African Federation of Science Journalists

Science Communications workshop for science journalists and research communication staff

26-30th March 2012

Lenana House Conference Centre, Nairobi, Kenya

Summary

The international Network for the Availability of Scientific Publications (INASP) and the African Federation of Science Journalists (AFSJ) collaborated on a training workshop for science journalists and research communication staff from Sub-Saharan Africa. The workshop was premised on the appreciation that for science journalists to effectively communicate science stories to the public they have to understand the way science is done, understand the limits of the scientific method and understand how to hold scientists to account.

The workshop covered a range of issues around science including an introduction to the scientific method, scientific consensus, ethics, scientific uncertainty and fighting bad science. The participants had practical sessions on how to source and write scientific stories and the relationship between journalists and scientists. The group had a chance to visit two research institutions in Nairobi, the Kenya Aids Vaccine Initiative (KAVI) and the Kenya Medical Research Institute (KEMRI). On these visits they got to meet scientists and hear about the work these organisations are doing.

A major part of this workshop was the opportunity to explore the barriers to good science coverage in the media. Participants shared their experiences working in science journalism and some of the barriers they faced. Most of the issues around media coverage of science can be summarised with one of the following points:

- Lack of value attached to science
- Lack of a science desk or 'beat' at media organisations
- Lack of investigative journalism around science
- Corruption and brown envelopes
- Lack of capacity to understand and critique science

Whilst some of the issues raised above (such as brown envelopes) require much more than a single intervention to tackle, there are some activities that can help improve the quality of science journalism in Sub-Saharan Africa.

- Adapting the science communication course so that the first half focuses on science but the second half focuses very heavily on journalism standards and process
- Working with schools of journalism to incorporate science modules in their curricula (the materials for this workshop could easily be adapted for such activities)
- Providing journalists with good science communication resources that explain the basics of the scientific process
- Providing training in investigative journalism and its relationship to science
- Support for networks of science journalists to share skills, challenges and experiences

Introduction

The international Network for the Availability of Scientific Publications (INASP) and the African Federation of Science Journalists (AFSJ) collaborated on a training workshop for science journalists and research communication staff from Africa. The workshop was premised on the appreciation that for science journalists to effectively communicate science stories to the public they have to understand the way science is done, understand the limits of the scientific method and understand how to hold scientists to account.

Science journalists and research communications staff from across Africa were invited to apply for the week long workshop. The workshop had over a hundred applicants from which 27 from eight countries were selected.

The programme has two phases. The first is a five day workshop (see appendix 1 for the programme) and the second is a post-workshop mentoring phase which will be carried out by the AFSJ. The following report details the experience and learning from the workshop phase.

The workshop was facilitating by Alexander Ademokun (INASP) and Alex Abutu (AFSJ) with support from Diran Onifade (www.africasti.com), Otulah Owuor and Martin Robbins (http://www.guardian.co.uk/science/the-lay-scientist).

> ***I used to believe that the public are not interested in science. It is not about the science but it is about making the science relevant to the public and as [a] journalist following that aspect. – Participant***

The first two days were focused on exploring the scientific method and the boundaries of science. The third day was spent exploring the interaction between science journalists and research communications staff. The fourth day provided the opportunity to visit two research institutions in Nairobi. On the fifth day participants gave feedback and discussed science story ideas to work on.

This report is divided into two sections. The first provides day by day feedback from the workshop including the structure and a sense of the range of topics covered. The second part looks at some of the issues raised by the workshop and explores wider issues around science journalism in Sub-Saharan Africa.

Part 1

Day 1

Expectations of participants.

We started the day by asking participants for their expectations of the workshop. These can be summarised as:

- Learn how to interpret scientific information
- Understand the scientific method
- Network and make contacts
- Learn how to convey the importance/relevance of science to the public
- Develop writing skills
- Share best practice
- Get story ideas

The facilitators' tried to incorporate as many of these objectives as possible into the training days. The first session was on 'Who is a scientist?' The session started by using a magic trick (burning a dollar bill) to illustrate that for most things in the observable world there is a rational explanation. A scientist is someone who spends their time trying to understand the world around us. The participants then discussed the 'face of science' as they perceived it. Participants were shown a slide of various scientists, both historical and present day, and asked if they recognised them. The lack of African scientists when looking at science historically was discussed. Participants were asked to discuss African scientists particularly local ones and to feedback to the groups the names of local scientists they were in touch with. The group then watched a video on African science heroes (http://www.youtube.com/watch?v=lQoPBIRQo5Y), discussed the lack of visibility of African scientists and talked about how they as journalists can rectify that. The group explored the responsibility of science journalists to find out about African scientists whilst maintaining journalistic objectivity. Participants then explored ***where*** science is done and the fact that the traditional view of a research laboratory do not cover every aspect of science, it can be done in open spaces such as a garden or even in space.

> ***I would like to avoid 'he said' syndrome and look properly before writing a story – Participant.***

Demystifying science: The next session was on demystifying science. Participants were asked what comes to their minds when they think of science and they suggested: ***complexity, reliability, confidence, caution, thinking, difficult, clever***. We explored the scientific process from developing a hypothesis to publishing a piece of research. A lot of discussion around science revolved around drug testing and traditional medicines so participants spent a significant amount of time exploring the gold standard of drug testing; **the double-blinded, randomised placebo controlled trials**. Using case-studies and group work the participants discussed the placebo effect and how powerful it can be and thus why any claims of efficacy have to stand up

to scrutiny of the method by peers. The clash between traditional and conventional medicines was a subject that came up over and over again with the push that traditional medicines have to be subjected to the same level of scrutiny as any conventional medicine.

Scientific consensus: The next session was discussing the concept of scientific consensus and the balance of evidence. Participants explored themes that are considered controversial but for which there has been scientific consensus for many years such as evolution. The groups then worked on the separation of scientific consensus (i.e. agreement amongst scientists of a particular discipline) from societal/cultural or public disapproval. Participants discussed the consensus and controversies around climate change, HIV and vaccines. A major outcome of this session was a request for websites with authoritative information on scientific issues.

To help meet the stated expectation of generating story ideas, a trip to visit two research institutions, The Kenya Aids Vaccine Initiative (KAVI) at the University of Nairobi and the Kenya Medical Research Institute (KEMRI) was arranged. These trips were scheduled for day four.

Day 2

Day two started with a feedback of the previous session and asking participants to think about:

- Were their expectations met?
- Something new they learned
- What can be improved?

Most responses to the first question were yes, expectations were met. Some would have liked an opportunity/guide to getting more science stories but this was on the programme for later days.

In terms of something new they learned the journalists were particularly keen to emphasise an understanding and appreciation of the scientific method and process. It gave them new angles and tools to check a story or the veracity of a claim by for instance, checking for peer-review, scientific consensus, checking affiliations of the scientists making claims, publication record etc.

Ethics in science: The first session of the day explored ethics and conflicts in science. The main aim of this session was to highlight that scientists, like all other members of society, are capable of right and wrong and to discover what sort of incentives influence the behaviour of scientists. Participants discussed the parallel tensions of competition and cooperation between scientists and explored how this can be abused. They then used discussions around religious boundaries and cultural sensitivities to explore the conflicts between scientists and the societies within which they operate. Case-studies were used to aid discussion around the problems of plagiarism, scientific fraud, clinical trials, fertility treatment, informed consent and ownership of traditional remedies. The discussions also explored the science regulatory environment in each country. Uganda was used as an example where the Uganda National Council for Science and Technology (UNCST) is the scientific regulatory body. It requests that all primary investigators carrying out research pay a flat fee of $300 to register their studies. This fee leads to many studies not being registered as scientist can't afford to make the payment. This in turn limits the ability of UNCST to perform its remit.

The regulatory environment in other countries was then compared with the Ugandan model followed by a look at the merits of setting national research priorities.

The discussions from this session were particularly interesting but time constraints limited the discussion. This is certainly a session that should be expanded in future programmes.

Science and the public: The next session focused on mechanisms that support science getting to the public. The participants watched a video from Coherence in Information for Agricultural Research for Development (CIARD) initiative. In the video, researchers in Uganda had modelled a mudslide incident and its potential impact then published the result in peer-review academic journals (http://www.youtube.com/watch?v=cDdlaZzgWDo). The knowledge contained in that article was not available to public officials and the predicted mudslide did happen killing approximately 300 people. The discussion firstly explored what went wrong between generating research data and the mudslide. The consensus was that the research did not reach the people that most needed it. We then discussed the processes in place in each country to allow research to reach the necessary policy makers. Participants discussed the role of the media in disseminating scientific information and the fact that poor science coverage costs lives. This also added to a theme they had been exploring around what exactly is a science story? A lot of the comments and feedback suggested that science stories are mainly based around press releases, health and traditional medicine but the video illustrated the impact of scientific information not reaching the wider public.

Thinking inside the box: The purpose of this session was to think about uncertainty and why some scientists hesitate to make categorical statements. To explore these themes the group used an activity called 'thinking inside the box'. In this activity participants' had to work in groups to describe the contents of a sealed box without opening it. They had to rely on sound, touch, smell and prior experience to describe as accurately as possible the contents of the box. At the end they discussed the fact that you may have all the data (i.e., all the observations made) but still get the contents of the box wrong (i.e. Interpreting the data). They then discussed the dangers of pushing scientists to make comments with certainty when a lot of science is inherently uncertain.

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Fighting bad science: Finally to close the day we had a talk from Martin Robbins, a freelance science journalist who writes the Lay Scientist Blog for the Guardian, discussing the ways to fight bad science. He used examples of discredited western individuals selling untested and in some cases harmful products in Africa. His talk also explored the themes of investigative science journalism to get to the truth about bogus scientific claims.

Day 3

This day introduced the concept of pseudo-science particularly in the African context and how to go about verifying claims from bogus sources. This followed on from yesterday's closing talk by Martin Robbins on pseudo-science and investigative journalism. Participants also discussed how to build trust between scientists and journalists.

The afternoon session focused on the conflicts between science journalists and communications staff from research institutions. This session was carried out as a Q and A session with the communications staff taking questions as a panel. The session explored:

- How to write good, clear and useful press releases.
- What journalists look for from research communications staff
- Incentives to journalists to write stories
- Structural barriers at research institutions
- Ways journalists and communications staff can work together
- Accountability of both groups (when and to whom)

> ***I appreciate the opportunity to meet journalists and communicators. It was good to know how science journalists feel about communicators. – Research Communication staff, Uganda***

Day 4

Visit to the Kenya Aids Vaccine Initiative (KAVI): The group was hosted at KAVI Nairobi by Ms Daisy Ouya and the Director of the Institute, Professor Omu Anzala. The group got a chance to tour the facilities and speak with scientists at the institute. Afterwards the director took questions from the journalists and granted interviews. This visit served two purposes, an opportunity to see a world class African research institute and a chance to generate stories for their editors.

Visit to the Kenyan Medical Research Institute (KEMRI): Participants were hosted at the KEMRI facilities in Nairobi where they heard presentations from the assistant director of the Institute and various researchers. Similar to the KAVI visit, the journalists' had a chance to tour the facilities and interview the researchers.

Overall the two laboratory visits were a good opportunity to ask scientists questions about the issues we had been discussing in the previous days. New story angles were also identified such as how vaccine trials recruit volunteers and what are the barriers to a successful HIV vaccine.

An observation from this visits was that whilst there were some critical and probing questions there was limited challenging of the facts and figures provided by the Institutional representatives.

Participants with the Director of KAVI, Prof Omu Anzala

Day 5

The workshop phase was concluded on day five with a feedback session from the participants and the launch of the mentorship programme. The mentorship programme will be sponsored by INASP and run by AFSJ. This programme which is expected to run for six months will provide participating journalists with editorial support in writing, editing and publishing their stories. The mentorship programme will also have an incentivising competitive element where a successful journalist at the end of the programme will be sponsored to attend the 8th World Conference of Science Journalists in 2013 in Helsinki, Finland.

Some feedback from participants is captured below:

I never considered myself to be a science journalist due to lack of understanding of the scientific process. The visit to the labs was very informative and hands on. I appreciate science reporting and journalism a bit more – Participant, journalist

I gained a lot from hearing the journalists highlighting the weaknesses of communications officers. Communications have to work on writing capacity, diversify our contacts. I also enjoyed the networking. Participant, research communications officer

I have come to appreciate the need to verify science stories. I also appreciate the network and meeting others science journalists. The visits to the institutes have helped me appreciate the process of science and the realisation of the dangers of bad science journalism. – Participant, journalist

This was the first time I spoke with a scientist in the room to learn about his work. It is important to hold scientists to account. – Participant, journalist

It has taught me how to critically assess research studies. It is also useful for me to view my country from a distance and identify other issues in my country – Participant, journalist

Part 2

Issues around science journalism in Sub-Saharan Africa: Lessons from INASP science communication for journalists' workshop.

Introduction

Apart from the training aspect of the workshop several points were raised in discussions about the context within which journalists and communications officers work. These issues are of relevance to understanding the barriers to effective science communication and should be considered/understood when planning interventions in this area. Key issues are discussed below:

Lack of value attached to science

There are anecdotal reports on the way science is valued in parts of SSA. This was stressed by some of the journalists as a problem which makes it difficult for them to communicate the relevance of their work.

Lack of 'beat' journalism

One point that came out of discussions was the lack of a science 'beat' at most media houses. As a result science journalists tend to 'fall' into the job after covering a couple of relevant stories. This means they do not necessarily have the skills to scrutinise scientific claims but they also do not have any contacts in science.

Lack of investigative journalism

Another issue that came out of discussions was an absence of investigative journalism in science coverage. Participants mentioned the pressures from editors to file a story without necessarily checking all the facts but more surprisingly there was generally no follow up to claims made by dubious characters or even reputable scientists. This came through in discussions about traditional and religious healers who make outlandish claims but their success or failures are never

There is a trend amongst editors (to view) science as less relevant to the public – Participant

Science does not have honour in my country – Participant

In my country we don't have 'beat' reporting so I covered everything – Participant

I need to do more in-depth coverage (of science stories) – Participant

Science journalists' have a great responsibility - Participant

followed up. This problem is also relevant to coverage of stories from major research institutions.

Brown envelopes

This is a particularly difficult issue but in discussions between science journalists and research communications staff it emerged that communications departments pay journalists to attend press releases and to print stories. Some of this was under the cover of travel expenses but a lot of it was about brown envelopes discretely exchanging hands. Journalists argued that brown envelopes do not influence their decision to write a story and they'd rather have good clear press releases but felt the system was arranged such that they have to accept the brown envelopes. Reasons for this include the fact that a lot of journalists do not actually get paid by their employers and some are technically freelance but are prohibited from writing for other organisations. Another reason for this problem is the skills gap of the communications officers themselves. Journalists indicated that if the communications officers were able to produce good, clear press releases with relevant information then they are more likely to use it. The suggested that some communications officers have not got the skills to communicate hence they pay to have the journalists attend their briefings or write their stories. This was an issue in almost every country discussed. The complexity of this situation does not easily allow blame to be placed in one area but it clearly has a big impact on the quality of science journalism coming out of large parts of sub-Saharan Africa.

Lack of capacity to understand and critique science

This final point was apparent very early on in the workshop. There was a clear lack of understanding of the scientific process and peer-review. Discussions around simple steps to check the veracity of a claim revealed that a lot of journalists are not aware of peer-review, academic affiliation, scientific consensus etc. This is a relatively cheap and simple area for organisations working to build capacity in this area can invest in.

> ***I thought science journalism was all about health but now I realise it is broader – Participant***
>
> ***I did not think to check stories or look for peer-review – Participant***
>
> ***I did not realise how science is done - Participant***

Issues around good journalism more broadly

Whilst these discussions took place within the context of science journalism, a number of the issues raised are also pertinent to journalism more broadly. The same inquisitive nature, scepticism and understanding of data that is required to be a good science journalist are required to be a good journalist. There is definitely scope for work in the area of journalism ethics and skills as a form of continuing professional development but it is all the more important to work with schools of journalism more broadly to ensure that these skills are taught at that level.

Recommendations

Whilst some of the issues raised above (such as brown envelopes) require much more than a single intervention to tackle, there are some activities that can help improve the quality of science journalism in SSA.

- Adapting the science communication course so that the first half focuses on science but the second half focuses very heavily on journalism standards and process
- Working with schools of journalism to incorporate science modules in their curricula (the materials for this workshop could easily be adapted for such activities)
- Providing journalists with good science communication resources that explain the basics of the scientific process
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- Support for networks of science journalists to share skills, challenges and experiences

Alexander Ademokun

30th April 2012

Appendix 1: Programme

Day	Session	Topic
Day 1	Session 0 0900-0930	Introductions
	Session 1 0930-1100	Who is a scientist?
	Break	Break
	Session 2 1130-1300	Scientific method
	Session 3 1400-1530	Scientific Consensus
	Break	Break
	Session 4 1600-1700	Discussion
Day 2	Session 1 0900-0930	Review of the previous session
	0930 - 1100	Ethics in science session?
	Break	Break
	Session 2 1130-1300	Science and the public
	Session 3 1400-1530	In-workshop experiment. Thinking inside the box
	Break	Break
	Session 4 1600-1700	Fighting bad science
Day 3	Session 1 0900 - 1100	Who is a science journalist?
	Session 2 1100 -1300	What to report on science
	Session 3 1400-1530	Where are the science stories
	Session 4 1600 - 1700	Group activity on lessons learnt.
Day 4	All day	Visits to research institutes
Day 5	Session 1 0900-1100	Issues around science journalism/where does the story end?
	Session 2 1130-1400	Discussion, feedback and closing