



THE NIGERIAN ACADEMY OF SCIENCE

STRATEGIC PLAN

2013-2017



The Nigerian Academy of Science
National Secretariat
Academy House
8a Ransome Kuti Road, University of Lagos
PMB 1004, University of Lagos Post Office,
Akoka, Yaba, Lagos, Nigeria
Tel: (+234) 8089622442

Website: www.nas.org.ng

Email: admin@nas.org.ng

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I. Historical Development

The Nigerian Academy of Science was inaugurated on 8th January 1977 at a solemn and impressive ceremony at the Conference Centre, University of Ibadan. Its inauguration marked the climax of five years of renewed effort by concerned Nigerian scientists under the auspices of the Science Association of Nigeria (SAN) to overcome the obstacles that had plagued previous efforts, of about twenty years, to found an Academy of Science. The main antecedent to the founding of the Academy was the formation of a committee of Fellows of SAN, to prepare a paper on the formation of the Nigerian Academy of Science. On 22 March 1975, the Committee adopted the draft statutes and also approved a list of forty-five Foundation Fellows for the Academy. The Committee also appointed a Steering Committee to prepare for the inauguration of the Academy which took place on 8 January 1977. Today, the Academy has grown to 149 members, covering all areas of Science, Engineering, Technology and Machine.

Aims and Objectives

The aims and objectives of the Academy are to promote the growth, acquisition, and dissemination of scientific knowledge and to facilitate its use in the solution of major problems of national interest. The Academy strives to do this by:

- Providing advice on specific problems of a scientific or technological nature presented to it by the government and its agencies, civil societies as well as by private organizations;
- Bringing to the attention of the government and its agencies problems of national interest that science and technology can help to solve; and
- Establishing and maintaining the highest standards of scientific endeavour and achievement in Nigeria, through the:
 - o publication of journals and reports
 - o organization of conferences, seminars, workshops and symposia
 - o recognition of outstanding contributions to science in Nigeria
 - o development of a working relationship with other national and international scientific bodies and academies.

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Activities of the Academy

The Academy has established a tradition of organising or sponsoring conferences, symposia, workshops, and public lectures periodically. Specifically, the Academy has, since 1989, embarked on lecture tours of the various states by Fellows as part of its campaign to popularize Science and Technology in Nigeria. So far, lectures have been held in many states of Nigeria including Ogun, Oyo, Ondo, Plateau, Rivers, Lagos, Cross Rivers, Borno, Anambra and Abia States, and the Federal Capital Territory, Abuja.

The Academy lectures include such topics as:

- ◆ Disease Epidemics in Nigeria: Are we Helpless? Professor C.O. Onyebuchi-Chukwu (Honourable Minister of Health), January 2013
- ◆ The new direction: A reflection on Nigeria's power sector development by professor Bart O. Nnaji FAS (Honourable Minister of Power) – May, 2012
- ◆ African and Cancer: Preparing for the next epidemic by Professor Isaac F. Adewole FAS – January, 2012
- ◆ Nigeria's mineral resources for wealth, industry, infrastructure, and life by Professor Siyan Malomo FAS – January, 2011.
- ◆ Meteorology, Climate Change and the Nigerian Economy, Dr. Anthony C. Anuforum, May 2013.
- ◆ Achieving an end to the AIDS Epidemic: Laying the Ground Work, Professor John A. Idoko, FAS, May 2014.

Publication of Scientific Literature

Arising from its public enlightenment activities, the Academy regularly publishes scientific materials. These include *The Proceedings of the Nigerian Academy of Science* - a highly reputable and prestigious journal in which Fellows as well as other scholars may publish the results of recent research. Academy public lectures and reports of workshops, conferences, and studies are also published.

Award of Prizes

The Academy is committed to recognising and rewarding outstanding contributions in the various branches of science. It does this through the award of the following prizes:

- ◆ AU-TWAS Young Scientists National Award: This was instituted in collaboration with the African Union (AU), the Academy of Sciences for the Developing World (TWAS), and the Federal Ministry of Science and Technology. The award carries with it a cash prize of U.S \$5000

- ◆ The Nigeria Science Prize: The winner gets a \$100,000 cash for distinguished research; this is administered in collaboration with the Nigerian Liquefied Natural Gas (NLNG) Ltd
- ◆ The Nigerian Academy of Science Media Awards: These prizes have been instituted to promote quality media reporting of science in the Nigerian media. Two awards are given to the Science Print-Journalist and Science Broadcast-Journalist of the year respectively

II. *The Evolving Context*

A Voice for Science in a Policy Context

National professional bodies in science and engineering exist to mobilize and otherwise play an active role in the development and use of science and technology, and particularly in support and encouragement of science and engineering careers. A national academy of science is one such body, often pre-eminent in its ability to influence the highest levels of government and mobilize the synergy that would be found from the special mandates of other like-minded institutions and organisations.

The Nigerian Academy of Science plays certain specific roles, which include the following:

- (i) provide faithful and diligent advisory services to policy formulation and implementation;
- (ii) play an honest broker in matters between government and the public, or in matters of conflicting interest between two or more parties;
- (iii) provide mechanisms for the appropriate practice of science and engineering, especially in the delivery of services;
- (iv) encourage the definition of responsibilities of scientists and technologists towards the public, ensuring that they fulfil their obligations to society and their own professions;
- (v) provide programs and demonstrations that encourage the youth to seek careers in scientific and technological fields.

In order to develop such capacity within the country, the Academy would have to:

- Nurture the emergence of strong political will and commitment;
- Promote capacity-building for policy research, policy development, and policy implementation;
- Catalyze the establishment of key organizations or centres to define and uphold the culture and practice of science & technology (S&T); and

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- Strengthen institutions that provide and facilitate the growth and application of S&T

Rationale for a New Vision

The successful implementation of its 2007-2012 Strategic Plan had the Academy gain increasing prominence in Nigeria and the world. In particular, the Academy made big strides in increasing the size of its Fellowship including the election of more female scientists. NAS has become a major player in the science and technology community in Nigeria, offering independent advice to government and its agencies. It is noteworthy that, in 2012, the Academy was commissioned to assess the agencies of government in the science and technology sector.

By the end of the last Strategic Plan period, NAS had begun to get funding from major funding organizations around the world as a testament to the quality and relevance of its work. The Academy had also formed important international partnerships with several organizations globally. Also, NAS had been elected to serve on the Executive Boards of the Network of African Science Academies (NASAC), and the Inter-Academy Medical Panel (IAMP)

Table1: List of some of NAS' previous funders

International Funding Organizations	Local Funding Organizations
Bill and Melinda Gates Foundation (BMGF)	Central bank of Nigeria (CBN)
Ford Foundation	Ecobank Nigeria Plc
InterAcademy Fund (IAF)	Federal Ministry of Defence (FMoD)
InterAcademy Medical Panel (IAMP)	Federal Ministry of Information & Communications
Network of African Science Academies (NASAC)	Federal Ministry of Science and Technology (FMST)
Pfizer Global Pharmaceuticals	Federal University Ndufu Alike (FUNAI)
Save the Children UK	Lagos State Government
United States' Department of State	Nasarawa State Government
United States National Academies (USNA)	National Agency for Science and Engineering Infrastructure (NASENI)
	National Universities Commission (NUC)
	Nigeria Atomic Energy Commission (NAEC)
	Nigeria LNG Ltd. (NLNG)
Rockefeller Foundation	Nigerian Communications Commission (NCC)

Alliance for Health Policy and Systems Research (WHO) United Nations Children's Fund (UNICEF)	Nigerian Geological Survey Agency (NGSA)
	Raw Materials Research and Development Agency (RMRDC)
	Schlumberger Nigeria
	Science and Technology Education Post Basic (STEP-B)
	University of Lagos (UNILAG)
	Zinox Technologies
	Federal University, Lafia
	Pfizer Pharmaceuticals Ltd
	GlaxoSmithKline
	TY Danjuma Foundation
	Federal Institute of Industrial Research Oshodi

However, given the complexity of the modern world and the challenges faced, the need for unbiased evidence-based advice on the right application of science has never been greater.

There are aspects of national development where an academy of science would have comparative advantage in addressing. The dimension of time is particularly critical for planning and developing a strategy; early intervention often secures a competitive edge, and building of skills not only embodies technology but also requires long gestation periods. The promise of science and technology thus has to become a key element of the strategy for accelerated national development.

New opportunities are also arising that must be explored. These include:

- Emergence of new information technologies that are facilitating participation in global knowledge dissemination, expanding affordable access to latest global research findings, and spurring industrial growth through technological advancement;
- New governance arrangements that are leading to a more open society;
- Deregulation policies that would gradually open up markets; and
- A national economy that is growing stronger as the country becomes more open

III. Building for the Future

Vision and Role for the Nigerian Academy of Science

Vision

The vision of the Academy is an improved quality of life for the Nigerian society through the promotion and application of sound science and technology.

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Mission

The mission of the Academy is to strengthen the nation's ability to deliver the fruits of science to the society by the acquisition, growth, and dissemination of sound scientific knowledge and facilitation of its use in the solution of major national problems.

Core Values

The core values of the Academy shall include the following:

- merit
- pursuit of excellence
- credibility
- volunteerism
- service orientation
- evidence-based hallmark
- relationship-building
- commitment

Achieving the Vision: Major Strategic Issues for the Next Five Years

The Academy has identified four strategic issues, as continued from its previous Strategic Plan, as key to building its capacity to fulfil its vision and mission. These are Governance, Resource Mobilization and Funding, Membership, and Visibility.

IV. The Strategic Issues

The Strategic Plan for 2013 to 2017 supports the Academy's core activities which are classified into the following groups as programmes:

- policy interventions
- public education and outreach
- building future generation of scientists (through supportive mentoring)
- publications (scientific and general purpose articles); and
- external relations

Annex 1 provides the detailed Action/Implementation Plan needed to operationalise the Strategic Plan. For each objective; activities, targets (outputs), time frame, and responsibility are identified.

Issue 1: Governance

Goal: To create a governance structure for long term development of the Academy

Objective 1: Ensure compliance with NAS Statutes

- Circulate existing ones to members and ask for suggestions for amendment
- Collate suggestions, produce draft, and circulate for finalization
- Amend statutes with respect to participation of Fellows in NAS activities

Objective 2: Ensure adequate human resource capacity for NAS activities

- Employ competent staff
- Create professional development opportunities for staff
- Staff diversification in other areas of science

Objective 3: Increase the involvement of Fellows in the activities of the Academy

- Circulate Fellows' directory to all for revision
- Publicize NAS activities to all Fellows

Objective 4: Strengthen functionality of all sectional committees

- Review the composition of sectional committees
- Provide budget allocation for committee activities
- Define processes and procedures for issuing statements through sectional committees on behalf of the Academy in response to topical issues

Issue 2: Resource Mobilization and Funding

Goal : To develop a sustained funding base to support the Academy's programmes and activities

Objective 1: To leverage on advocacy and collaboration

- Reaching out to governments and stakeholders of indigenous foundations such as the T.Y Danjuma Foundation, Dangote Foundation etc to propose ways the Academy can work with them
- Advocate to NAS Fellows to cultivate relationships with organizations that can support NAS
- Staff and Fellows should be involved in competitive grant proposals and incentives should be given for such proposals
- Participate in donor-sponsored events

Objective 2: To have the Academy recognised by legislative charter

- Lobby the National Assembly / Presidency for the enactment of a legislation in favour of the Academy
- Lobby to position NAS as an agency that can be asked to provide advice to government and its agencies on national issues/problems of scientific or technological nature

Objective 3: To launch the Academy's endowment fund

- Seek more funds from the government .i.e. an additional \$5,000,000.00
- Getting an endowment fund with the issue of building a befitting Secretariat for NAS 40th anniversary at FCT Abuja.
- Getting funding support for research
- Expand the fundraising committee to include an endowment committee

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Objective 4: To increase NAS internally generated revenue

- Increase membership dues by 10% within 2 years

Issue 3: Membership

Goal: To strengthen the Academy through membership and participation in its activities

Objective 1: To strengthen the Fellowship profile of the Academy with respect to gender and geographical spread.

- Seek out more merit-based female candidates for nomination (about 20%) to improve gender balance
- Canvas the under-represented geographical areas for qualified candidates for nomination (at least 10%)

Objective 2: Improve membership spread with respect to area of specialization

- Encourage Fellows in under represented specialties to nominate more of their colleagues

Objective 3: To nurture career development of young scientists and researchers.

- Work closely with the Nigerian Young Academy to ensure the identification and nomination of promising young scientists as members
- Nominate young scientists to attend conferences, and for grants, awards, and prizes

Issue 4: NAS Visibility

Goal: To ensure that NAS is increasingly known by relevant stakeholders and the public

Objective 1: Provide relevant and useable science information to the public

- Ensure the availability of the NAS Journal publication, newsletters, peer-reviewed journals and reports
- Create and maintain a column in a national newspaper
- Report on cutting edge research conducted by scientists and young researchers
- Hold meetings with governments and its agencies and invite MDAs to NAS activities
- Ensure that public lectures / symposia are running and held in various zones of the country

Objective 2: To improve NAS visibility internationally and cultivate strategic international participation

- To attain key positions in international organizations like ICSU, IAP, IAMP, NASAC
- Seek partnership (through MOUs) with academies of BRICS countries
Develop strategic partnerships with universities and research institutions internationally.

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Strategic Plan for 2013-2017

ISSUE 1: GOVERNANCE TO CREATE A GOVERNANCE STRUCTURE FOR THE LONG TERM DEVELOPMENT OF THE ACADEMY				
Activity	Time/deadline	Indicator	Next Steps	Person responsible
Objective (1) Ensure compliance with NAS Statutes				
I. Circulate existing Statutes to all Fellows	June 2013	Statutes circulated	The Secretariat is to send out, to all Fellows, the existing Statutes document and collate comments.	Executive Secretary/ Secretariat/ Council
ii. Collate any comments for response and or possible amendment of Statutes				Secretariat/ Council
iii. Amend Statutes with respect to participation of Fellows in NAS activities	December 2013	Revised Statutes drafted and published		Secretariat
Objective (2) : Ensure adequate human resource capacity for the Academy/NAS activities				
i. Employ more competent staff to cover more specialty areas	December 2014 / Ongoing	Staff with relevant competencies are identified and recruited	The Council should ensure that staff professional diversification is attained to cover other science competencies (aside from Health)	Executive Secretary/ Council
ii. Create professional development opportunities for staff	Annually	Funding is made available for annual training for staff		
Objective (3) :Increase the involvement of Fellows in the activities of the Academy				
i. Circulate Fellows' Directory to all for revision.	March 2013	Fellows' Directory updated. Also	Fellows should be contacted to update their	Executive Secretary/Secretariat

<p>ii. Publicize NAS activities to all Fellows.</p> <p>iii. Create e-newsletter to send regularly to Fellows</p> <p>iv. Commence electronic</p>	<p>On going</p> <p>March 2014</p> <p>January 2015</p>	<p>published in the NAS annual report.</p> <p>Mails sent out informing all Fellows of NAS activities</p> <p>E-newsletters published</p> <p>E-voting started</p>	<p>details as applicable</p> <p>The Secretariat should routinely disseminate information on NAS activities to Fellows</p> <p>Commence negotiations with IT consultants to ensure e-newsletter and e-voting</p>	<p>Secretariat</p> <p>Secretariat</p> <p>Council/ Secretariat</p>
Objective (4): Improve functionality of Sectional Committees				
<p>i. Review composition of sectional committees</p> <p>ii. Provide budget allocations for activities</p> <p>iii. Define process and procedure for issuing statements through Sectional Committees on behalf of the Academy in response to topical issues</p>	<p>March 2013</p> <p>on going</p> <p>June 2013</p>	<p>Revised list of Sectional Committees membership drafted and disseminated defining tenure of service</p> <p>Process for issuing NAS statements defined</p>	<p>Sectional committees will meet more often (physically and electronically)</p> <p>Publications Committee Chair to work with Sectional Committee Chairmen to identify individuals with expertise in topical issues to write articles</p>	<p>Academic Secretaries / Sectional Committee Chairs</p> <p>Publications Committee Chair/ Sectional Committee Chairs</p>

				to publish in newspapers and advise the Academy on how best to respond to national issues.	
Issue 2: RESOURCE MOBILIZATION AND FUNDING					
To develop a sustained funding base to support the Academy's programmes and activities					
Activity	Time/deadline	Indicator	Next Steps	Person responsible	
Objective (1): Develop a sustained funding base					
i. Disseminate NAS products to donors per year	Annually	Products disseminated to a minimum of 20 donors annually	NAS should set up an institutional advocacy strategy that will reach out to government MDAs	Staff and Fellows	
ii. Cultivate a closer relationship with government and donor organizations through courtesy visits	Annually	At least 10 courtesy visits annually		President/ Secretariat	
Write competitive grant proposals	Annually	At least six proposals per year, with a minimum of four fully funded. At least six workshops organized per year	NAS set up remuneration modalities for Fellows/staff for grants obtained	Secretariat	Academic Secretaries/ Sectional Committee Chairmen
iv. Participate in donor sponsored events	Annually	Attend at least four donor events annually	Sectional committees to develop linkages/attract grants from international/national grant awarding organizations		
v. Incentivize proposal writing to encourage Fellows to write some.	Annually	At least two fully funded proposals per year by Fellows			

Objective(2): To have NAS backed by legislative charter					
I. Lobby NASS/ Presidency for enactment of a bill for the Nigerian Academy of Science	January 2015	NAS chartered by legislation	Follow up with House of Representatives Committee on Science and Technology	President/ Executive Secretary	
Objective(3): Launch Endowment Fund					
i. Set up endowment committee	June 2013	Endowment Campaign Committee launched	Promote the activities of NAS to wealthy individuals and organizations and encourage them to endow the Academy	Chair, Fundraising Committee	
ii. Launch 40th endowment campaign and plan for NAS' 40th Anniversary (in 2017)	June 2014	Endowment campaign launched		President/ Chair Fundraising Committee	
iii. Ensure NAS has secretariat in Abuja by the 40th Anniversary	January 2017	NAS secretariat built in Abuja		Council/ Fundraising Committee	

Issue 3: MEMBERSHIP TO IMPROVE MEMBERSHIP SPREAD WITH RESPECT TO GENDER AND GEOGRAPHICAL LOCATION AND SPECIALTY				
Activity	Time/deadline	Indicator	Next Steps	Person responsible
i. Ensure more merit based female nominations /election.	By 2017	10% of total membership, since inception, to be women	NAS Fellows should do scientific advocacy in their fields of specialization to get more female candidates and under-represented locations nominated	All Fellows
ii. Ensure more nominations from under-represented locations.	By 2017	At least 6 % of total membership, since inception, from under-represented locations		Academic Secretaries/ Sectional Committees
iii. Send nomination procedure and assessment criteria points to all Fellows and committees.	June 2014	Nomination criteria made known and adhered to by Fellows.		Secretariat

ISSUE 4: NAS VISIBILITY TO ENSURE THAT NAS IS INCREASINGLY KNOWN BY RELEVANT STAKEHOLDERS AND THE PUBLIC				
Activity	Time/deadline	Indicator	Next Steps	Person responsible
Objective (1): Provide relevant and useable science information to the public				
i. Ensure the publication and dissemination of the NAS journal and newsletters, as well as write peer-reviewed journal articles and reports	Annually	Newsletters 2x per year Journal 2x a year	Get funding to re-launch journal	Chair, Publications Committee/Fellows/Staff
ii. Prepare policy papers and reviews of topical issues for newspaper columns	Annually	1 policy paper per quarter per Sectional Committee 12 newspaper articles/year 3 lectures per year with increasing attendance	Alert Sectional Committees about writing articles for journal, newspaper etc	Chair, Publications Committee/ Academic Secretaries/ Sectional Committee Chairs
iii. Organize public lectures /symposia	Annually	As necessary		Academic Secretaries/ President
Report on cutting edge research conducted by scientists and young researchers	Annually			Academic Secretaries/ President
Objective(2): To improve NAS visibility internationally and cultivate strategic international partnerships				
i. NAS seeks to attain key positions on international organizations e.g. ICSU,	On going	NAS holds an executive position in at least one international organization per time.	Convene annual meeting on state of science.	President/Foreign Secretary

<p>i. NAS seeks partnerships (through MOUs) with academies of BRICS countries</p>	<p>By 2017</p>	<p>Established partnership with academies in the BRICS countries.</p>		<p>President/ Foreign Secretary</p>
<p>ii. NAS seeks to build the capacities of other academies within West Africa</p>	<p>By 2017</p>	<p>Sign MOUs with West African academies and execute at least 3 joint proposals/projects with them</p>		<p>President/ Foreign Secretary</p>
<p>iii. NAS develops strategic partnerships with universities / research institutes internationally</p>	<p>By 2017</p>	<p>MOUs signed with a minimum of 1 key university and or research institute in each geopolitical zone in Nigeria</p>	<p>Seek the revival of the National Science Congress</p>	<p>President/ Public Affairs Secretary</p>



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NATIONAL SECRETARIAT

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