

The State of Research in Nigeria and The Way Forward.

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Abstract: This study examined the state of research in Nigeria. The cross sectional survey method was employed in the six(6) geopolitical zones of Nigeria to generate respondents. Responses randomly generated from an electronic mail distributed structured questionnaire were analyzed. Findings include lack of a national research policy and absence of a nationally identifiable legal framework for the organization of research in Nigeria.

Keywords: *Research, way forward and Nigeria*

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I. INTRODUCTION

Research is a very important activity in the planning/organization of the living conditions of a people and involves a methodological and rigorous approach with the aim of bringing a new and explicit response to a clearly defined problem (Morenikeji 2006). It contributes to the advancement of knowledge in a particular field, or the application of existing knowledge to new use(s). It is indispensable in the qualitative improvement of the living conditions of the Nigerian people and indeed the people of other countries. This is why every nation and organization strives to put in place a number of activities as a starting point in the establishment of national support for the research sector.

A number of establishments/institutions are established in Nigerian to take care of particular aspect of research with the view to articulating and channeling their findings towards the achievement of national development. Some of the areas of operation of these institutions include but not limited to,

- a) Agriculture, here we have institutions like- the Cocoa Research Institute, Arable Crops Research Institute, Nigerian Institute for Oil Palm Research, Root Crop Research Institute etc;
- b) Education, here we have the National Education Research and Development Council, Nation Mathematical Center, National Universities Council, National Board for Technical Education, and others
- c) Science and technology, here are such institutions as Federal Institute of Industrial Research, National Office for Technology Acquisition and Promotion, National Space Research and Development, Project Development Institute, Technology Incubation Programme Nationwide, National Biotechnology Development Agency etc;

There are also a number of multi disciplinary research based institutions like the Universities and Colleges of technology. The issue of research in Nigeria has been pursued with vigour from many sectors and with the commitment of enormous resources – human, material and financial; with the consequence that there is a preponderance of research findings. Some of these findings are relevant, some others are not, while it is not uncommon to find spurious researches and research results. However, it is unfortunate that genuine findings are not sufficiently used by the general public and the industrial sectors.

The reliance of government on the prescriptions of international organizations like the World Bank (WHO) / International Monetary Fund (IMF), United Nations Development Programme (UNDP) and others has not helped matters. The industrial sector which is dominated by foreign parent companies/organizations resident in far away Europe, USA, China and Japan prefer to use research findings from their parent countries (Osuala, 1982) this has neither increased local content nor added value to local produce and manufactures, and so account for the present low pace of development in the country and indeed the entire sub-region.

There is therefore the need for the coordination of researchers, research institutions and their findings to ensure that the products of research are authentic, reliable and can be applied for national development purposes. The objective of this study is to summarize the status of research in Nigeria and to make suggestions and recommendations to researchers, research institutions, governments, technical and financial partners and other stakeholders on how to effectively incorporate the products of this all important sector in national development efforts.

II. METHODOLOGICAL APPROACH

The approach of study embarked here is the cross sectional survey method. It involved the stratification of the country in to six (6) zones. These zones coincided with the geo-political zones of Nigeria. Random samples of states, tertiary institutions and NGO's were collected in that order from the zones. Two (2) high institutions-universities, colleges of technology and sometimes research based NGO's were selected.

A well structured questionnaire was designed by the researcher and where necessary, reviewed/amended by three (3) eminent scholars. It was pretested through a pilot study. Finally, the amended questionnaire was administered to randomly selected respondents in the various institutions previously selected through random sampling technique by means of electronic mail system. The use of electronic mail system for the distribution of the questionnaire was considered expedient here mainly because it is time saving and economical. The summary of information retrieved from the survey exercise in the six (6) geo-political zones of Nigeria is as follows.

Table 1. Summary of information retrieved from the zones.

S/N	Zones	No of respondents	No of Retrained respondents	% of retrieved Responses
1	North- West	10	6	60%
2	North-East	10	7	70%
3	North-Central	15	10	66.6%
4	South- West	25	19	76%
5	South- East	20	15	75%
6	South-South	18	12	66.6%
Total	Six (6) zones	98	69	70.4%

III. FINDINGS

3.1 Research Policy in Nigeria

Submissions from all the respondents from all six (6) zones acknowledged the importance of research in national economic and social development but regret the absence of a national research policy, which is a framework for organizing and coordinating researchers, research institutions, technical and financial partners, donors and other stakeholders, and as well collate research findings and channel them to governments, industry and other end-users for the need socio-economic development.

In view of the multi-dimensional and multi-grain nature of research policy, the need for care and skill in its formulation cannot be overemphasized.

Whether research policy is a set of rules, principles, observations, or cause(s) of action relating to organization of research, researchers, research institutions, articulation of research teams and boundaries, application of research findings within a region, nation, organization or industry? It calls for a very careful and skillful formulation process. This care and skill should span from the time of policy "germination", to policy formulation, policy implementation and beyond to policy revision or modification (Umeh, 2007).

The fact remains that Nigeria needs a properly articulated national research policy that examines empirically and theoretically the interaction between innovation and technology, on the one hand, and economic, social, political and organizational process, on the other hand, has become imperative.

The study further indicated that research models in Nigeria are supported mainly by foreign funding agencies and countries and so remain semi-colonial in nature. Foreign domination in setting research priorities in the country has many negative consequences which out weigh the apparent benefits of research findings. Costello (2010) suggested the active involvement of national academic leaders and universities in the translation of research into practice as a remedy to the present situation where foreigners dictate the pace.

3.2 Research Objectives

Although the survey identified the absence of both a national research policy and a nationally identifiable legal framework for the organization of research in the country, there is however in existence pockets of research objectives that guild both individual and institutional researchers and researches. These objectives can be harnessed to form the starting point in the process of national research policy and research legal framework formulation.

Most researches in the country focus on certain priority areas like agriculture, medicine, transport, environment, culture, energy, education, population and polities. Researches in all these areas will achieve little or nothing in the absence of a national policy and legal framework that articulates, organizes and coordinates the activities of researchers, research institutions, technical and financial partners and indeed every stakeholder. The benefits of a national research policy are many and manifest in the improvement of knowledge/innovation and enhancement of the living standards of the entire citizenry.

3.3 Research Institutions:

The survey identified a good number of research institutions grouped around areas of their core competences. The major areas and some of the research institutions are -

a) Agriculture:

- National Cereal Research Institute, Badagri (NCRI)
- Institute of Agriculture Bauchi (IAR)
- Institute of Agric and Training Ibadan (IART)
- National Root Crop Institute, Umudike (NRCRI)
- Forestry Research Institute of Nigeria, etc.

b) Health / Medline:

- Nigeria Institute of Pharmaceutical Research and Development, Abuja
- Nigeria Institute of Medical Research, Lagos

c) Solid Minerals Development:

- Nigeria Mining Corporation
- Nigeria Coal Corporation

d) Industry:

- SMEDAN
- National Automobile Council
- National Sugar Development Council
- African Regional Centre for Design and Engineering Development.

e) Power and steel:

- Metallurgical Training Center
- National Metallurgical Research and Development Centre
- Nation Steel and Raw Materials Exploration Agency.

f) Education:

- National Education Research and Development Council
- National Mathematical Centre.

g) Science and technology:

- Federal Institution of Industrial Research.
- Raw Materials Research and Development Council
- National Information and Technology Development Agency
- Project Development Training Institute.

h) Education Institution:

- Federal Universities Commission
- Universities-public and private.
- Polytechnics-public and private- etc.

A detailed and comprehensive listing of research institution can be accessed from internet (FGN, 2010 and NUC 2010).

3.4 Organization of Research:

3.4.1 Institutions

Research is defines as “a process of finding answers to questions (Udo, 2004; Okpo, 2008). For a process to qualify as research, it must be planned, and this involves the diligent and systematic collection, analysis and interpretation of date. The planning function must of necessity commence with the organization of research institutions. Naturally, the first step in the organization of research institutions is the articulation of a national policy and the establishment of a legal framework that controls the processes.

These functions are very fundamental in the conduct of the research process. They set the objectives, boundaries, needs and procedures. In their absence, there is bound to be dire consequences, some of which are-

- a) None/ poor definition of area of activity of institutions/organizations.
- b) Duplication of researches
- c) Waste of resources-human, material and finance– a consequence of (b) before,

It becomes necessary that haste be made to put the relevant structures in place for the organization, coordination and control of research institutions. This will not only eliminate wastes but also channel knowledge to development.

Nigeria operates a flexible control arrangement where some research organizations are grouped under supervising ministries. These ministries are expected to organize and control the research institutions under them, while others are independent and self governing. This arrangement equates to the existence of sectoral governing councils. Each Federal Ministry has its network of research institutions. The Federal Government of Nigeria owns and manages policy oriented research institutions such as the Nigerian Institution of Foreign Affairs (NIIA), and the National Institute of Policy and Strategic Studies (NIPSS).

Education research initiatives are controlled and coordinated by the National Universities Commission, (NUC), Nigerian Education Research and Development Council (NERDC) and the National Board for Technical Education (NBTE).

3.4.2 RESEARCH

Nigeria has a good compliment of both local and foreign research institutions. The local institutions which are predominantly universities and polytechnics rely heavily on the foreign ones for orientation, partnerships and funding. This reliance has indicated negative consequences.

Castello (2010) observed that research models supported by funding agencies and countries remain semi-calomel in nature. Foreign domination in setting research priorities may have negative consequences which outweigh the apparent benefits of research findings.

It is also easily observed that in Nigeria research activities are skewed in favour of applied research rather than basic research. This can be explained by the concerns and priorities of foreign funding partners and donor institutions.

The apparent inclination of local research institutions toward foreign finance partners can be attributed to the meager funding from the federal government. Nigeria allocates less than 1% of GDP to research. This is embarrassingly discouraging and calls for redress. Little wonder, president Obasanjo's announcement towards the tail end of his administration of a \$5b endowment for science, and the earmarking of five (5) universities to benefit from the project was warmly greeted generally. The proposed endowment fund was expected to enable the Universities rank amongst the first 200 universities in the world. Regrettably, this proposal did not see the light of day (UNESCO, 2006).

3.43 Stakeholders in the research function:

In Nigeria there is an array of research institutions, these institutions range from State - owned to private and international research institutions. The state owned institutions predominate, accounting for over 85% and appear to specialize more on applied research. Universities, Colleges of technology and other tertiary institutions account for over 66% of public owned research institutions.

Like the research institutions, stakeholders in research are classified into the following groups:

a) National Scientific and Technological Research Centers (NSTRC). Example are:-

- i) Agricultural Research Council of Nigeria
- ii) National Universities Commission (NUC)
- iii) Raw Material Research and Development Council (RMRDC)
- iv) National Education Research and Development Council (NERDC)
- v) Federal Ministries.

b) Public Tertiary Educational Institutions-

All federal and state owned universities, polytechnics, and other tertiary institutions the country.

c) Non – State educational research institution:-

These include private universities and colleges of technology.

d) The private sector:

All research based NGO'S, and other private research centers.

A major and very worrisome characteristic of the local researchers and research institutions is that they carry out researches in isolation. Each researcher/stakeholder considers self an island and a reservoir of knowledge in the conduct of research. They give no attention to what others are doing, what they have done and how they did it. This has given rise to much duplicity of efforts and wastages. This lack of formal relationship between these Stakeholders can be attributed to the absence of a national research policy and a legal framework. This shortcoming has amply manifested in the quality, quantity and rate of application of research findings.

Consequently, research in Nigeria has little or no relevance in national economic, social and political development.

In terms of training and career advancement, researchers have not fared any better. This is so in spite of a good number of training centers and institutions. Training and career prospects are hampered by poor infrastructure, poor remuneration and low motivation.

There is also the issue of gender and rank of stakeholders. Figure on gender is skewed in favour of men, female researchers account for less than 5% of total population of researchers in the country. The situation becomes gloomier when the rank/status of female researchers is compared to that of their male counterparts.

Also, research institutions in Nigeria present top heavy personnel profile. This brings to bear the problem of generation gap - a situation where seasoned and proficient researchers retire and leave the scene without replacement.

3.5 Areas of research:-

A scrutiny of the areas of research conducted within the country indicated a concentration of activities in the area of applied research, with scanty studies on pure research. The main trusts of research in the country are in the field of applied research and include mainly the following:

- a) food and cash crop production
- b) forestry and stock production
- c) environment and water resources
- d) Agricultural mechanization
- e) Natural resource management and production systems
- f) Medicine and disease control,

The few researches in the field of pure research are in the following areas:

- a) culture, democracy, development and political studies
- b) science educational and population studies
- c) basic and applied mathematics chemistry, physics and computer science
- d) Linguistics, national languages, jurisprudence and administration

3.6 Research Funding and Decision-making.

Observations from the survey indicate that research findings are rarely put into action. Non-application of research findings is a phenomenon peculiar in the areas of economics, social and pure sciences. Decisions in these areas are usually prescribed by international organizations. Examples of such prescriptions in Nigeria include the structural adjustment programme (1984) and the currency devaluation programme (1986). However, research findings in the fields of medicine and agriculture are often put into practice. This has gone a long way in raising the standard of living of the people. It has also cushioned the incidence of poverty in the country.

3.7 Constraints to research:

The following constraints were found to act against the development of research and the application of findings in decision-making in Nigeria:

- a) Limited access to libraries, laboratories and IT facilities,
- b) Limited funding for research and few research grants,
- c) Limited and decaying infrastructures,
- d) Lack of political will to support research,
- e) High incidence of illiteracy,
- f) Low response rate- respondents have low priority to meet and interact with researchers,
- g) Security issues – the general restiveness in the Niger Delta and thereligious disturbances in the Northern parts of the country.

- h) Absence of research policy and a legal framework to guide the organization of researches,
- i) Most research financial and technical partners are foreigners. They tend to make researches in the country have colonial or semi-colonial orientation,
- j) Government and industry have limited capacity for the absorption of research findings,
- k) There is also the issue of generation gap in the local research institutions. Good and proficient researchers age out without replacement.

IV. THE WAY FORWARD:

Research being a continuous process should be functional, dynamic and sustainable. The Nigerian government and all stakeholders in the field of research should strive to put in place stable and sustainable structures that would remove constraints, enhance and promote research activities, and as well channel research results to end-users for application in the attainment of the much needed national economic and social development.

The following activities are required for the efficient and effective operation and utilization of research in Nigeria:-

- a) The formation of a national research policy and a legal framework that will not only identify the aim and objectives of research, but will in addition establish a framework for the organization, coordination and direction of researchers, research institutions and other stakeholders.
- b) Establishment of research data bank that will complement effectively the functions of the Nigerian Office of Statistics. This data bank will go a long way in ameliorating the incidence of data impasse and therefore enhance research.
- c) Well equipped libraries, research laboratories and IT facilities should be established and made accessible to researchers all over the country.
- d) The current state of limited and decaying infrastructures in research institutions, universities and polytechnics must be checked.
- e) The semi-colonial nature of research institutions in Nigeria must not continue. Researchers and research institutions must have a national outlook and orientation. Therefore, an internal mechanism for sustainable funding of research is an imperative.

A situation where the country allocates less than 1% GDP to all forms of research is unfortunate. Stakeholders in research must of necessity take up the challenge. Every tier of government should be compelled by law to set aside at least 2% of annual total revenue to research, and a mechanism set to monitor and regulate the disbursement and application of these funds.

- f) The twin issues of high illiteracy level and low response rate are acute problems in the Nigerian research environment. Illiteracy inhibits participation by majority of the population, while low response rate retards the pace at which the researcher operates. Mass and qualitative education is therefore recommended and the priorities of respondents must be redirected to encourage and facilitate research.
- g) Security is another problem that calls for immediate attention. To be thorough and comprehensive in the search for knowledge and innovation, researchers need no limitations. Access to every location in the country is an imperative. All the three tiers of government, institutions and the general public must ensure the security of lives and property. A safe environment is a primary requirement for effective conduct of research and implementation of research results.
- h) It is equally necessary that adequate support is given to the promotion and publication of research findings. This can be achieved by the establishment of journals and other communication media.
- i) Motivation is very important. Researchers-public and private-need motivation to remain at work and perform optimally. To this end, there is need for the establishment of award schemes for deserving researchers, creation of competition fund for research and institute a scholarship scheme for graduate students and research trainees.
Equally important is need for the working conditions of researchers-private and public- to be improved and gender disparity addressed. This will give impetus to a healthy, vibrant and balanced research institutions' staff content profile.
- j) there is an urgent need for the establishment of linkages and collaborations among researchers, research institutions and all stakeholders on the one hand, and governments, organizations and the general public on the other hand. This collaboration will foster the promotion and dissemination of research results, and hasten the transformation of such results to national development efforts.

V. CONCLUSION

Research is a function that propels the development of nations. A nation that invests prudently in research attracts immense benefits. For these benefits to be realized, efforts have to be brought to bear in removing all the constraints/obstacles that work against research and the application of research results. It is for this reason that this study recommends that Nigeria should take the business of research seriously by articulating and implementing a national research policy, a legal framework for the organization of research, a sustainable internal funding mechanism, promotion and utilization of research results, training and motivation of researchers/research workers, refurbishment of research institutions and the provision in the right qualities and

quantities of research infrastructures. These may not be easy, but with commitment and determination, they can be achieved and directed to changing positively the socio-economic history of Nigeria.

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