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Research and Sustainable Development in Nigeria: Challenges of Leadership in Nigeria

Kofo A. Aderogba
kofoaderogba@yahoo.com
Tai Solarin University of Education, Ijagun, Nigeria
and
Henry O. Majaro-Majesty
homjmj@yahoo.com
Tai Solarin University of Education, Ijagun, Nigeria

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Abstract: In Sub-Sahara Africa, research and development are occasionally characterized by mediocrity; and often the results are underutilized. The paper examined the challenges of research and sustainable development in Sub-Sahara Africa given the frantic needs for sustainable growth and development of the communities. Nigeria is used as a case study. A survey method was applied to collect data and information from a defined population in Nigeria. Tables of percentile, Likert Scales and in-depth analysis were used for analyses and presentation. Data and information for research and development are scarce and or not easily come by; the environments are not conducive; there are evidence of mediocrity in the results of research and thus underutilized, and or not used; honesty and objectivity of research are questionable; supports for research and development are limited; and educating and developing scholars are expensive. Leadership challenges are obvious. The paper indorses due recognitions to results of robust and objective research and development; massive supports of governments, corporate organizations, philanthropists, and others; and establishment of additional well-equipped research institutions/departments. It is of necessity to ensure visionary, creative, and transparent leaders to lead and bank results of research and development.

Keywords: Research and development, challenges, sustainable development, Nigeria

Introduction

The Sub-Saharan Africa, geographically, is the area of the continent of Africa that lies South of the Sahara. According to the United Nations, it consists of all African countries and territories that are fully or partially south of the Sahara (Barakat, 1993). While the United Nations geo-scheme for Africa excludes Sudan from its definition of sub-Saharan Africa, the African Union's definition includes Sudan but instead excludes Mauritania. It contrasts with North Africa, which is frequently grouped within the Middle East and North Africa (MENA) region, and most of whose states are members of the Arab League (largely overlapping with the term "Arab World"). The states of Somalia, Djibouti, Comoros, and the Arab-majority Mauritania (and sometimes Sudan) are, however, geographically considered parts of sub-Saharan Africa, although they are members of the Arab League as well (Barakat, 1993; Frishkopf, 2010). The United Nations Development Programme lists 46 of Africa's 54 countries as "sub-Saharan", excluding Algeria, Djibouti, Egypt, Libya, Morocco, Somalia, Sudan, and Tunisia (Markakis, 1998; United Nations Development Programme, 2021).

The Saharan and sub-Saharan regions of Africa have been separated by the extremely harsh climate of the sparsely populated Sahara, forming an effective barrier interrupted by only the Nile in the Sudan. The Sahara pump theory explains how flora and fauna (together with Homo sapiens) left Africa to penetrate the Middle East and beyond. African pluvial periods are associated with a Wet Sahara phase, during which larger lakes and more rivers existed (van Zinderen-Bakker, 1962).

The population in Sub-Saharan Africa is growing; and according to Global Trends (2020), the population was 1.04 billion in 2018; and 1.1 billion in 2019. About 62.90% are Christians, 30.20% are Muslims, 3.30% belief in Traditional Faiths, 3.20% are unaffiliated and others are 0.40%. Suffice to say that the population that speaks over 1,000 languages is multicultural, and of diverse political systems. It is a region of contrast.

The World Economic Forum on Africa was held in Cape Town, South Africa, (May 31- June 2, 2006), Fleming (2019) highlights five interconnected risks

impacting countries across the continent based on *The sub-Saharan Africa Risks Landscape* report founded on data and analysis taken from two key sources (global risks perception survey and the executive option survey of the World Economic Forum): Unemployment and underemployment, underinvestment in infrastructure, fiscal crisis, political change, and climate change.

Undoubtedly therefore, as earlier noted, conceptualizing the challenges requiring focused and sustainable research and development for any of the community or sector may not be out of place. Nigeria falls within this region, by location and attributes, it is exclusively a Sub-Saharan country in the Global South. Nigeria is thus the focus of the study.

Objectives of the Study and Research Questions

The paper examined the challenges of research and sustainable development in the Sub-Sahara Africa given the frantic needs for sustainable growth and development of communities in Africa using Nigeria as a case study. Principally, the paper:

1. Examined what research is carried out where in Nigeria;
2. Examined the status of research and development in Nigeria;
3. Outlined the challenges of research and development in the country; and
4. Made recommendations for sustainable research and development for holistic development in the country and generally in the sub-Sahara Africa.

Thus, the following research questions were answered to pursue the objectives stated:

i. What research and development are carried out where in Nigeria?

ii. What is the status of the research and development in Nigeria? and

iii. What are the challenges of research and development in the country?

Concept of Research and Development

Research and development (R&D) is the series of activities that companies undertake to innovate. It is often the first stage in the development process that results in market research, product development, and product testing. It represents the activities that organizations and communities undertake to innovate and introduce new

products and services or to improve their existing offerings. It allows an organization to stay ahead of its competition by catering to new wants or needs in the market. Companies and communities in different sectors and industries conduct R&D. Pharmaceuticals, semiconductors, and technology companies generally spend the most (Kenton, 2025). R&D is often a broad approach to exploratory advancement. Accounting for treatment of R&D costs can materially impact an organization's income statement and balance sheet.

Consistent with Kenton (2025), the concept of research and development is widely linked to innovation in both the corporate and government sectors. R&D allows a company to stay ahead of its competition. A company might not survive on its own and may have to rely on other ways to innovate without an R&D program such as engaging in mergers and acquisitions (M&A) or partnerships. Governments and organizations can design new products and improve their existing offerings through R&D.

R&D is distinct from most operational activities performed by a corporation. The research and/or development is typically not performed with the expectation of immediate profit. It is instead expected to contribute to the long-term profitability and or serviceability of a company/government. R&D may often allow companies to secure intellectual property including patents, copyrights, and trademarks as discoveries are made and products are created.

Organizations that set up and employ departments that are dedicated entirely to R&D commit substantial capital to the effort. They must estimate the risk-adjusted return on their R&D expenditures which inevitably involves risk of capital. There is no immediate payoff and the return on investment (ROI) is uncertain. The level of capital risk increases as more money is invested in R&D. Other organizations may choose to outsource their R&D for a variety of reasons including size and cost.

Organizations across all sectors and industries undergo R&D activities. Corporations experience growth through these improvements and the development of new goods and services. Pharmaceuticals, semiconductors, and

software/technology companies tend to spend the most on R&D. R&D is known as research and technical or technological development in Europe.

Many small and mid-sized businesses may choose to outsource their R&D efforts because they do not have the right staff in-house to meet their needs. Several different types of R&D exist in the corporate world and within governments. The type used depends entirely on the entity undertaking it and the results can differ. It may be: Basic Research, Applied Research, Development Research, and Fast Fact.

Incidentally, R&D offers several key benefits. It facilitates innovation, allowing organizations to improve existing products and services or letting them develop new ones to bring to the market. It is also a key component of innovation so it requires a greater degree of skill from the employees who take part. This allows companies to expand their talent pool which often comes with special skill sets.

The advantages go beyond corporations. Consumers stand to benefit from R&D because it gives them better high-quality products and services as well as a wider range of options. Corporations can therefore rely on consumers to remain loyal to their brands. It also helps drive productivity and economic growth.

One of the major drawbacks to R&D is its cost. It requires a significant investment of cash up front. This can include setting up a separate R&D department, hiring talent, and product and service testing. Innovation does not happen overnight so there's also a time factor to consider. It takes a lot of time to bring products and services to market from conception to production to delivery. Organizations stand the risk of being at the mercy of changing market trends because it takes time to go from concept to product. What they thought may be a great seller at one time may reach the market too late and not fly off the shelves when it is ready.

Literature Review

Woryi (2018) aver that the importance of research can never be underestimated in the ordinary life of man because research involves all things done by man as it is simply the accumulation of knowledge; and the careful, detailed, and systematic collection of data in other to increase stock of knowledge or information. He wondered what could be the problems of

research in Nigeria and possible solutions? That is, perceiving Nigeria as wealthy and blessed in resources with a population of over 180 million citizens. In his opinion, "Even in business, when you are about to introduce a new product into the market, your product must undergo a form of research called *Market Research* or *Market Survey*." He, however, identifies ten problems facing research and development in Nigeria and possible solutions: Lack of proper research ethics; ineffective research methodology; ineffective educational system; ineffective library systems; poor infrastructural management; low accessibility of data and information; insecurity; lack of funds for research; poor technological advancement; and political uncertainty. These are probably not out of place.

Woryi (2018) further infer that "any country with political uncertainty always finds its developmental process hard and unbearably slow. Political uncertainty is arguably the catalyst for most of the problems of research in Nigeria." He adds that issues of manpower at all levels, renumeration of researchers and availability of research material are serious issues. He called for direct financial and technical support from the government and other cooperate organizations; and continuous international assistance by providing fellowships, opportunities for field trips, prospects for visiting researchers and establishment of facilities for sustainable research and development.

Ezeogidi (2014) dwell on historical overview of education and standard of life since Nigeria's Independence in 1960, till 2014 and how poor infrastructural development has affected the education and global economic recession. But his findings are not just on the standard of education but also on research and development. He identified the unparallel negative impacts of electricity and power on research and development; and recommends that electricity should be number one infrastructure that may sustainably engender and propel robust and objective research and development in the contemporary Third World, Nigeria inclusive.

Specifically on adult education, Aderogba (2018) examined the extent of use of the research reports of scholars in

Nigeria. Only 2.33% of the 300 subjects interviewed agreed to "Very Well Used," 5.33% "Can't Say," but massive 52.00% picked "Not Used." Cumulatively, "Very Well Used," "Well Used," "Used" and Rarely Used" were the choices of 42.67%. Inversely, "Can't Say" and "Not Used" were chosen by 57.33%, that is, more than 50% of her respondents.

Similarly, the extent of use of the research report of other disciplines/fields of education were equally examined for comparison. There were no significant differences in the level of usage of the research reports emanating from the scholarly research works (Aderogba, 2018). Her work asked the question, "in what specific areas have the reports been applied/used?" The highest forms of application were "For promotion/elevation, recognition, etc." (95.67%) and "For referencing and citing in subsequent research works of scholars and students," (90.33%). "To enhance functional and remedial education for those young people who prematurely dropped out of the formal school system" (44.00%) and "To provide in-service and on-the-job vocational and professional training for different categories of workers and professionals to improve their skills," (43.67%), and others were picked by less than 50.00% of the respondents. Uses such as "For Educational Planning and Development of communities and the nation at large" was just 32.00%. Incidentally, there is no significant difference between the level of usage/application of the results of research in Adult Education and those other education related fields.

However, the low level of usage and or non-usage of the results of research had been alarmed by Wilson (1995) when he asserts that "relevant information known to be available may go unused in research and development because of information overload or because its use is excluded by deliberate policy. Exclusion by policy shows that research and development is not, and does not aim at always being, efficient in the sense of fully reflecting all available relevant information. It may still be efficient relative to chosen strategies of information use and non-use. Overload may be a sign of strategic error or may be accepted as routine and normal."

But, like many others, all these works are either two generic or too

narrow to determine the challenges of sustainable research and development in Nigeria and in the Sub-Sahara Africa. Woryi (2018) discuss the challenges under ten categories only. Ezeogidi (2014) only ruminates on infrastructures with emphasis on electricity and power. Aderogba (2018) dwell on adult education and other selected field of education. What about others attributes, and factors? Therefore, it is of necessity that the challenges facing sustainable research and development in the sub-Sahara Africa are further examined with scrutiny.

Methodology

A survey method using an e-questionnaire entitled *Challenges of Research and Sustainable Development in the Global South - Nigeria* was applied to collect data and information from a randomly selected sample of 220 respondents. The population is the governments, non-governmental organizations and policy makers, scholars, and businesses conglomerates in Nigeria. Administration of the questionnaire was through professional colleagues in 20 state capitals of the federation. The professional colleagues were used to because of the challenges of security; and to reduce cost. In-depth interviews were also conducted using telephone with some other professional colleagues in those states. Through those colleagues, we were able to estimate and ascertain the sources, uses and applications of research reports, problems of research and development, and others. It was also possible to estimate the volume of research reports by types and sources.

20 Secretaries to the state governments of the 20 states where the questionnaire was administered were interviewed to determine how much of research reports are being requested and or used for decision making in the last five years. Also, 20 research institutes and 20 university libraries were similarly contacted to inquire how many organizations have requested for result of completed research in any areas in the last five years. A director in the office of the Head of Service to the Federal Government of Nigeria was interviewed on what research and development reports are used for what, and the sources. The authors are in the profession of teaching and researching too; and they

have supervised students' research projects. They had each supervised over 200 theses and projects. Their over 30 years of experience were brought to bear. Tables of percentile, Likert Scales, and in-depth analysis were used for analyses and presentation of the data and information collected.

However, all the professional colleagues in those selected states were of great assistance as they were delighted at assisting in the administration of the questionnaire. The WhatsApp social media also drastically reduced the cost of telephone calls made to those states. By and large, massive, and robust data and information were collected for analysis and the inferences drawn.

Findings and Discussion

Research Question i: *What research and development are carried out where in Nigeria?* Table 1 summarizes. A respondent picked more than one type: 98.18% are theses/dissertations arising from student projects. 95.90% are replication of elements of prior projects, the two categories being the highest. The least are commissioned research and development (28.18%). Testing of soundness of tools, and testing rationality of experiments are 60.00% and 68.64% respectively.

Table 1: What research and development are carried out where in the Sub-Sahara Africa?

Research & Development	Frequency	Proportion (%)
Extension on earlier studies	179	81.36
Testing of soundness of tools	132	60.00
Testing the authenticity of procedures	186	84.55
Testing rationality of experiments	151	68.64
Replication of elements of prior projects	211	95.90
Arising from intuitions	166	75.45
Commissioned R & D	62	28.18
Theses/Dissertations*	216	98.18
Others (Specified)	220	100.00

* Arising from one or more of the above

Irrespective of the disciplines, the authorities and or the institutions concerned, there are massive reports hanging in the libraries, offices and

'stores' that are never referred. On the shelves of any lecturer in any university, for instance, there are, at least, as many as the number of students he might have ever supervised.

Table 2 shows how the reports of research were used in the last five years: Governments and government parastatals is 0.45%. Non-governmental organization is 1.81%. Business entities, 0.91%. Individuals and groups are 5.91%. Massive 91.36% is students; and the entire scholars (researchers), 100.00%, use it, that is, citing their respective colleagues and or making self-citations. As the academic sessions passed, many are trashed.

Table 2: How were the research reports used in the last five years?

Who uses the reports in the last one year	Frequency	Proportion (%)
Government and government parastatals	1	0.45
Non-governmental organizations (NGOs)	4	1.81
Business organizations	2	0.91
Scholars	220	100.00
Graduate and undergraduate students	201	91.36
Media houses	25	11.36
Individuals and groups	13	5.91
Monarchs	11	5.00
Others (Specified)	19	8.64

There are about 69 research institutes in Nigeria. They are established in various states of the federation with different mandates, and aimed at carrying out Research and Development (R & D) in different areas of human endeavour. They are staffed with professionals ranging from fellows and professors to first degree holders and or Higher National Diploma holders relevant to the mandates of each of them. In addition, there are support staff of divergent but relevant qualifications giving technical and administrative support services. Suffice to say that there are over 180 registered institutions (universities) and over 80 polytechnics teaching and researching in different areas of human endeavour too. The staffing ranges from Fellows, Professor Emeritus, Professors, to Assistant Lecturers, graduate students, undergraduate students, post-graduate diploma students etc. in the Research

Institutes, universities, and polytechnics. In addition to these categories, there are private individuals and groups, Freelance writers, Media Houses, and others who carried out research and development. They are probably not mere playwriters. Aside these groups, there are editors, and other journalists of newspapers, magazines and periodicals who are prolific in research and development. Mostly, their works are for advancement in status (promotion), pursuit of credentials, stipends, and others. The proportion of commissioned projects are negligible, Table 3.

Table 3: Where, and who carry out the research and development programmes

Where Research & Development are carried out	Who carries out the Research & Development	Mandates / Comments
Research Institutes	Research Fellows, Professors, Associate Professors, Research Assistants, etc.	For advancement status (promotion), few are commissioned; and others
Universities & colleges	Professor Emeritus, Professors, Associate Professors, Senior Lecturers, Lecturer, Assistant Lecturers, graduate students, undergraduate students, post-graduate diploma students etc.	For advancement in status (promotion), very limited are commissioned; pursuit of credentials and others
Polytechnics & colleges	Senior Principal Lecturers, Principal Lecturers, Lecturers, Assistant Lecturers, Lecturer, etc.	For advancement of status (promotion), rarely commissioned, and others
Private individuals, Consulting Associates & groups	Research Fellows, Professor Emeritus, Associate Professors, Professors, Senior Lecturers, Lecturer, Assistant Lecturers, Senior Principal Lecturers, Principal Lecturers, Lecturers, Assistant Lecturers, Senior	"Societal" recognition, advancement in knowledge, rarely commissioned, and others

	Principal Consultants, Senior Consultants, Consultants, Pupil Consultants, Freelance Writers, etc.	
Media Houses & Others	Editors, other Journalists, Freelance Writers, etc.	For advancement of status (promotion, stipends), etc.
Others (Specified)	All the above and others (specified)	Mostly for recognition, stipends, others, etc.

Research Question ii: *What is the status of funding of the research and development in Nigeria?* Table 4 shows the status of funding of research and development in the last five years: No government funded any commissioned research, 0.00%. Only infinitesimal 0.45% of government parastatal funded any projects that are research oriented. Individual and groups are also insignificant, 1.84%. Scholars (100.00%) and parents and guardians (of graduate and undergraduate students) (100.00%) directly and indirectly funded research and development: This is because it is mandatory for scholars to research and write papers for purpose of promotion and commendation; and it is compulsory for the students (graduate and undergraduate) to write theses/dissertations as prerequisite for graduation.

Table 4: Status of funding of research and development in the last one year

Status of Funding of research and development	Frequency	Proportion (%)
Governments	0	0.00
Government parastatals	1	0.45
Non-governmental organizations	2	0.91
Business conglomerates	2	0.91
Individuals and groups	4	1.84
Scholars	220	100.00
Parents and guardians (of graduate and undergraduate students)	220	100.00
Others (Specified)	5	2.27

Again, Table 5 is a 6-level Likert Scale of the status of quality of research and development. Only 3.18% of the

respondents rated them to be "Excellent." "Very good" is 12.73%. Cumulatively, "excellent," "very good," and "good" are 44.09%, that is, less than 50.00% of the total. Inversely, "very poor" (5.00%), "poor" (15.46%), and "fair only" (35.45%) is 55.91% of the total.

Table 5: Status of the quality of research and development reports

Status	Frequency	Proportion (%)	Cum % Prop.	Invers. Cum % Prop.
Excellent	7	3.18	3.18	100.00
Very good	28	12.73	15.91	96.82
Good	62	28.18	44.09	84.06
Fair only	78	35.45	79.54	55.91
Poor	34	15.46	95.00	20.46
Very poor	11	5.00	100.00	5.00
Total	220			

Research Question iii: *What are the challenges of research and development in Nigeria?* An array of the challenges is listed in Table 6. A respondent picked more than one choice. All the respondents (100.00%) picked "Inadequate objectivity and robustness of R & D projects," "Lack of confidence in the local scholars," "Poverty in the land (and of the scholars/researchers)" "Inadequate funding," "Lack of supports and commitments," "Inability to publish in High Index Journals," and "Others (Specified)" were picked by all the respondents. The least picked are "Inadequate research outlets (for publications)" (58.64%), "Poor background of the scholars" (73.18%) and "History & reliance on foreign aids" (77.73%). Others are picked by over 80.00% of the respondents.

Table 6: Challenges of research and development in Nigeria

Challenges	Frequency	Proportion (%)
Lack of commitment of scholars and staff	189	85.91
Inadequate manpower (Scholar)	207	94.09
Inadequate support staff	210	95.45
Lack of committed visionary leaders	220	100.00
Inadequate skills	201	91.36
Unconducive environment	218	99.09
Inadequate objectivity & robustness of R	220	100.00

& D projects		
Security of lives and property	217	98.64
Repudiation of data and information	202	91.82
Lack of confidence in the local scholars	220	100.00
Lack of confidence in local R & D	208	94.55
History & reliance on foreign aids	171	77.73
Inadequate funding	220	100.00
Availability of data as required	209	95.00
Ineffective library facilities and amenities	216	98.18
Lack of collaborations	200	90.91
Individual mind-set of researchers	188	85.45
Illiteracy of the masses (members of the public)	218	90.09
Poor research ethics	191	86.82
Ineffective and inefficient educational system	189	85.91
Political uncertainty	188	85.45
Poverty in the land (and of the scholars/researchers)	220	100.00
Availability of information as required	210	95.45
Lack of public supports and commitments	220	100.00
Limited laboratories, tools & equipment	218	99.09
Poor styles and language of reporting	216	98.18
Inadequate research outlets (for publications)	129	58.64
Inadequate tutelage (coaching, mentoring, etc.)	199	90.46
Poor background of the scholars	161	73.18
Attitudes to results of research and development	183	83.16
Inability to publish in High Index Journals	220	100.00
Others (Specified)	220	100.00

A ten-year professor of Educational Management in a federal first-generation university summarized it all. In his words:

…. What about laboratories and equipment, chemicals and materials, office space for researchers. Yes,

TETFUND, …. No [buoyant] research grant is coming from anywhere any longer. In most cases, you are on your own. You go to conferences because you want colleagues to hear you, or you want to share from their ideas …. which are not frequently sponsored any longer. Those who have computer have no Internet connectivity; and I can tell you categorically that less than 25% of us have functional laptops ….. Internet has become major source of data and information for both learners and lecturers. You pay through your nose to have your papers published. It is another ball game to publish in reputable international journals. May be our papers lack merit or our styles and languages of writing …. Check the profile of any contemporary researcher, you will not find up to 20% published outside the shore of the country. …. or, you cannot find many in High Index journals; and neither do we have many of such High Index journals within our shore. So bad that Appointment and Promotion Committees often demand for certain number of papers published by reputable foreign journals. …. Electricity and power for preservation of samples, and for motorizing the equipment and tools, …. Common fan and air conditioners are not easy to come by …. Do we have enough water in our laboratories? Don't let me infer that our up-coming scholars are in hurry to have the prefix 'Professor.' …. That may lack merit to profess what they have on their shelves …. Everyone just wants to write and publish. Whereas academic writing styles must be mastered first. …. May be these have led to governments and policy makers to jettison the results of our research.

His comment does not differ significantly from that of a Fellow of a Federal Research Institute of Agriculture who added that "all students who should be leaders of tomorrow in research and development depend solely on internet for data and information. It is better imagined than experienced. What about scholars joggling two jobs or too occupied to give time to research. Are you aware that when our people get any little grant at all, less than 20% is expended …. poverty. It is weird." Still, another remarked that "governments and policy makers have turned their backs to scholars, and research and development. …. There is this mind-set that 'there is no

money in research.' The target is to produce papers for promotion, no more, no less." These are true of over 85% of the research and development institutions and departments – federal, state or privately owned; and characterize research and development in its entirety (Aderogba, 2018; Aderogba, et al, 2017; Woryi, 2018). If not for anything, the challenges of infrastructures, particularly electricity and power is no longer new, and it is persistent (Aderogba, 2015, 2017; Ezeogidi, 2014). These are feasible reasons for poor and unsustainable research and development in Nigeria and of course in Sub-Sahara Africa, the second largest and the second most populous community of the Global South.

However, the foregoing corroborates in parts, and on the other hand, built on the works of Chikwe et. al. (2015), Nigerian Finder (2021), Wright et. al. (2016), and Woryi (2018) on the challenges of research and development in Nigeria. The research outfits require leaderships that are committed team builders, of high integrity, creative, transparent, and visionary team builders that are skillful in communication and strategic thinking for research and development for the developing world. Inadvertently, these will engender quality research works that will impact sustainable growth and development in Nigeria and of course in the sub-Sahara Africa.

Conclusion

Sustainable research and development are characterized by some unwarranted challenges: Data and information are scarce and or not easily come by; the environments are not conducive for research and development; and infrastructural development are as poor as the ethical standards. Honesty and objectivity of research are questionable; supports for research and development are limited; and educating and developing scholars are expensive, among others. Though there are humongous results of research in the libraries and on the shelves of the scholars and others, (in the research and development institutes, university faculties and departments, offices of consulting associates and individuals awaiting purposeful use/implementation), they are not in the desired standards and qualities. There are evidences of mediocrity in the results of

research; and thus, not used, or underutilized. Incidentally, regardless of the robustness, the resources put into these are obviously going into drain.

Leadership in the various sectors of research and development have not demonstrated adequate commitments in team building, integrity, creativity, transparency, and vision, nor skillful in communication and strategic thinking for research and development in the developing world. Obviously, there ought to be paradigm change.

Recommendations

There are pointers to amelioration of training and development of potential scholars; creative and systematic efforts to increase the stock of knowledge; and specifically, conceptualization of problems; methods of collection, organization and analysis of information and data; and documentation of the reports. There should be massive supports of governments, corporate organizations, and philanthropists; and establishment of additional well-equipped research institutions/departments akin to those in the Global North. Training and development of scholars and staff in various fields of human endeavour in the Global North is equally imperative. There are multinational companies in Nigeria though investing in the economy of the states, offer job opportunities to the citizens, and offer salaries and wages that are sometimes quite commendable, they should be obligated to plough back to the local communities by investing massively in research and development directly and indirectly. It should be parts of their Corporate Social Responsibility (CSR) to the communities in the areas of their operations and services. There are also a host of national firms with huge annual profits. They should plough back to the communities by investing in research and development, at least, through their CSR budgets. The philanthropies should similarly be challenged with the responsibility of sponsoring research and development.

At all levels of research and development, leadership should be of high integrity, creative, visionary, and transparent. It is expected that these attributes would automatically get imbued, cascaded, and transcended the entire fabric of the research organizations and the outputs.

Adequately manned Banks for results of research and development need to be established on regional basis (and by fields of human endeavour) for ease of retrieval and management. The Research Banks should be public research repository that will include research produced by students and professionals like it is in Eastern Institute of Technology Auckland, at Gisborne, and Eastern Institute of Technology Napier (both in New Zealand), to facilitate scholarly communication and shared access to research outputs. The Banks should be affiliated to the National Library.

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