HOW TO WRITE AN EFFECTIVE SCIENCE STORY

Robert Powell

AFRICAN TECHNOLOGY POLICY STUDIES NETWORK

ABOUT THE AFRICAN TECHNOLOGY POLICY STUDIES NETWORK

The African Technology Policy Studies Network (ATPS) is a multi-disciplinary network of researchers, policy makers, actors in the private sector and other end-users interested in generating, promoting and strengthening innovative science and technology policies in Africa. With a regional secretariat in Nairobi, the network operates through national chapters in 23 African countries, with an expansion plan to cover the entire sub-Saharan Africa.

One of the objectives of the network is to disseminate research results to policy makers, legislators, the organized private sector, civil society, mass media and farmers' groups through publications, dialogue and advocacy. Among its range of publications are the Working Paper Series (WPS), Research Paper Series (RPS), Special Paper Series (SPS) and the Technopolicy Briefs.

Technopolicy Briefs Series are commissioned short papers written by experts from all over the world specifically to address current science and technology policy concerns and questions in Africa. The briefs are also summaries of technical papers published under our WPS, SPS and RPS written to highlight significant policy recommendations. These briefs are writen with the busy policymakers and non-specialists in mind. The materials are designed for general readership and help advance the advocacy and knowledge brokerage roles of the ATPS.

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Acronyms

AIDS   Acquired Immune Deficiency Syndrome
UN   United Nations
MDGs   Millennium Development Goals

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1.0

Do you Understand the Issue?

A good science story should interest everybody and be easy for anyone to understand. It should grab the attention of your readers/listeners/viewers, even if they do not have much in the way of formal education, let alone a specialist understanding of scientific issues.

The first thing to ensure is that you, the writer, understands clearly the issue you are writing about. If you do not, you will not know the best news angle to take.

Furthermore, if you do not really understand the issue at hand, there is a strong chance that you will make mistakes and misrepresent it to your target audience.

To understand the issue properly, you must read the source documentation carefully. This is likely to be full of technical jargon, much of which you will not understand. When you come across specialist terms or concepts that baffle you, find out what they mean, then devise a way of expressing them in plain non-technical language.

There are four ways you can do this:
1. Ask the author of the document
2. Ask another expert on the same issue
3. Look up the word in a dictionary
4. Look up the word on the internet (an internet search is likely to give you more useful information than a dictionary)

Do not be afraid to ask a 'stupid question'. If you don't know what a certain word or concept means, neither will most of your readers/listeners viewers.

The worst thing you can possibly do is to simply pass on chunks of jargon from your source document, thinking "I have no idea what this means, but it looks important, and somebody out there will understand it." No-one will.

Once you have read and understood the source document, you should ask any questions that arise in your mind about it. Above all, think of the questions that your target audience would want answered. These should always include the following three questions:

1. How does this science affect me?
2. What should happen next?
3. What problems might arise in implementing these recommendations?

Put these questions to the author of the document you want to report on. If he/she is not available ask another expert on the same issue.

In fact, it is often useful to ask an independent expert what he/she thinks about the piece of science you are writing about in order to gain perspective. Scientists, just like politicians, can often draw very different conclusions from the same piece of evidence!

If the science you are writing about has implications for government policy or human behaviour, it may also be a good idea to ask political and religious leaders for their views/opinions.

2.0

What Kind of Language Should You Use?

However important the information may be and however accurately you have conveyed it, there is no point publishing or broadcasting your story if most of your target audience fails to understand it.

Write in plain simple language in short sentences. Avoid using technical jargon. Although this may be the everyday working language of the scientific community, most ordinary people will not understand it.

Wherever you can, use common and familiar words that ordinary people can understand easily. Do not talk about 'pulmonary and cardiovascular complications'. Talk about 'lung and heart problems'.

Avoid the stiff, pompous and official language of scientific papers and government. Use the plain, lively and interesting language of everyday speech. Most people would refer to a 'community water point' as 'the village pump'.

Write as if you were preparing a script to be read over the radio. Try reading your article aloud. Does it flow easily? Does it make sense? Try reading it aloud to a friend or a member of your family.

If they understand your story and are interested by it you are on to a winner. If their attention wanders or they ask you to repeat certain sentences, you will know that more work needs to be done to make your story accessible and reader-friendly.

3.0

Why Explain and Provide Background Information?

Sometimes you will have to mention unfamiliar scientific terms in your reporting. Whenever you do so, you must explain them clearly. It is not enough to say: "Scientists blame last year's severe floods in East Africa on the El Nino effect." You have to explain what El Nino is. If you are uncertain yourself, you must take the trouble to find out!

You should say something like: "Scientists blame last year's severe floods in East Africa on a temporary reversal of ocean currents off the coast of South America. Warm tropical water began to flow down the coast of Ecuador and Peru in a phenomenon called El Nino. Whenever this current appears, it disrupts normal weather patterns throughout the world."

Scientists, governments and international organisations seldom explain the jargon they use, but that does not excuse you from the task. If your target audience does not clearly understand what you say, you will be failing in your task as a communicator.

We hear a lot about Millennium Development Goals (MDGs). Sometimes they are simply reduced to the acronym MDG. Everyone assumes that MDGs are a good thing, but how many people actually know what they are? Take the trouble to explain to your readers, listeners or viewers that "The Millennium Development Goals are a series of targets set by the United Nations (UN) in 2000 to improve the living conditions of the world's poorest people by 2015."

If you are writing about water issues, you might usefully add: "They include reducing the number of people without access to safe drinking water by half." Or if you are writing about preventable diseases, you might add: "They include reducing the death rate of children under five by two thirds."

4.0

Should Journalists Like Scientists Use Statistics to Explain?

Scientists (and economists) love numbers, but on their own numbers mean very little to ordinary people. It is also very difficult for people to remember lots of numbers and appreciate their significance.

In radio and television, you should try to avoid mentioning more than three key numbers per story. That is a good guideline for print journalists too.

When you do mention a number you should explain very clearly why it is significant. You must also put the number in a context that shows why it is important. Don't just say: "The proposed bio-mass power station in Bulawayo would generate 15 megawatts of electricity."

Consult an expert to help you spell out what this means in practical terms. "The proposed power station would capture enough gas from Bulawayo's main rubbish dumps to generate 15 megawatts of electricity – enough to supply the city with a quarter of its of power needs."

Broadcasters must ensure that their listeners and viewers understand what the presenter is saying immediately. Newspaper and magazine readers can read a sentence again if they do not understand it the first time. But people who listen to radio or watch television do not have that luxury. They cannot get a repeat.

Try to avoid using numbers in copy by telling your target audience instead, what the numbers imply. For instance, instead of saying "researchers found that the level of mercury in the town's drinking water was dangerously high at 50 parts per billion," you could say: "researchers found that the level of mercury in the town's drinking water was 25 times higher than the level considered safe for human consumption."

It requires imagination and careful research by the journalist to come up with this sort of user-friendly expression that accurately reflect what a number implies, but it is worth the effort.

5.0

Why a Strong and Powerful Lead?

A strong and powerful lead that clearly expresses a key idea or image will draw people into your story. Make your lead vivid and specific and do not be afraid to make it controversial. You can explain the controversy as the story develops. Such as, "Christian missionaries are persuading rural communities in Benin to abandon traditional beliefs and practices that once regulated hunting and fishing and helped to preserve the environment, a local scientist has said."

You can mention further into the story that the scientist himself is a fervent Christian and that he wants the missionaries to incorporate the message of environmental protection into their preaching as they convert people from voodoo.

Avoid general leads that say very little and simply turn people off. Do not start your story by saying; "A biologist working at the University of Nairobi has made an important discovery which could benefit millions of Kenyans." This is too vague and bland.

Go straight to the point and be as clear and specific as possible in your focus. For example, "Fish farmers in Kenya could double their output of Tilapia by feeding these fresh water fish certain types of common leaf that stimulate their growth rate, a university researcher has found." If you fail to grab the attention of your target audience at the outset, they are unlikely to read on or continue listening to the rest of your story, no matter how interesting it may be.

The lead you choose will not necessarily be the main conclusion of the scientific paper that provided the peg for your story. Such as, "A prominent Senegalese biologist, who has just married his fourth wife, has published research showing that HIV/AIDS is more prevalent in polygamous families than in single partner marriages."

People will naturally be interested in the fact that the scientist's own behaviour is at odds with the conclusion of his research!

6.0

What About Ordinary People?

If a scientist says that he or she has discovered something that could have a big impact on the lives of ordinary people, ask those people who are potentially affected by the research for their views.

Many recommendations by scientists prove difficult to implement if they are considered socially unacceptable. Do you remember the resistance to polio vaccination by certain Muslim groups in northern Nigeria?

So ask the people affected by the research about their reaction to it and incorporate their comments in your story.

Are villagers really worried by the pollution of their local river? And if so where else could they go to get water?

Will people accept a new product being sprayed on the walls of their homes to keep away mosquitoes? If not, what are their objections?

How to tell an interesting story

- Focus on effectively getting one or two key points across in an interesting and entertaining manner.
- Do not feel that your story must reflect everything contained in the scientific paper on which it is based. If you try to do that, your story risks being long, rambling and superficial in its analysis.
- Miss out the boring bits. Quality is always better than quantity.

7.0

Is the Research Relevant and Newsworthy?

Be challenging. Is the research you are reading about really interesting, useful or relevant to your target audience? Is it worth a story at all? If not, do not bore your audience with it. Find a better subject to write about. Do not feel that you have to write a story, just because somebody has given you a fat dossier of important sounding, but totally boring paper work.

Ask how practical it would be to implement the scientist's conclusions. How much would it cost? And who would pay? The United States or Western Europe might have the medical and financial resources to check their women every two years for signs of breast cancer. But is that really a feasible proposition in Togo or Swaziland, which are much poorer countries with meagre budgets and other more urgent health priorities?

Ask too what problems might arise from implementing any of the scientific recommendations. If you stop factories or flower farms from polluting local rivers, will they simply shut down, throwing thousands of people out of work?

Be critical. If you have doubts about the importance or the validity of the scientific document you have read, get a second opinion from another expert in the same field

But be fair. Do not criticise a scientist for wasting money on irrelevant research, just because you personally do not see the point of it. If politicians and other scientists criticise a piece of research on these grounds, you should reflect their views. But give the author of the research a full right of reply to defend himself.

8.0

Making an Impact

Your story will only be successful if a lot of people read it, think about it and react to it.

If people talk about your story to their friends and family you will have succeeded in generating an impact.

If a civil society activist or politician picks up your story and publicly demands action based on the scientific findings you have publicised, you will have really hit the spot!

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Acknowledgement

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