

**SCIENCE COMMUNICATION IN NIGERIA - ISSUES AND PERSPECTIVES**  
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**Abstract**

*Science Communicators in Africa generally face a lot of problems in dissemination of Science and Technology information. There is dearth of Science information, lack of equipment, training or refresher courses for practitioners and frustration resulting from editorial policy. There is also gross under funding of Science, Research and Development (R&D). In oil rich Nigeria, a United Nations Educational, Cultural and Scientific Organisation (UNESCO) study reveals that just 22 cents (5.50k in the local currency) is expended per head annually on R&D.*

*This falls short of what is spent in Southern Africa, other Sub-Saharan countries or Asia where about \$11 is allocated to R&D. Sadly, less than 0.5 per cent of the wealth in Sub-Saharan Africa is set aside for R&D.*

*The situation becomes worrisome when compared with advanced countries where between \$300 to \$700 is spent per head annually. This paper focusses on various studies done among Science communicators and inhibitions to effective science communication in Nigeria. A survey on the Nigeria print and electronic media reveals how much attention is given to science communication and steps towards an effective action plans are highlighted.*

**INTRODUCTION**

Dr. Fred Jarikre, a science journalist and Medical consultant at the Lagos University Teaching Hospital, (LUTH), Nigeria is often perturbed whenever science stories and pages are removed or cleared respectively to pave way for advertisement. Of a fact, science related stories which are; technology, health, environment, archaeology and agriculture related appear to be less appealing to the average citizen when compared to other fields like; politics, showbiz, sports, business or gossips i.e the *papparazzi* brand of journalism which is most lucrative.

However, in the developed world, an appreciable percentage of the population, read and respond to science stories. One cannot forget the frenzy with which the world greeted the news of dolly, the cloned sheep in Scotland or the monkeys in USA.

In effect, there exists a relatively high percentage of well-trained scientists involved in research and science writers who publish their findings. The contrary is the case in developing countries especially Nigeria which is the focus of this paper. In Nigeria, science reporting is rated very low indeed. Out of about 5,000 reporters in Lagos (the nerve center of Nigerian media) about 30 are involved in science related communication. Presently, there is no publication specially devoted to science popularization. Newspapers with science pages or columns are few. At times, the pages are cleared for other things. The number of schools offering courses in specialised reporting are few. See table I. Nigeria is believed to be the most populous black nation in the world. With an estimated population of 100million people, one out of every five Africa is likely to be a Nigerian.

The first Newspaper *Iwe Irohin*, a vernacular daily, was floated in 1884 by Reverend Henry Townsend, a Christian missionary.

Today, there are over 100 publications in the country. Twenty one of these are daily newspapers while 19 are weekly magazines. The others include newsletters. Science reporting is plagued by many obstacles in Nigeria and these include;

- Illiteracy and Superstition,
- Poverty and excruciating economy,
- Rigid in-house/editorial policy,
- Other “lucrative” departments,
- Lack of motivation from government,
- Inadequate funding for R&D.

I will dwell further on these issues. But before then, it is pertinent to shed some light on a survey of 67 serious publications in Nigeria. This survey reveals that 38 of the titles are owned by wealthy Nigerians, many of whom have no journalistic experience or training. These owners have political ambitions or have held political positions in government. In essence, such publications are tools of self propagation, or glorification of friends in supreme positions of governance. They are less concerned with educating and informing the public. Often, they direct Editors and reporters at will. Of course, science stories will be the last set of stories to be considered.

Twenty-four publications from the ones surveyed were floated by professional journalists while three belonged to human rights groups. Religious organisations are responsible for two of these publications. Regrettably, 30 of these 67 publications are off the streets. Two environment - oriented magazines stopped publishing about six years ago. The only science magazine which focussed on; agriculture, health care, astrophysics, environment, computers etc was forced off the streets as a result of economic paralysis resulting from our political impasse in recent years.

When the economy was buoyant before the various sanctions imposed by the European Union (EU) and the United State of America (USA) the largest newspaper sold about 280,000 copies. That is on a national level. You may compare this figure with that of *Berliner Zeitung* (275,00) or *Berliner Morgenpost* (337,00) or *Die Welt* (Bonn) 224,000 or *Frankfurter Allgemeine*. (Frankfurt) 391,000, in Germany. Do not forget that some weeklies sell over 2million in a country of over 60million while a newsmagazine like *Der Spiegel* in Hamburg sells over 1million.

There is no doubt that the electronic media is powerful. A look at our television stations indicates that there is often a serious attempt to mesmerise the audience with political and propagandist stuff which has no direct developmental impact on the life of the viewer. In 1991, there were about 100 private television stations in Germany. We have just started issuing licences in Nigeria. Our government controlled national television station boasts of having 30 million people glued to its station every night. Compare this to the figure of 280,000 of the largest selling news paper at the best of times. Newspapers sales have now dropped sharply because of the excruciating economic misfortune and skyrocketing prices. Meanwhile, the electronic media has little or no time for the Nigerian scientists, except for issues bothering on calamity or dumping of toxic waste, you can hardly see the scientist on the television.

During the weekend, you find the television taking care of virtually all departments but science. A survey of both public and private television stations programmes across the country during the weekends indicates a depressing approach to scientific and development issues. The Nigeria Television Authority (NTA) Channel 10 in Lagos has about 43 programmes for Saturday and Sunday. Only one, *Health Forum* has bias for science on Saturday. The NTA Kaduna based in Northern Nigeria has 37 programmes on weekends and only one programme known as *Petroleum Perspective* is inclined towards science. Being an oil producing nation, such petroleum programmes are made up - more of business than science reports. The Broadcasting Corporation of Oyo State (BCOS) in Western Nigeria has only *Wild World of Animals* as a programme with scientific inclination. While these are often foreign, the viewers are given the opportunity to watch religious programmes during the weekends. This perhaps is as a result of the lure of advertisement from sponsors. Who then sponsors science information? And where are they? In Port Harcourt, the heartland of oil prospecting activities in the Niger Delta, the NTA station has 13 religious programmes and none on science. Six of these programmes are aired on Saturdays.

Interestingly, there are two new private satellite television stations - one in Eastern Nigeria known as Minaj Satellite Television (MST) Channel 43, and the other African Independent Television (AIT) in Lagos. MST has 70 programmes on weekends, four are religious. There is only one that is science inclined, and it has foreign bias. The AIT has 42 programmes at weekends. Only two are science related, one is *Impact* (which we all know) and *Environment Live*.

To compound the lull of science communication in Nigeria, is the level of literacy which I mentioned earlier. It is believed that more than half of Nigeria's population is made up of illiterates. This in effect means that fewer people are likely to buy newspapers. Associated with this level of illiteracy is an astounding level of believe in superstition. Just this year, a woman believed to be a witch was burnt to death. The crowd at the scene swore she dropped down while in flight as a bird because daylight suddenly caught up with her in the early morning. Her story hit the headlines for days. In many cases, that intriguing and tragic story is what editors believe will sell their papers. In a similar event in 1997, people equally claimed a bird (another woman) dropped and crashed at a place called Gbagada, a Lagos suburb. Posters and calenders were made and they sold like hot cakes. Despite the worlds recent passion for conservation of endangered species, an endangered specie of bird which mistakenly flies into a home or gathering in Africa is doomed and could be burnt by those who believe it could be a transformed witch in flight.

This trend can also be linked to lack of basic interest in science as a subject. To msany people, here, science is an abstract terrain. Worse, Scientific findings, figures applications are often restricted to the academic community which isolates itself within the Ivory Tower from the larger society. The general populace wallow in ignorance and poverty of ideas. Often in this kind of gathering, I do not forget to tell the audience about an editor whom I worked with as a Science Correspondent. Having been informed of the movement of severely restricted and banned chemicals into Nigeria, I was so excited, but my editor directed that I should forget the story, allow the chemicals to kill people first and then get a big story!

A study of newspapers in Nigeria (Okuneye 1998) and their coverage of agriculture indicates that only 7 to 9 per cent of the various papers were devoted to agriculture reporting and machinery meant for farm use. The same study shows that 14 percent to 15 per cent are devoted to news from foreign sources. An observer of the Nigerian press will be surprised at the kind of treatment that will be given to the testing of nuclear bombs by India and Pakistan, which will ordinarily hit the front pages than news of a drug to combat malaria, sickle cell anaemia ( which afflicts blacks) or even other diseases. Another survey among 20 reporters indicates that while they are all interested in agricultural science reporting, for example, 12 of them have never received information on agricultural development and breakthroughs. Ten of them blame experts for this development and fewer reporters on the beat. Of course there is little science development to report when compared with other developing countries such as India or Pakistani science departments. These countries, according to the figures from the United Nations Educational Cultural & Scientific Organisation (UNESCO) spend about \$11 on Research & Development (R & D) per head annually while Nigeria spends 22 cents on R&D per head annually. Do not forget that in advanced countries, like in Europe and America, they spend between \$300 - \$600 annually per head. (See table II) Professor E.U. Emovon, a one- time Science and Technology minister regretted that “ a large number of scientists are actually not doing much research” noting that there is danger of the pace and enthusiasm with which research could be pursued due to government bureaucracy. I remember that about a decade ago, I did a story on Nigeria’s nuclear energy programme which commenced in 1976 to recruit our best brains in the sciences for a multi disciplinary approach to the uses of nuclear energy in medicine, agriculture (Irradiation) electricity etc.

During the apartheid years, the cold war and the global polarization, one Nigerian Foreign Minister had thought of what he describes as a “black bomb” to help counter the racist threat of South Africa. I then did some investigations on Nigeria’s capability in terms of human resources and equipment. The experts lamented that they were wasting away. No equipment, hence no research and no motivations. Many then went into exile. Those who were studying abroad refused to come home. They have become assets to foreign laboratories. Those who won laurels abroad and returned did so at their academic peril. What then does a science reporter have left to report ? Perhaps, the politics of science. Not political science. Science pages in our newspapers have come in fits and are very erratic in coverage. Magazines run upwards of a year without a story on science. Although two newspapers have as matter of in-house style and policy created science columns, others do not think it is of priority. Experts often blame the journalist for not doing enough. But a survey of 32 journalists in 1998 show that experts, editor/publishers are to blame for this trend.

Eighteen of the 32 journalists feel that attitude of the publishers/editors is responsible for the obstacles to specialised or science reporting. Twenty of the reporters believe that lack of information flow on development in science from experts to journalists is equally a hindrance to science communication.

Among Nigerian Scientists, I have encountered such hindrances occasionally from experts who believe that reporters are nothing but busy-bodies and “hunters of gossip”. Eight years ago, I was working on a story on Radon, a soluble radioactive gas which Physicists believe may may contaminate water in boreholes in about 13 towns through the natural rock formations in these areas. While the expert was scared of my publication of the report in the popular medium of any science

oriented publication, the interesting scientific method of combating the radon ( or radioactive gas) problem was celebrated in the German magazine when Morits Vogel a 19 year - old Hamburger in Germany found a breakthrough that activated charcoal can combat radon. Seven years earlier, I had tried to convince a P.H.D holder on the need to get his research findings out for public consumption and use. What would have happened if German Science writers had not published this?

There is one problem the Nigerian or African Scientist may not be aware of. Francoise Harrois - Monin (1986) has viewed Europe as third world when it comes to United States perception of continental Science. Monin was of the view that although the quality of research is very difficult to measure, the Nobel Prizes have been won “about the same order of magnitude on both sides of the Atlantic indicating that between 1945 and 1985 Americans and Canadians won 166 Nobel prizes while Europeans won 96 and non -US/non-Europeans won 21”. In Nigeria we do not have Nobel prize winners in science, but we do have a Nobel Laureate in Literature and other Scientists who have distinguished themselves in local and foreign laboratories in Europe and Africa. There are Nigerians who have distinguished themselves abroad in the field of science.

However, they are never given recognition or spotlight in the media abroad. How many Africa/Nigerian Scientists have you spotted in the *Discover*, *Science News*, *Christian Science Monitor*, *USA News*, *New Scientist*, *Nature*, *National Geographic*. So, if American science writers or popular media like *Newsweek* or *Time* do not give prominence to Europe stories until when perhaps cloning is done, what hope do you have for the Scientist in Africa.

## TOWARDS A NEW SCIENCE INFORMATION CULTURE

Dr. Tony Marinho, one of Nigeria’s very articulate medical practitioners committed to literacy, awareness and reading ability of the public cried out a public forum (1997) that “We (Nigeria) must not allow the New Scientific Renaissance, the Micro-technological Revolution to pass us by”.

Apart from his worry about the sharp contrast in the number of newspapers and periodicals between Nigeria and the U.K. (where there are 1,400 regional/local newspapers and 7,700 periodicals and magazines as against about 50 in Nigeria), Marinho equally felt that “there is a lot of waste of space on television and radio which can be put to good use”.

The total number of politicians in Nigeria “is less than 1 per cent of the entire population, yet he gets 99 per cent of the news coverage. “ With these imbalance, how then will the new scientific renaissance and the microtechnological revolution not pass us by?

One of the steps towards this is a free flow of information and unhindered access to telcommunication gadgets and tools.

For example, to own a telephone in Nigeria, you need about 167,000. For those who yearn for cellular telephone, it runs to about 200,000 which is above the average annual salary. Infact, Nigerian authorities often claim that telephone is not for the poor. We all know what the situation is in advanced countries and other seriously developing countries. How will a Journalist who has no

telephone or communication means send or collect science information locally and internationally? At the moment, it is believed that only 4 out of 1,000 population has a telephone in Nigeria as compared to 70 to 1,000 people in Jamaica and 89 to 1000 even in Southern Africa.

Francoise Harrois-Morin in his; Europe as Third-US Perception of continental Science reviewed how much funding was devoted by 10 Organisation of Economic Cooperation and Development (OECD) Countries during some years in the 1980s to Research & Development and Compared to that of the USA. These countries; (France, United Kingdom, Denmark, The Netherlands, Germany, Ireland, Norway, Italy, Belgium and Luxemburg) in 1983 had two-thirds of the number of Scientists and technicians in USA and they equally spend \$31.2 billion on R&D while Americans spend \$50 billion

In 1987, Nigeria, according to UNESCO figures have 281 potential scientists and engineers per population and 14 scientists and engineers per million population. Compare this to 14,373 potential scientists per million population (in 1980) and 361 scientists and engineers per million population in Libya another oil producing nation. (See Table 3). Or Benin Republic (Our tiny neighbour on the West) who in 1989 had 177 scientists and engineers per million population. It can be distressing to compare Nigeria with Cuba who in 1989 had 1, 146 scientists and engineers per million population.

There is no doubt that Africa has found herself at a crossroad of not only political/democratic development, but Scientific paralysis and Communication epileptic fits which needs to be addressed and solutions proffered and utilized. African Science is often viewed as irrelevant and archaic. This may have resulted from our colonial experience. Sometimes ago in the University of Lagos, two lecturers at the Physics Department were able to find a linkage between Sango, (a Yoruba god of lightning and thunder) who used to have snowball of fire emitting from his mouth like a dragon whenever he spoke and the laws of physics and light. Of course their scientific discovery will not make meaning to an European or American Journalist who cannot fathom the relationship of the proverbs and incantations involved. Besides this, the Science which makes it possible to invoke the spirit of Sango (Lightning) to suddenly bring out clouds and rainfall and subsequently strikes a thief dead and display the stolen foods near the thief cannot impress the Western media. Only those who understand the socio-cultural factors can research into the science and Communicate the information articulately.

### **Suggestions**

To compensate for all hitherto lost years of scientific advancement in the Nigerian/African media, there is need for a re-orientation of the journalist. There is need for an aggressive approach to the popularisation of science so that journalists who go to other *glamorous* beats will find out that Science Journalism can be as glamorous and exciting as other fields.

There is need for improved training programmes and interactions between journalists and editors alike so that science reporting is given the required priority. In this vein, colleges of mass communication should include courses on science reporting in their curriculum. Corporate Organisations, local and international NGOs interested in science communication should institute awards in the field as a way of encouraging and glamourising practitioners. The Nigerian Universities commission, Ministry of Education and Information should allocate more money to R&D and they

should encourage the collaboration of scientists, engineers and technicians who want to propagate their findings with journalists.

Establishment of a locally affiliated body of science writers in Nigeria or Africa. This body will receive support from any international group or agency in the area of visiting lecturers, organising local seminars and workshops from within and abroad as well as short courses locally and abroad to see things the way they are in science communication.

Personally, I am currently putting together a new scientific journal which will popularise science based on our experiences spanning a decade of hicurps in science communication in Nigeria. It is expected to be a platform for experts all over the world, expecially in Africa/Nigeria to bring into the forefront various scientific issues and findings. It is also expected to be a platform for NGOs and those whose voice are unheard. It is simply to simplify science and let Africans know science is about life and living.

**TABLE3**

SCIENTIFIC MANPOWER & PERSONNEL ENGAGED IN RESEARCH & DEVELOPMENT			
African Countries	Year	Potential Scientists and Engineers Per Million Population	Scientists and Engineers Per Million Population
Benin	1989	299	177
Egypt	1986	-	439
Libya	1980	14,373	361
Mauritius	1989	7,662	180
Nigeria	1987	281	14
Senegal	1987	-	342
Sychelles	1983	-	281

NORTH AMERICA			
Country	Year	Potential Scientists and Engineers per Million Populatio	Scientists andEngineers per Million Population
Canada	1988	63,440	2,347
Costa Rica	1988	21,029	534
USA	1988	21,576	3874
Cuba	1989	14,233	1146

<b>EUROPE</b>				
Countries	Year	Potential Scientists and Engineer per million Population	Scientists and Engineers per Million Population	
Austria	1984	17,781	1,007	
Bulgaria	1987	36,101	5,641	
Denmark	1989	22,740	2,074	
Germany	1989	38,270	7,819	
GDR	1987	45,571	2,713	
Finland	1989	55,416	2,283	

Source: World Science Report- UNESCO, 1993

## References

1. Fred Jarikre, *Science Under Reporting: Placement Priority* paper delivered in 1997 at a Workshop Organised by Friedreich Ebert Foundation Lagos.
2. Tunde Akingbade, *Effective Environmental Education and Enlightenment through the Media* paper presented in 1996 at a workshop organised for Environmental Health officers of Local governments in Lagos at the CAPL conference center, Ikeja, Lagos by Rotimi and Associates and Lagos State Government.
3. Maja - Pearse Adewale, *Directory of African Media*, International Federation of Journalists, Brussels, 1995.
4. Bola Okuneye, *Agricultural and Sustainable Development*, paper delivered at Agricultural Reporting Workshop. Friedreich Ebert Foundation, University of Lagos, 1998.
5. UNESCO, *World Science Report 1993*, UNESCO Publishing, Paris.
6. Tunde Akingbade, *Reporting Science and Environment in Nigeria*, paper delivered in 1997 at Friedreich Ebert Foundation workshop, University of Lagos.
7. Francoise Harrois - Monin, *Europe As Third World: US Perception of continental Science*, paper delivered at ISWA Symposium on: The Unreported stories: Mass Media and Science in the Developing World.

8. Kole Ade - Odutola et al. (ED), *Reading Empowers - Proceedings of the Workshop; Encouraging Free Speech, Promoting the Reading Culture*, Kaduna, April, 1997, Sponsored by Heinrich Boll Foundation.
9. A. V. Kadiri (ED), *25 years of centralised University Education in Nigeria* published by Nigerian University Commission(NUC), Lagos.
10. Dr. Tony Marinho's paper at *Reading Empowers* workshop at Kaduna, April, 1997 sponsored by Heinrich Boll Foundation .
11. *Ibid.*
12. *Personal Communication* with Dr. Mrs. Sophie Oluwole, expert in African philosophy, Department of Philosophy, University of Lagos.

**TABLE 1**

INSTITUTIONS TEACHING COMMUNICATION/JOURNALISM IN NIGERIA		
S/N	INSTITUTIONS	TYPE OF COURSES OFFERED
1.	Department of Mass Communication, Anambra State Polytechnic, Oko.	Basic News writing, Reporting, Typewriting, Public Relations, Advertising, Photography, Press law and Photojournalism
2.	Department of Mass Communication, Auchi Polytechnic, Edo State.	- do-
3.	Department of Mass Communication, Calabar Polytechnic, Calabar.	-do- (addition, the School also offers census in communication theory, news paper design and production and Media Management.)
4.	Department of Mass Communication, Akwa Ibom Polytechnic, Ikot-Ekpene.	The same courses as offered in number 1 above
5.	Department of Mass Communication, Institute of Management and Technology, Enugu.	The same courses as offered in number 3 above
6.	Department of Mass Communication, The Polytechnic, Ibadan.	The same courses as offered in number 3 above
7.	Department of Mass Communication, Our Saviours's Institute of Science, Agriculture and Technology, Enugu.	The same courses as offered in number 1 above
8.	Department of Mass Communication, Ahmadu Bello University, Zaria.	The same courses as offered in number 3 above

INSTITUTIONS TEACHING COMMUNICATION/JOURNALISM IN NIGERIA		
S/N	INSTITUTIONS	TYPE OF COURSES OFFERED
9.	Department of Mass Communication, Bayero University, Kano.	The same courses as offered in number 3 above
10.	Jackson School of Journalism and Mass Communication, University of Nigeria Nsukka.	The same courses as offered in number 3 above They also offer Master of Arts Programme.
11.	Department of Mass Communication, Imo State University.	The same courses as offered in number 3 above
12.	Department of Mass Communication, University of Maiduguri.	The same courses as offered in number 3 above
13.	Department of Mass Communication, University of Lagos.	The same courses as offered in number 3 above, also offers courses leading to B. Sc, M. Sc. Now runs a course on Science Reporting.
14.	Department of Mass Communication, Nnamdi Azikiwe University, Awka.	News paper design, media Management. Basic News writing, Reporting, Typewriting, Public Relations, Advertising, Photography, Press law and Photo journalism.
15.	Department of Mass Communication, Delta State University, Abraka, Delta State.	Basic news writing, Reporting, Typewriting, Public Relations, Advertising, Photography, Press law and Photojournalism, Media Management and Newspaper design/publication.
16.	Times Journalism Institute, TJI, Lagos.	The same courses as offered in number 1 above
17.	Nigerian Institute of Journalism, (NIJ), Lagos.	The same courses as offered in number 1 above. Also offers courses in environmental Protection and Population.
18.	Department of Mass Communication, Kaduna Polytechnic, Kaduna.	The same courses as offered in number 3 above

Source: Directory of African Media , International Federation of Journalists, Brussels, 1995.

TABLE 2

RESEARCH GRANT TO NIGERIAN UNIVERSITIES, 1988.						
S/N	Universities	Grant Received	Grant Spent	Year	Balance	% Spent
1.	Obafemi Awolowo University, Ile-Ife	1,245,000 1,943,500	850,000	1987 1988	394,187:45	over 75%
2.	University of Maiduguri.	637,000 995,500	424,114	1987 1988	212,136	66.58%
3.	Usman Dan Fodio University, Sokoto	391,00		1987		Returned 166,00 set aside 225,000 for more research
4.	University of Lagos.					
5.	Ahmadu Bello University, Zaria.	1,447,000	1,529,333:60 instead of 2,257,500	1987 1988		728,166:40 was deducted from 1988 grant.
6.	University of Ilorin	599,000	459,470:17	1987		75% spent
7.	University of Agriculture, Abeokuta.	184,000 171,500	108,000	1987		

## REIGN DONOR AGENCIES WHO SUPPORT RESEARCH IN NIGERIA

British Council\*  
 European Union\*  
 Economic Commission for Africa  
 United Nations Development Programme (UNDP)  
 Ford Foundation  
 World Health Organisation (WHO)  
 UNESCO  
 international Atomic Energy Agency (IAEA)  
 Japanese International Cooperation Agency (JICA)  
 USIS\*  
 Food And Agriculture Organisation (FAO)  
 African Development Foundation  
 UNO  
 USAID\*  
 Canadian International Development Agency\*\*

\*\* Canada withdrew its embassy Staff from Nigeria for about 2 years following strained diplomat relations and sanctions.

\* Agencies whose countries imposed sanctions on Nigeria.

### Countries That Give Fellowships & Technical Assistance

France*	Canada**	China	Sweden*
Denmark*	India	USA*	Korea
Bulgaria	Japan	The Netherlands*	U.K.*
Italy*	Norway*	Australia*	

\*\* Canadians withdrew from Nigeria.

\* Countries which through EV or commonwealth imposed sanctions on Nigeria.

Source: 21 years Report of National University Commission.