none"> <li>50m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-3</li> </ul>	<ul style="list-style-type: none"> <li>At least one drug products developed</li> <li>Availability of products for use by Nigerians</li> </ul>

<p>1.4. Facilitating the development of Anti-scabies (Bathing formulation) and Antiseptics to treat and manage skin conditions and wounds</p>	<ul style="list-style-type: none"> <li>• Develop Anti-scabies and Antiseptics to treat and manage skin conditions and wounds</li> </ul>	<ul style="list-style-type: none"> <li>• 50m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 4-5</li> </ul>	<ul style="list-style-type: none"> <li>• At least one drug products developed for each condition</li> <li>• Availability of products for use by Nigerians</li> </ul>
<p>1.5. Facilitating the development of veterinary products for various use in animal husbandry</p>	<ul style="list-style-type: none"> <li>• Develop product for ectoparasites, as Herbal accaricides poultry anti parasites &amp; Egg production booster, herbal anti helminithics and anti-coccidiosis Livestock wound healing cream</li> </ul>	<ul style="list-style-type: none"> <li>• 158m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2-4</li> </ul>	<ul style="list-style-type: none"> <li>• At least one vet. products developed for each condition</li> <li>• Availability of products for use by Nigerians</li> </ul>
	<ul style="list-style-type: none"> <li>• Develop products for the treatment of Neglected Tropical Diseases (NTDs)- and Vector Control Solutions</li> </ul>	<ul style="list-style-type: none"> <li>• 205m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2-4</li> </ul>	<ul style="list-style-type: none"> <li>• At least one vet. products developed for each condition</li> <li>• Availability of products for use by Nigerians</li> </ul>
<p>1.6. Enabling and supporting the protection and commercialization of products and inventions with support from relevant institutions</p>	<ul style="list-style-type: none"> <li>• Secure and adequately protect new products with the NOTAP</li> <li>• Facilitate commercialization of products</li> </ul>	<ul style="list-style-type: none"> <li>• 25m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>• Number of products commercialised</li> <li>• Number of patents</li> </ul>



### 9.1.4. BIORESOURCE DOCUMENTATION AND DEVELOPMENT

Strategies	Actions/Projects/ Programmes	Budget	Timeframe	Key Performance Indicators
<b>Bioresource Documentation, Herbarium Development and Plants Farms Management</b>				
1.1. Strengthening the Natural and Herbal Resource Documentation through ethnographic surveys, comparative analysis of phytochemical etc.	<ul style="list-style-type: none"> <li>Ethnomedicinal/ Veterinary Survey and Documentation in selected Areas of Nigeria</li> </ul>	<ul style="list-style-type: none"> <li>205m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2 - 5</li> </ul>	<ul style="list-style-type: none"> <li>Number of surveys conducted</li> <li>Published outputs and outcomes</li> </ul>
	<ul style="list-style-type: none"> <li>Deploy and adopt information systems, Reprinting and Dissemination of Medicinal Plants Books of Nigeria and Biodiversity of Nigeria.</li> </ul>	<ul style="list-style-type: none"> <li>50m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2</li> </ul>	<ul style="list-style-type: none"> <li>Reprinted Books</li> <li>MIS for Documentation</li> </ul>
1.2. Facilitating actions towards conservation of endangered species and transfer of natural healing arts knowledge and skills	<ul style="list-style-type: none"> <li>Survey &amp; Documentation of Indigenous Non-Medication Heating Systems (Massage Therapy, Bone setting etc)</li> </ul>	<ul style="list-style-type: none"> <li>100m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-5</li> </ul>	<ul style="list-style-type: none"> <li>Number of launched conservation projects</li> <li>Number of people trained on natural healing arts</li> </ul>
1.3. Reorganising the herbarium to include carpological/pickles	<ul style="list-style-type: none"> <li>Upgrading and Maintenance of Herbarium</li> </ul>	<ul style="list-style-type: none"> <li>50m</li> </ul>	<ul style="list-style-type: none"> <li>Year 3</li> </ul>	<ul style="list-style-type: none"> <li>List of added specimens</li> </ul>
1.4. Facilitating engagement between National Association of Natural and Traditional Medicine Practitioners (NANTMPS), scientist and researchers to document Nigeria herbs and natural therapies.	<ul style="list-style-type: none"> <li>Organise annual workshop and seminar with NANTMPS and researchers</li> </ul>	<ul style="list-style-type: none"> <li>50m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Number of interactive workshops organised</li> <li>Active participation from all stakeholders</li> </ul>
1.5. Establishing indigenous health systems and technologies department (outpatient clinic) to provide health consultation services to the public.	<ul style="list-style-type: none"> <li>Create Outpatient clinic at the Headquarters</li> </ul>	<ul style="list-style-type: none"> <li>50m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2</li> </ul>	<ul style="list-style-type: none"> <li>Established and functional department</li> <li>Level of patronage</li> </ul>

1.6. Digitising the herbarium and natural healing arts to increase visibility and availability to wider audience	<ul style="list-style-type: none"> <li>• Digitize the herbarium</li> </ul>	<ul style="list-style-type: none"> <li>• 20m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2-3</li> </ul>	<ul style="list-style-type: none"> <li>• Digitalised herbarium</li> <li>• Improved accessibility to the herbarium</li> <li>• Well documented natural healing arts</li> </ul>
2.1 Improving the management of plants farms by deploying good agricultural practices such as greenhouse, drip irrigation system, good harvesting practices.	<ul style="list-style-type: none"> <li>• Deploy good farming practices and irrigation to plant farms</li> </ul>	<ul style="list-style-type: none"> <li>• 100m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 3-4</li> </ul>	<ul style="list-style-type: none"> <li>• Well maintained plant farms</li> </ul>
2.2 Sustaining cordial relationship especially among women and youths in communities hosting plant farms	<ul style="list-style-type: none"> <li>• Engage women and youths as farm assistants</li> </ul>	<ul style="list-style-type: none"> <li>• 10m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>• Improved security at the plant farms</li> </ul>

### 9.1.5. IMPROVED HUMAN RESOURCE MANAGEMENT

Strategies	Actions/Projects/ Programmes	Budget	Timeframe	Key Performance Indicators
<b>Quality Staff Development and Welfare</b>				
1.1. Supporting and encouraging staff to embark on postgraduate programmes, self-improvement and career advancement courses	<ul style="list-style-type: none"> <li>Staff Welfare and Support for Career Advancement</li> </ul>	<ul style="list-style-type: none"> <li>250m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1 -5</li> </ul>	<ul style="list-style-type: none"> <li>Increment in number of staff with PhDs</li> <li>Number of staff trained yearly</li> </ul>
	<ul style="list-style-type: none"> <li>Provision for Payment of Overtime/Support for Agency Staff on Master's Degree Programme.</li> </ul>	<ul style="list-style-type: none"> <li>250m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1 -5</li> </ul>	<ul style="list-style-type: none"> <li>Number of Staff supported</li> <li>Amount of funds expended</li> </ul>
1.2. Stimulating academic culture, synergy and team spirit through knowledge sharing forum among staff	<ul style="list-style-type: none"> <li>Regularly organize research seminars and knowledge sharing forum</li> </ul>	<ul style="list-style-type: none"> <li>5m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Regularity of academic seminars</li> </ul>
	<ul style="list-style-type: none"> <li>Inculcate of team spirit, synergy and good attitude to work among staff</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Zero petition</li> </ul>
1.3. Supporting staff to participate In conferences (local and international);	<ul style="list-style-type: none"> <li>Sponsorship of All Staff Across Cadres to Conferences and Workshop participation</li> </ul>	<ul style="list-style-type: none"> <li>150m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-4</li> </ul>	<ul style="list-style-type: none"> <li>Level of participation in conferences</li> </ul>
1.4. Providing adequate facilities, working tools, materials and enabling environment for staff.	<ul style="list-style-type: none"> <li>Regular supply of lab material, laptops, alternate electricity supply, fast internet, and safe working environment</li> </ul>	<ul style="list-style-type: none"> <li>250m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Access to fast internet services</li> <li>Installed alternative power supply</li> <li>Regular procurement of laboratory materials</li> </ul>
2.1 Recruiting quality staff with PhDs and MScs to increase academic staff to about 60% of the workforce within the next five years	<ul style="list-style-type: none"> <li>Recruitment of PhDs and MScs in Research and other needed cadres.</li> </ul>	<ul style="list-style-type: none"> <li>70m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-4</li> </ul>	<ul style="list-style-type: none"> <li>Number of PhDs and MScs recruited</li> </ul>

### 9.1.6. INFRASTRUCTURAL FACILITIES AND EQUIPMENT

Strategies	Actions/Projects/ Programmes	Budget	Timeframe	Key Performance Indicators
<b>Physical Infrastructure Facilities and equipment</b>				
1.1. Developing critical infrastructure such as clinical research facilities, product development facilities, modern herbarium, insectary, and farm houses	<ul style="list-style-type: none"> <li>• Completion of Experimental Animal House, - Construction of research Insectary, - Procurement and Maintenance of experimental Animals</li> </ul>	<ul style="list-style-type: none"> <li>• 200m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2-5</li> </ul>	<ul style="list-style-type: none"> <li>• Completed, furnished and functional infrastructure and facilities</li> </ul>
	<ul style="list-style-type: none"> <li>• Maintenance of Experimental Farms in Six-Geo Political Zones of Nigeria.</li> </ul>	<ul style="list-style-type: none"> <li>• 240m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2-5</li> </ul>	<ul style="list-style-type: none"> <li>• Well-maintained farms</li> </ul>
	<ul style="list-style-type: none"> <li>• Construction of Mini Farm Houses and Research. Facilities in the Agency's Experimental Farms in the Six – Geo Political Zones</li> </ul>	<ul style="list-style-type: none"> <li>• 600m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2-5</li> </ul>	<ul style="list-style-type: none"> <li>• Completed, furnished and functional infrastructure and facilities</li> </ul>
	<ul style="list-style-type: none"> <li>• General Office Rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>• 240m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1- 5</li> </ul>	<ul style="list-style-type: none"> <li>• Habitable and conducive offices</li> </ul>
	<ul style="list-style-type: none"> <li>• Acquisition &amp; Documentation of 20 Hectares of Land, Ogun State for the NCNMT</li> </ul>	<ul style="list-style-type: none"> <li>• 600m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1- 5</li> </ul>	<ul style="list-style-type: none"> <li>• Land C of O and other documents</li> </ul>
	<ul style="list-style-type: none"> <li>• Furnishing of Multipurpose Hall</li> </ul>	<ul style="list-style-type: none"> <li>• 50m</li> </ul>	<ul style="list-style-type: none"> <li>• Yea 3</li> </ul>	<ul style="list-style-type: none"> <li>• Well-furnished and functional hall</li> </ul>
	<ul style="list-style-type: none"> <li>• Upgrade of Products Development Infrastructure and Procurement of Equipment</li> </ul>	<ul style="list-style-type: none"> <li>• 430m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 3 - 5</li> </ul>	<ul style="list-style-type: none"> <li>• Function PDI and equipment</li> </ul>

	<ul style="list-style-type: none"> <li>• Procurement of R&amp;D Field Works/Farms Monitoring Equipment and project vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• 440m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2 -4</li> </ul>	<ul style="list-style-type: none"> <li>• Number of project vehicle purchased</li> </ul>
	<ul style="list-style-type: none"> <li>• Calibration, Validation &amp; General Repairs of Equipment in the Laboratory</li> </ul>	<ul style="list-style-type: none"> <li>• 91m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2 -4</li> </ul>	<ul style="list-style-type: none"> <li>• Functional laboratory equipment</li> </ul>
	<ul style="list-style-type: none"> <li>• Sinking of Boreholes, Overhead Tanks, Filtration System at 3 Zonal Centres – North- West, North- Central and South- East</li> </ul>	<ul style="list-style-type: none"> <li>• 90m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 4</li> </ul>	<ul style="list-style-type: none"> <li>• Functional borehole</li> </ul>
1.2. Developing of the headquarters complex at Abuja	<ul style="list-style-type: none"> <li>• Construction and Furnishing of HQ at Abuja</li> </ul>	<ul style="list-style-type: none"> <li>• 2bn</li> </ul>	<ul style="list-style-type: none"> <li>• Year 2-5</li> </ul>	<ul style="list-style-type: none"> <li>• Completed and furnished HQ complex</li> </ul>
2.1 Exploiting ICTs for Full Library Automation and MIS for research and digitisation of Herbal Products and Natural Therapies	<ul style="list-style-type: none"> <li>• Construction of digital library complex, Subscription to International Scientific Data Bases and procurement of books</li> </ul>	<ul style="list-style-type: none"> <li>• 500m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 3 - 5</li> </ul>	<ul style="list-style-type: none"> <li>• E-library</li> <li>• Digitised herbarium</li> </ul>
2.2 Acquiring operational vehicles for logistics support	<ul style="list-style-type: none"> <li>• Procurement of Project Vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• 465m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>• Functional operational vehicles</li> </ul>
2.3 Upgrading of internet facilities, uninterrupted power supply, offices spaces, etc.	<ul style="list-style-type: none"> <li>• Internet Bandwidth expansion</li> </ul>	<ul style="list-style-type: none"> <li>• 50m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>• Access to fast internet</li> </ul>
	<ul style="list-style-type: none"> <li>• Procurement of alternative power sources inverters and solars</li> </ul>	<ul style="list-style-type: none"> <li>• 100m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>• Uninterrupted power supply</li> </ul>

### 9.1.7. PROMOTION, ADVOCACY, NETWORKING AND COLLABORATION

Strategies	Actions/Projects/ Programmes	Budget	Timeframe	Key Performance Indicators
<b>Promotion, Advocacy, Networking and Collaboration</b>				
1.1. Improving publicity and visibility of the Agency, its activities and products on all media platforms	<ul style="list-style-type: none"> <li>Promotion and Advocacy programmes on Natural and Traditional Medicine</li> </ul>	<ul style="list-style-type: none"> <li>360m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1 – 5</li> </ul>	<ul style="list-style-type: none"> <li>Improved participation in agency’s programme</li> <li>Improved social media presence and volume of followers</li> <li>Improved visits to website</li> </ul>
	<ul style="list-style-type: none"> <li>Annual Public Sensitization Participation in ST&amp;I Expo and Herb Fest</li> </ul>	<ul style="list-style-type: none"> <li>250m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Number of participants</li> </ul>
	<ul style="list-style-type: none"> <li>Convening of an International Conference on Medicinal Plants and Natural Products Development</li> </ul>	<ul style="list-style-type: none"> <li>100m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2 and 4</li> </ul>	<ul style="list-style-type: none"> <li>Number of participants</li> <li>Communique</li> </ul>
1.2. Improving synergy among departments, units and zonal centres by harnessing smooth and free flow of information	<ul style="list-style-type: none"> <li>Establish cross-functional project team for R&amp;D projects, NPD Projects and others</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Improved internal communication</li> </ul>
1.3. Improving documentation of strategic activities including trainings, seminar and conferences	<ul style="list-style-type: none"> <li>Adequately resource the PR unit to document and improve internal and external communication</li> </ul>	<ul style="list-style-type: none"> <li>10m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-2</li> </ul>	<ul style="list-style-type: none"> <li>Well documented activities in audiovisuals and reports</li> </ul>
2.1. Identifying role model organsations and establishing partnership in herbal medicine	<ul style="list-style-type: none"> <li>Identify and partner with a role model organization and individuals in TMPs</li> </ul>	<ul style="list-style-type: none"> <li>5m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>One role model and partner in China</li> </ul>

and natural therapies				
2.2. Facilitating joint training and research programmes with relevant institutions in countries of the world	<ul style="list-style-type: none"> <li>Organize regular workshop and carry out research jointly with partners</li> </ul>	<ul style="list-style-type: none"> <li>25m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Number of joint training and research with partners</li> <li>Outputs from the collaborations</li> </ul>
2.3. Leveraging existing networks and initiate new ones for research, consultancies and staff exchanges	<ul style="list-style-type: none"> <li>Organize regular staff exchange and consultancies with partners</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Number of contract research/consultancies executed</li> <li>Number of staff on exchange programmes</li> </ul>

### 9.1.8. IMPROVED FUNDING AND INTERNALLY GENERATED REVENUE

Strategies	Actions/Projects/ Programmes	Budget	Timeframe	Key Performance Indicators
<b>Government Funding, Grants, Supports and Aids, Internally Generated Revenue</b>				
1.1. Deploying participatory approach to planning, programming and budgeting	<ul style="list-style-type: none"> <li>Adequate training/workshops on Government budgeting policy</li> </ul>	<ul style="list-style-type: none"> <li>250m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Improved planning and budgeting system</li> <li>Zero-based Budgeting</li> <li>Improved level of performance across all KPIs</li> </ul>
1.2. Improving engagement government funding agencies and supervisory ministry 1.3.	<ul style="list-style-type: none"> <li>Creation of Intergovernmental collaborative committee</li> </ul>	<ul style="list-style-type: none"> <li>500m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Prompt releases of funds</li> <li>Increased funding level</li> </ul>
2.1. Prioritising the attraction of external funding from donor agencies and development partners.	<ul style="list-style-type: none"> <li>Creation of Intergovernmental collaborative committee</li> </ul>	<ul style="list-style-type: none"> <li>250m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Volume of external funds attracted</li> </ul>
2.2. Facilitating training for faculties on grants proposal writing	<ul style="list-style-type: none"> <li>Engagement of professional in grants attraction</li> </ul>	<ul style="list-style-type: none"> <li>100m</li> </ul>	<ul style="list-style-type: none"> <li>Year 2-3</li> </ul>	<ul style="list-style-type: none"> <li>Enhanced confidence in staff</li> <li>Level of participation in training</li> </ul>
2.3. Institutionalising reward system and sharing formular for secured	<ul style="list-style-type: none"> <li>Sensitization workshop and adequate/ periodical</li> </ul>	<ul style="list-style-type: none"> <li>100m</li> </ul>	<ul style="list-style-type: none"> <li>Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>Guide for grants management</li> </ul>



grants	meetings			
3.1. Improving and expanding the marketing of training and academic programmes in herbal and natural medicine technologies	<ul style="list-style-type: none"> <li>• Creation of natural medicine college</li> </ul>	<ul style="list-style-type: none"> <li>• 500m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>• Number of new programmes developed</li> <li>• Increase in IGR due to expanded scope</li> </ul>
3.2. Facilitating activities towards commercial exploitation of herbal products, natural healing arts, laboratory services and production/processing technologies	<ul style="list-style-type: none"> <li>• Creation of natural medicine linkages/emporium /consults</li> </ul>	<ul style="list-style-type: none"> <li>• 250m</li> </ul>	<ul style="list-style-type: none"> <li>• Year 1-5</li> </ul>	<ul style="list-style-type: none"> <li>• Increased IGR</li> <li>• Funds accrued from sales</li> </ul>
3.3. Commercializing Laboratory services to include sample testing and analysis for other related institutions, scientists and researchers	<ul style="list-style-type: none"> <li>• Commissioning of the Laboratory complex</li> <li>• NINAS Certification of the Lab complex</li> </ul>	<ul style="list-style-type: none"> <li>• 500M</li> </ul>	<ul style="list-style-type: none"> <li>• YEAR 1-5</li> </ul>	<ul style="list-style-type: none"> <li>• Funds accrued from laboratory services</li> <li>• Increment on IGR</li> </ul>

## 9.2 ABOUT STRATEGIC PLANNING

Strategic planning (SP) is an organisational management activity that is used to set priorities, focus energy and resources, strengthen operations, ensure that employees and other stakeholders are working towards common goals, establish agreement around intended outcomes/results, as well as assess and adjust the organisation's direction in response to a changing environment. The strategic plan is a requirement for sustained competitive advantage for organisations. Competitive advantage is what keeps great organisations ahead of their competitors. Rothaermel (2012) argues that organisations that have competitive advantage perform much better financially than other companies in the industry, or better than the industry average.

Strategic planning is a virile tool in strategic management; it entails looking into the future, identifying trends and issues in areas of interest against which to align organisational priorities. SP also aligns departments, divisions, sections, units or teams within an organisation to a higher-level strategy. Strategy is often all about achieving a set of goals in the most effective and efficient manner possible. Deploying the right strategy, coupled with efficient and effective management of resources and business information, offers substantial level of comparative advantage on the organisation, and by so doing, making it more competitive, stronger and impactful.

Strategic planning provides a blueprint for achieving organisation's goals; understanding the organisational objectives of a strategic corporate plan will help to create efficient plans that guide organisation's growth (Root, 2014:1). The key deliverable of strategic planning is a *strategic plan*. A strategic plan is a document used to communicate the organisation's goals, the actions needed to achieve those goals, and all the other critical elements developed during the planning exercise.

The benefits of strategic planning can be summarised as follows: *enhancing co-ordination by bringing together all business unit strategies within an overall corporate strategy, controlling by reviewing performance and progress toward objectives, identifying and exploiting future marketing opportunities, enhancing internal communication between personnel, and encouraging personnel to have favourable attitude to change* (Aldehayyat and Twaissi, 2011).

There are wide and varied frameworks and methodologies for strategic planning and management; however, there is no fixed rule regarding the right framework/methodology, as most would likely follow a similar pattern and have common attributes. Many frameworks cycle through some variation on some very basic phases including:

- analysis or assessment, where an understanding of the current internal and external environment is developed;
- strategy formulation, where high level strategy is developed and a basic organisation level strategic plan is documented;
- strategy execution, where the high-level plan is translated into more operational planning and action items; and
- evaluation or sustainment/management phase, where ongoing refinement and evaluation of performance, culture, communications, data reporting, and other strategic management issues occur.

Irrespective of the methods/frameworks adopted, the strategic planning process itself is of immense value to the organisation as the final plan. The knowledge and information harvested through surveying the past/current position, the stakeholders'

viewpoints on critical issues and the operational environment are all really critical to the organisation's value addition. The synergy created among various working groups, including internal and external stakeholders, and the positive ambience during the various phases also constitute huge gains to the organisation. The benefits and gains often result in seamless implementation of various strategic initiatives, and contribute to the accomplishment of the strategic objectives.

## **9.1 METHODOLOGY AND APPROACH**

Strategic planning takes place in a complex and ever-changing business environment; hence, the need to deploy a methodological framework that ensures interest of various groups of stakeholders is acknowledged. It was with this understanding that the participatory planning approach was deployed in the development of this 5-year strategic plan for NNMDA.

Participatory planning is a set of processes through which diverse groups and interests engage together in reaching a consensus on a plan and its implementation. The participatory approach is a combination of the top-down and bottom-up methodologies. It has been deployed to solve complex interdisciplinary problems which require both local and scientific knowledge, driven bottom-up by local needs and priorities, and top-down by leadership and regulatory responsibilities. It is adaptive and evolves dynamically with changing conditions. The approach ensures that consensus is built in identifying and defining developmental challenges, as well as proffering solutions, strategies and initiatives for their extenuation. Important participatory tools that were deployed include:

- i. Staff engagement, negotiation and mediation;
- ii. Questionnaire survey, focus group discussion, key informant interviews, and in-depth interviews;
- iii. Experts and stakeholders' consultations and participation using appropriate media; and
- iv. Technical meetings of the Strategic Planning Implementation Team (SPIT – constituted by management) with the consultant.

The strategic planning process was facilitated by a consultant in consultation with SPIT. In order to have effective process, the following tools and techniques were adopted:

- i. Environmental scanning using SWOT and/or PESTLE analyses;
- ii. Performance Evaluation and Gap analysis;
- iii. Revisiting of the Institute's Vision, Mission and Objectives;
- iv. Development of objectives, strategies and initiatives;
- v. Development of implementation/action plan, and KPIs;
- vi. Development of Monitoring and Evaluation Framework; and
- vii. Cost estimation of implementation.

These tools and techniques allowed critical assessment of previous, existing and proposed programmes, policies and initiatives, addressed their areas of shortcomings, strengthened the positive outcomes, and developed SMART objectives, strategies, new initiatives plus key performance metrics.

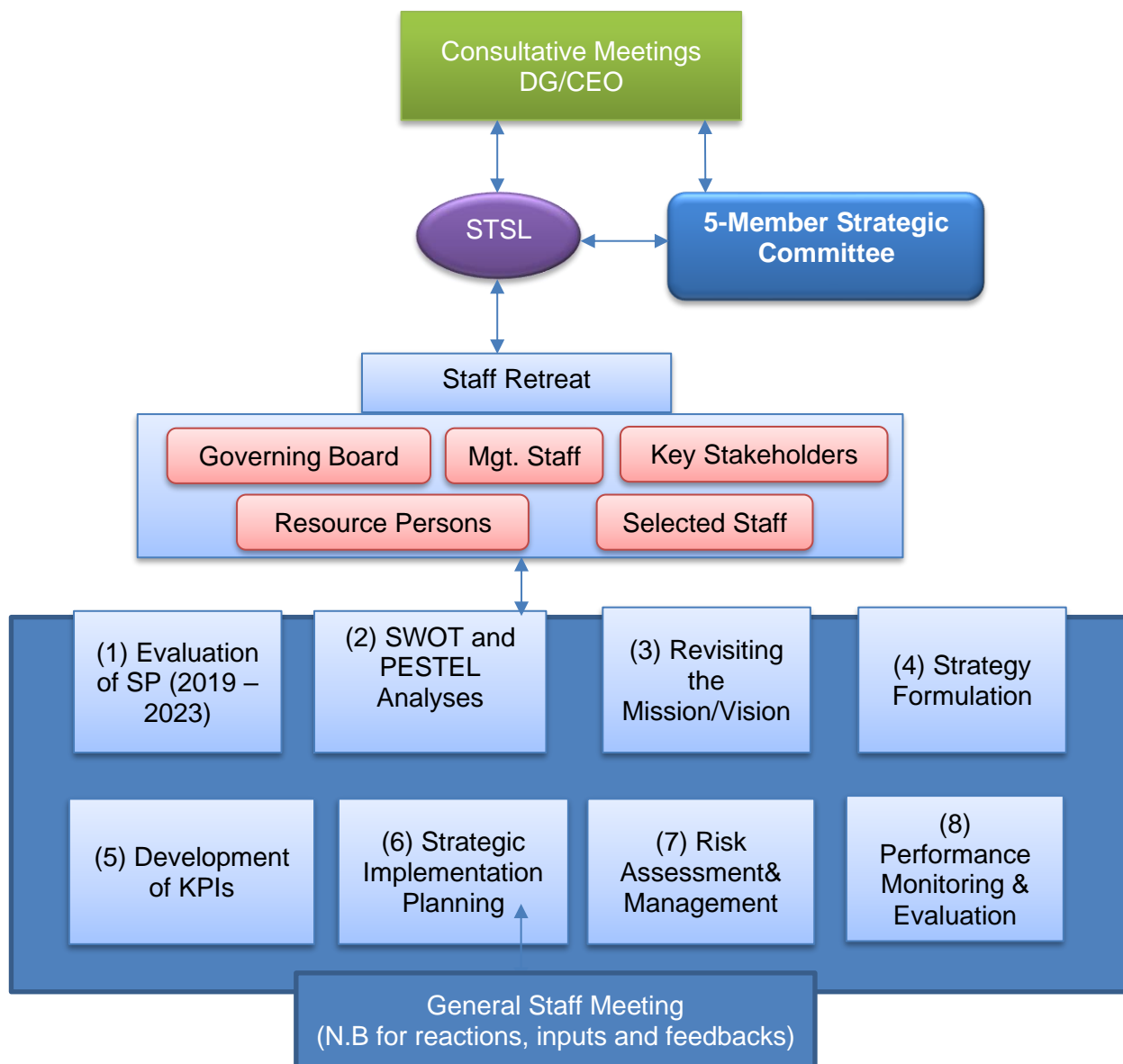


Figure 2: Summary of Activities leading to the strategic plan

### **9.3 ABOUT SWOOT TECHNOLOGY SOLUTIONS LIMITED**

SWOOT Technologies Solution Limited, incorporated in Nigeria in 2007, is a result driven consulting firm that defines its success by the financial performance and sustainable growth of its clients. SWOOT combines extensive local knowledge of Nigerian environment and years of understudying the emerging markets in Africa with a global perspective to evolve adaptive and disruptive innovations for sustainable developments in areas of science and innovation for development. SWOOT is driven by the quest to;

- understand and find solutions to how science, technology and innovation can be used for community-based developments.
- utilise science, technology and innovation for developments in Africa
- utilise science, technology and innovation to gain competitiveness for organisations both in the private and public sector.

STSL over the years, have demystified this conundrum through experiences working in various sectors from industries to the academia. SWOOT partners with clients to deliver high value from using technology as a tool for improving efficiency and exploring blue oceans. SWOOT develops and implements ground breaking ideas to turn intelligence information to creating values for people.

Our Value Propositions lie in the following:

- Business Incubation
- Renewable Energy Development,
- Environmental Impact Assessment (EIA)
- Jobs and Skills Mapping
- Capacity Building
- Project Management
- Project/Programmes Monitoring and Evaluation
- Science, Technology and Innovation Promotion
- Strategic Planning & Development Policies
- Gender Studies
- Human Resources Management
- Contractual Services
- Risk Assessment and Management

#### **9.3.1 Our Vision**

To be a globally acknowledged consulting firm in Science and Innovation for development

#### **9.3.2 Our Mission**

To explore the opportunities within Science & Technology through the use of adaptive and disruptive innovation to create value for our clients, foster inclusive community-based growth and national developments.

#### **9.3.3 Contact Information**

##### **SWOOT Technology Solutions Limited**

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Tel: +2348033449687 | +2348066223550  
E-mail: swoottechnologysolutionsltd@gmail.com

## 9.4 PICTURE FROM IN-HOUSE PRE-RETREAT INTERACTION WITH MANAGEMENT AND STAFF OF NNMDA

## 9.5 PICTURES FROM THE RETREAT



## 9.6 PARTICIPANTS LIST

S/N	NAME	RANK
1	Pharm Victor Terah-Patrick	Chairman Governing Board
2	Pharm David Erabhahiemen	Director FMSTI
4	Dr.(Mrs) Euchariah Nwaichi	Director, Linkages, UNIPORT
5	Dr. Etatuvie Samuel O	DG/CE
6	Mr. Adedoyin A.O	D/HRM
7	Dr. Nwokeke C.C	D/BDDD
8	Dr Orgah A.E	D/PDD
9	Mr. Fashina O.F	DD/PROC
10	Mr. Ojo O.N	DD/ACCTS
11	Mrs. Ani Stella	DD/Legal
12	Mr. Effa M.O	DD/ST
13	Mrs. Egwim C.N	DD/APD
14	Mrs. Bakare H.	DD/RED
15	Mrs. Effa A.A	CLT/LAB
16	Mr. Oluwatumise Amos	CA/AUDIT
17	Dr. Salihu T	CRO/RPIP
18	Mr. Mbaoji C.	CRO/BDDD
19	Mr. Ajaegbu H	CRO/BDDD
20	Dr. Oyouwevotu L	CL/ICT
21	Mr. Ifreke L	CRO/PDD
22	Mrs. Chimezie E.U	CRO/PDD
23	Mr. Lawal Hassan	CRO/SERV
24	Mr. Fasan I.T	CRO/PDD
25	Mr. Ude M.C	CA/ACCTS
26	Dr. Ahonsi C	PRO/RES
27	Mr. Udoh A.H	PEO/ADMIN
28	Mrs. Chidebe I. N	PRO/RES
29	Mrs. Adesanya E	SAO/PRO
30	Mrs. Obinna Chidinma	SAO/ADMIN
31	Mr. Bibinu D.S	SRO/RES
32	Mr. Odeyemi B.J	DRIVER
33	Mr. Bolarinwa O	DRIVER
34	Prof. Willie O. Siyanbola	Chairman STSL
35	Prof. Stephen Adegbite	Consultant STSL
36	Mr. Bimbo Siyanbola	MD, PaulEsther Consulting
37	Dr. Mike Awoleye	ICT Consultant, AISPI, OAU
38	Dr. Gbenga Oye	Research Consultant STSL
39	Dr. Tosin Ilevbare	Research Consultant, STSL
40	Mr. Isaac Oluyi (FNIPR)	Communication Consultant, STSL
41	Mr. Ayodele Odu (FCA)	Financial Consultant, STSL
42	Mr. Femi Akindimeji	Project Manager
43.	Mr. Taofeek Sherrif	Project Secretary