# WFSJ Peer-to-Peer Mentoring Project (SjCOOP):

# Evaluation and Recommendations

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May 2009

## Acknowledgements

I want to thank everyone who took so much time to share their views and experiences with me. I am particularly indebted to those who were working in their second or third language to talk to me in English. Everyone was accommodating and forthright in their discussions about the project, its successes, and how they would like to see it evolve in the future. Without their cooperation this evaluation would have been impossible.

## Content

## Background

This 3-year peer-to-peer mentoring project was funded by the International Development Research Centre (IDRC), Canada; the Department for International Development (DFID), United Kingdom; and the Swedish International Development Cooperation Agency (SIDA).

These donors have a history of supporting science journalism in the developing world. IDRC first supported science writing training in Africa and Asia in the early 1980s. Later, the three donors came together to help found and support SciDev.net, the Science and Development Network, which presents news, views, and information about science, technology, and the developing world. Part of the donor's rational for support to this project came from the fact that SciDev wanted to expand into Africa and was unable to find journalists with appropriate standards. Before the Project Director, Jean-Marc Fleury, retired from IDRC, the idea for a project was conceived to address this dearth of science journalists by training young, emerging journalists through partnerships with established working science journalists and by helping to strengthen associations of science journalists. The Program Committee of the World Federation of Science Journalists (WFSJ), particularly Nadia El-Awady and Diran Onifade, worked hard to further develop the proposal that was submitted for donor funding.

After his retirement, and as Executive Director of the WFSJ, Mr. Fleury pursued development of a project to harness the goodwill and expertise of science journalists who would be willing to mentor less experienced colleagues. The overall objective was to establish a peer-to-peer mentoring project that would enable 60 journalists in the Middle East and Africa to become better science journalists. As a result, these journalists were expected to be better able to report on the work of local scientists and to influence decision-makers in their communities.

IDRC funds were provided for a start-up grant for the period 1 April to 31 July 2006. This grant allowed regional coordinators and mentors to be selected, provided some training for the mentors, and initiated discussion about project objectives and how outcome mapping could be integrated into the project. IDRC continued support to the project and was joined by DFID in July 2006 and SIDA in January 2007.

The general objectives of this project were two-fold: to implement the *Peer-to-Peer Learning and Development of Science Journalists in Africa and the Middle East* project; and to strengthen the implementing agency, the World Federation of Science Journalists. The more specific objectives included:

- Develop a network of professional science journalists in the developing world;
- Provide training for science journalists in the developing world;
- Provide continuous support to associations of science journalists in the developing world;

- Provide continuous support to individual science journalists in the developing world;
- Provide a framework to sustain a long-term relationship between experienced science journalists (from both developed and developing countries) and aspiring science journalists from a developing country or region; and
- Provide a framework to transfer developing world science journalism expertise to other parts of the world, as science journalists have much to gain from learning how to cover science stories in differing, and sometimes difficult, working environments.

This evaluation was commissioned at the end of February 2009 as the first phase of support was coming to an end. It was undertaken to assess the project's accomplishments and possible shortcomings, and to make recommendations that would provide input into a proposal for a second phase of donor support. The evaluation was not expected to address how the implementing agency might have been strengthened through the project.

## Method

In addition to regular progress reports by the WFSJ, the project benefitted from the inclusion of the outcome mapping (OM) methodology and the production of various reports of OM activities. These two sources of information were very valuable resources in terms of understanding how the project evolved over time. Appendix 1 provides lists of project outputs as well as milestones of significant events that occurred during the project. These lists were prepared by the WFSJ Secretariat.

Given the extensive amount of project reporting that took place during the life of the project, the purpose of this evaluation was to provide a degree of assurance that the OM process had been successful in collecting reliable, representative data on the project and its implementation. Using information from the project and collaborating data from interviews, this report summarizes what has worked in the project, what requires improvement, what lessons should be learned, and how the experiences of the first phase should be used to improve the design and implementation of the next phase. This analysis is used as the basis for recommendations.

New data collection involved face-to-face and telephone interviews with a dozen individuals who were involved in the project in different capacities. In all cases, interviewees were sent questionnaires in advance by email. With one exception, respondents in Ottawa-Gatineau were interviewed in person. Other respondents were given the option to complete the questionnaires and return them electronically, or to schedule a telephone interview. All opted for an interview. Telephone interviews were conducted by Skype whenever feasible.

In total, 12 project participants were interviewed — three staff at the WFSJ headquarters, the OM specialist, three regional coordinators, one mentor, two mentees, a project training consultant, and one donor representative were interviewed. Five others were also contacted by email to arrange an interview (one additional mentee, two mentors, and two donors), but they did not reply and interviews could not be arranged. The purpose of the in-depth interviews was both to verify the accuracy and reliability of the data provided in project reports and to explore in greater depth the experiences and reflections of these key contributors to the project. Each interview lasted between 60 and 90 minutes. A list of the people who were interviewed is provided in Appendix 2. Appendix 3 provides the questionnaires that were used to guide the interviews. In all cases, informed consent was obtained from the respondents with regard to their input and its use and dissemination as part of this evaluation report.

After completion of the first draft of this report, it was shared with the WFSJ Secretariat. The purpose of this step was to ensure that the report was factually correct, and that the recommendations and conclusions made sense within the context of the project. It was also an opportunity to ensure that there were no outstanding issues that should be addressed by the evaluation.

## Project Accomplishments

This section is organized according to the six sub-objectives of the project. An additional section discusses the role OM played throughout the project. The intent is to give a brief overview of project accomplishments. Additional points as well as greater detail are provided in Appendix 1. The two overall objectives are addressed indirectly as the successes of the project reflect on the implementation of the project and reputation and on the ability of the implementing agency.

### Develop network of professional science journalists

- WFSJ public website (www.wfsj.org) created
- Participant WE website (www.we.wfsj.org) created (only accessible to project participants, where each mentee has own private site)
- First face-to-face meeting of mentors and mentees (Nairobi, November 2006)
- Second face-to-face meeting of mentors and mentees (Doha, February 2008) — held in partnership with Qatar Foundation and the Al Jazeera Media Training and Development Foundation; YouTube used to post panel discussion (www.youtube.com/WFSJorg)
- Skype chats and teleconferences instituted to increase interaction among all project participants and between mentors and mentees
- Transborder stories further enhanced contact among mentees and initiated direct contact with editors in the regions

### Provide training for science journalists

- Training curriculum developed for mentors and coordinators (5-day workshop held, Munich 2006) mentoring principles; first draft written of *Mentoring Booklet* by Kathryn O'Hara in 2007 — still to be finalized as a WFSJ booklet on Mentoring of Science Journalists
- Ongoing mentoring program links science journalists (mentees) in Africa and Middle East with experienced mentors in Africa, the Middle East, Europe, and North America and by project conclusion 32 mentees were "graduated"
- An 8-lesson online course for science journalists created in association with Bertelsmann Foundation and International Institute of Journalism (InWnet) (http://www.wfsj.org/course/) — 1: Planning and structuring your work; 2: Finding and judging science stories; 3: The interview; 4: Writing skills; 5: What is Science?; 6: Reporting scientific controversy; 7: Reporting on science policy; 8: How to shoot science
- The three regional coordinators presented the SjCOOP project at Euroscience Open Forum (ESOF2008) and distributed 100 copies of the online course in three languages using USB keys (Barcelona, Spain, July 2008)
- Course used as input into academic journalism training — Marina Joubert, Tshwane University, South Africa, and Jenni Metcalfd, University of Queensland, Australia, both using materials to develop their training programs

and referring students to WFSJ website; and the University of Laval is using the course as the basis for developing its own online course

- Many mentees have won scholarships and prizes — for example: Abiose Adelaja (Nigeria) Hubert Humphrey Fellowship; Esther Mubiru (Uganda), Kimani Chege (Kenya), and Onche Odeh (Nigeria) ( Knight Research Fellowships in Science Journalism; Mabutho Ngcobo (South Africa) National Vodacom Journalist of the Year; Bahati Wanzala (Kenya) IDRC Internship at Research Africa, South Africa; Hanan Al-Kiswany (Jordan) King Hussein Cancer Centre Award for Best Article on Cancer; Fatiha Chara (Algeria) IDRC Internship at Agence Science-Presse in Montreal; Nehal Lasheen (Egypt) Award for Best Article Published on Islamonline.net website; Godefroy CHABI (Benin) AISI Media Awards (African Information Society Initiative) for Best Radio Program on ICTs in Africa; Théodoreo Kouadio (Côte d'Ivoire) 2008 Prize Dan Moussa; Rivonala Razafison (Madagascar) UNESCO Africa Education Journalism Award; and Mame Aly Konte (Senegal) Best Science Article in Senegal, Senegalese Academy of Science and Technology
- Mentees claim to have influenced policy or decision-makers — for example: installation of filtering system on a cement plant (Jordan); establishment of special unit to fight AIDS in Health Ministry (Jordan); stopping Health Minister from smoking in public (Jordan); posting of no smoking signs in offices of Health Ministry (Jordan); setting up technical committee on Lake Nyos (Nigeria); speeding up of water treatment in Baghdad (Iraq); recognition of psychological needs of people displaced by war (Cote d'Ivoire); raising interest for aflatoxin detection methodology (Malawi); firing of corrupt AIDS drugs distribution official (Uganda); and allocation of funds to fix Lake Nyos (Cameroon)
- Using a pseudonym, Alexander Abutu Augustine (mentee) and Christina Scott (mentor) wrote an article on sickle-cell medicine fraud that became the most visited and commented story in history of SciDev.net

## Support associations of science journalists

- Published *Setting Up Your Own Science Journalists' Association*, Barbara Drillsma, 2007
- Published *2007 Science Journalist Associations*, Jessica White, 2007
- Sessions included in World Conference of Science Journalists on: creation, management, and sustainability of associations of science journalists; and twinning of associations (Melbourne, April 2007)
- Cameroonian Association of Science Journalists (SciLife) founded and WFSJ Coordinator, Gervais Mbarga first President
- Association Rwandaise des Journalistes Scientifiques (RASJ) formed after Nairobi workshop
- South African Science Writers' Association (SAWA) created and Christina Scott (mentor) is appointed Vice-President
- Ten African and Arab associations are now officially members of the WFSJ and eight are twinned with an association from a developing country

- The twinned associations include: Arab Science Journalist Association (ASJA) and US National Association of Science Writers (NASW); SciLife (Cameroon) and French Association des journalists scientifiques de la presse d'information (AJSPI); African Science Journalists Federation and the German Association of Science Writers (TELI); Nigerian Science Writers Association and German Science Journalists Association (WPK); Ugandan Science Writers Association and British Science Journalists Association; and Kenyan Science Journalists Association and Canadian Science Writers Association.
- Grants provided to new associations to conduct local activities — for example: Ugandan Science Journalists Association (USJA) First Uganda Science Communication Conference (Ugandan President Yoweri Museveni encouraged the work of science journalists); Nigerian Association of Science Journalists held training workshops in Abuja and Lagos; First Conference of Arab Science Journalist held in Fez, Morocco; Kenyan Association of Science Journalists (MESHA), Hands-On Training Course for Journalists Working Outside Nairobi; and Rwandan Association of Science Journalists, First Workshop on Science Journalism held in Kigali

## Support individual science journalists

- FSJ mentor and President of AJSPI, Sophie Coisne, arranged for 15 SjCOOP mentees to attend AIDS workshop in Paris (November 2006)
- Workshop held in Casablanca for 9 Jordanian and Iraqi mentees (who could not attend Nairobi workshop) and 5 Arabic mentors.
- Ongoing mentoring program helps individual journalists as does support to national science writers associations, which can provide on-going local encouragement and resources
- Headsets and laptops provided to individual journalists at conferences as awards for the best science stories
- Feedback and ideas for stories and outlets for work is built into mentoring program for journalists
- Encouragement and support is ongoing through the mentoring process and has lead to many mentees applying for (and winning) individual awards

## Provide framework to sustain long-term relationships

- The twinning arrangements between science writers' associations promotes continuation of relationships that have been created during the project
- Exposure to possibilities of Internet-based research and communication as well as training in Skype provide tools to continue and sustain relationships
- Articles in professional publications and presentations at workshops by project participants broaden exposure of project and its partners and lay foundation for establishing additional relationships

## Provide framework to share developing world science journalism expertise

- Presentations made at international conferences such as: Nadia El-Awady and Jan Lublinski, *Mentoring and Monitoring — How to Build a Reporters' Network*

*Using the Outcome Mapping Framework*, presented to symposium on Measuring Change — Planning, Monitoring, Evaluation in Media Development, Bad Honnef, September 2007

- Exposure of science journalists from Africa and Middle East on such online websites as SciDev.net, and through publication in respected journals such as *Le Research* establish their expertise and enhance their exposure
- Twinning of science writers associations offers opportunities to expose expertise of Southern science journalists on international scale
- Use of online training course in other venues (such as universities) expands reach of project and through associated links to the WFSJ website more exposure is given to the expertise that is being developed throughout Africa and the Middle East

## Use Outcome Mapping

- Initial attempt to integrate OM made in Munich, July 2006 (Jan Lublinski identified and later engaged as OM consultant)
- Comprehensive monitoring methodology developed that included vision and mission statements, expected outcomes, and boundary partners — information captured in strategy maps, outcome challenges, and progress markers
- Questionnaires and reporting forms developed to collect and standardize monitoring information
- Results from monitoring used to make decisions on dropping of some mentees and mentors based on their performance and commitment to project; alter mentoring to make it more individualized and include more basic journalism training using the online course
- On-going international discussions of monitoring and evaluation in media development have been encouraged and will be the topic of a conference scheduled for 2009

# Discussion and Recommendations

It is clear from the previous listing of project accomplishments that much has been achieved during the life of the SjCOOP project. This section looks at these accomplishments and reflects on the input received from the project participants who were interviewed. The objective is to discuss how the project can benefit from its experiences to improve on its achievements during the proposed second phase. Each item that is discussed is followed immediately by recommendations that flow from that discussion.

## Mentoring

Fewer mentees "graduated" from the project than was anticipated. Improvements based on the experiences of the first phase should result in a better rate of graduation in phase two. These improvements should include more rigorous mentee screening and selection, enhanced mentor and mentee training, better documentation of the requirements and expectations of mentors and mentees, and a clearer structure that specifies tasks and responsibilities for the duration of the mentoring program.

The graduates of phase 1 are a valuable resource for future project activities. They can be used to help identify candidates for the mentee program, some can be approached about becoming mentors, they are also very good local resources who might help new mentees with project-related problems (perhaps they could be twinned to a new recruit), and they could be used to help organize and run local workshops. It is important that these graduates continue to remain within the project's sphere of influence. They need to remain active ingredients in the project mix during the second phase.

*Recommendation:* *Meaningful ways must be found to continue the association of "graduates" with the project. They should be recruited to help other local journalists. Small competitive awards might also be developed for previous graduates to undertake field work or to organize local activities.*

**Skills training** — Mentoring is at the heart of the project and critical to its success. The first phase of the project was very much learning by doing as it involved a new concept of distance mentoring. Feedback suggests that initially the program was focused on science journalism training, but more basic journalism training was found to be required to train the mentees to an internationally accepted standard.

The online lessons that were developed were an important project output and proved to be a useful addition to the project's "tools". The 8-lesson course is currently on line in Arabic, English, French, and Spanish and has also been translated into Portuguese and Chinese. There are now over 800 pages of content that has to be made accessible. Work is continuing on determining the best format for this material. It is currently in html format, but other options are being explored. The materials have also been copied on to USB drives that are small and easy to share with others.

Efforts could be made to supplement this training with locally organized activities (using past trainees), built around topics of particular importance to that region, and have the writing of articles a requirement of the session that could be assessed and critiqued by the mentors.

As well, respondents suggested that the second phase would need more structure and a clear timetable of activities. In other words, there needs to be "prescribed content" within the customized or individualized mentoring — content that addresses known weaknesses or desired skills such as interview skills, pitching a story, and organizing and planning fields visits to get stories.

*Recommendation: Working through the online course should be part of the mentoring–teaching plans that are implemented in phase 2. This skills training could be supplemented with locally organized events and activities.*

*Recommendation: The mentoring in phase 2 must have more structure and an agreed upon timetable for activities for both mentors and mentees.*

**Mentee selection** — Mentee selection is critical to project success. The project now has an expanded network of contacts to help identify candidates. Individual mentees as well as science writers associations could be used to help identify people, conduct preliminary screening interviews (with standardized interview guides), and verify the details of their work experience. It may also be useful to interview editors and ask them who they assign to cover scientific conferences to help identify promising candidates.

Specific criteria need to be developed for candidate screening. Selection should be based on samples of articles or programs that address science or technology issues. The consensus was that candidates must have already demonstrated some interest in science and technology in the past; otherwise, they are unlikely to change their interests and become science journalists. Most respondents felt that future efforts should be placed on mid-career journalists. They defined these people as being journalists with at least 5 years experience, although the importance of being able to select good young candidates with less work experience was emphasized. None of the respondents suggested that senior journalists be considered. The rationale for selecting mid-career journalists included: they are committed to a career in journalism and not as likely to switch careers when a new opportunity arises; and they are candidates for advancement to management positions in their organizations. As well, young and mid-career journalists are more likely to have familiarity with new technology.

There was strong support for the notion of being able to communicate in English. It is the main language of science and the ability to at least read and understand English is critical to on-line research and fact checking. Although it can be very difficult for mentees who have limited English-language skills, some have gained greater confidence in using English and are now more comfortable as a result of the project.

However, language will continue to be a challenge. It may help to having more local (regional) meetings in the main working language of the region during the project, and then have larger project-wide meetings in English, which all respondents agreed was essential to networking and accessing scientific research. There is a concern that strict application of the English-language skill set would mean the project only caters to "elite" journalists. This may be true, but it may also be essential if the project is to achieve its goals.

Other selection criteria might include: membership in a science-related association of some kind; currently working or freelancing as a journalist with some science-related work; and demonstrated ability to access technology and make a call to the screening committee using Skype. Ideally, all candidates should be interviewed during the screening or selection process either in person or by Skype.

One respondent also wanted to emphasize the importance of ensuring that there are as many women involved as possible. She suggested that women tend to network better than men and therefore are more apt to get things done. It is not possible to verify if this statement is true, but seeking an appropriate gender balance among both mentees and mentors is important. Some mentees mentioned that they did not know how mentees were chosen.

*Recommendation: Selection criteria must be developed for candidate screening and clearly articulated in all public announcements about the project. This selection process must be clear and transparent to those who apply.*

*Recommendation: Graduates from the first project and local science journalist associations should be involved in mentee identification and participate actively in the screening and selection of candidates for phase 2.*

*Recommendation: All candidates should be interviewed by Skype to determine their English language skills and their ability to access and use Internet-based technology.*

**Mentor selection** — Mentors clearly must have a wide range of science journalism skills and experiences to share with mentees, but respondents stressed that this was not enough. Some professionals are not good teachers. Ideally mentors should have some previous training and developing country experience. In addition, care needs to be taken in selecting mentors who are patient, committed, have a real understanding of the local political and cultural environment (e.g., freedom of expression and gender issues), and recognize the very difficult situation some mentees face with regard to Internet access, its cost and reliability, and even the unreliability of electricity. Mentees would also like the opportunity to change mentors or at least have access to more than one mentor.

Mentors must be professional and develop a professional collegial relationship with mentees and have the ability to lead a group. They should also: work in the same

media as the mentee because the mentees are being trained in situ; and resist the temptation to only edit the work of the mentee and rather act as a coach; be familiar with the Internet-based technologies used by the project; and be prepared to develop individualized work plans and schedules with each mentee. Seniority was also seen as important as it was suggested that the ideal mentor is someone who has reached the point in their career where they want to "give back" and that in Africa and the Middle East age is an important factor in terms of respect. Finally, mentors must be willing to sacrifice time and be committed to the objectives and ideals of the project.

*Recommendation: Mentors should be matched by media type to mentees and have experience in training and in team building.*

*Recommendation: Mentors must have working experience in developing countries or be fully briefed on local conditions and constraints and be sensitive to the working environment of the mentees.*

*Recommendation: Mentors must be comfortable using Internet-based technologies and have reliable Internet access.*

**Feedback** — Mentees and mentors were both asked what type of feedback was most important for mentors to provide. The areas most often cited for improvement were: balanced reporting; how to find sources; checking sources; investigative techniques; pitching stories (especially for freelancers); suggesting potential contacts and outlets for stories; and suggesting topics for articles. Basic writing skills were not mentioned. This is interesting because the Project Director noted that one of the most challenging aspects of the project was that mentees often had totally unrealistic views of their skill level — most he felt were weak and needed to improve basic skills.

Mentors and mentees must work together to develop a shared vision about where the mentee needs to improve. They must work as a team of colleagues not as a teacher and student. The mentoring needs to be structured but still allow for personalized feedback on the mentees work. One mentee found that it was useful for his mentor to look at old stories he had written and give feedback, rather than start on new stories from scratch. He also indicated that his mentor constantly challenged him to do better and to explore new opportunities. She "helped me to dream." This motivational aspect of feedback is clearly an important attribute of any good coach or mentor.

Mentees and mentors both felt that the key for good feedback was building a strong relationship. For this to occur, face-to-face meetings very early in the project were considered essential. Face-to-face meeting help to reduce linguistic and cultural barriers, help everyone to have similar expectations, and were seen as critical to creating a feeling of "family" among project participants. Beyond this relationship though, it was suggested that a specific timetable and structure needs to be agreed on, and that mentors need to dedicate "regular" time to the mentees. In addition, a few minutes for a Skype call or email at a "critical time" was also considered very important.

*Recommendation:* *Face-to-face meetings are essential to build rapport and establish a shared view of training requirements and goals, and these meetings should be an integral part very early in the project and be used to define a timetable of activities.*

*Recommendation:* *A structured relationship for mentoring must be developed collaboratively by the mentor and mentee to define tasks and a timetable for both to follow.*

**Commitment** — Commitment of project staff, the regional coordinators, and the mentors was very important to the success of the project. Several of the resource people worked on weekends and evenings beyond the original estimate of time that would be required for their input. As well, some were able to obtain additional funding to bring mentees to other workshops — for example, an AIDS conference in Paris. One mentee spoke of constantly being encouraged and pushed by his mentor. He summed up her influence by saying "she never gave up on me."

Although personal commitment is an important ingredient to success, incentives in the form of working tools such as laptops, recording devices, and headphones can be useful in maintaining motivation among mentees. However, these should not become the main reason people participate in the project. Mentees must be committed to becoming science journalists and to seizing the opportunity they are being given to learn through a close personal relationship with an experienced professional.

Estimates of the time required to be fully engaged in the project varies, but this seems to have been underestimated at the start of the first phase, particularly for mentors. Time is needed for mentoring, but also for planning, communication with WFSJ, other mentors, and coordinators, and for reporting via OM. Opinion on the time commitment that mentors must make to each mentee per week was diverse. Estimates ranged from one hour per week per mentee (the basis of phase one planning) to as much as six hours per week per mentee (and much of that time is after hours and on weekends).

It is clear from these estimates that mentors must be prepared to spend at least two hours per week per mentee, and recognize that at some times and for some mentees this time commitment might extend to as much as four hours per week. The time commitment to be a good distance mentor, and the irregular and often unpredictable time when mentees really need help, should not be underestimated. It was also suggested that adding more structure in the mentoring would increase the time required, but structure could well reduce time as both parties would have a series of regular planned activities to undertake.

Mentors must be totally committed to the program, be willing to provide significant time, must have a clear picture of what is expected of them, and develop a structured timetable for mentoring, which still allows individual flexibility. The use of previous

mentees as mentors when appropriate would be good as they have first-hand knowledge of what worked well and the necessary time commitment.

*Recommendation:* *The time mentors (and mentees) must dedicate to the project must be carefully reconsidered, and the expectations of them and the time commitments they both must make to the mentoring program must be clearly articulated at the very beginning of the project.*

*Recommendation:* *The project should continue to seek ways to supplement personal commitment by providing working tools when necessary; however, these should always be "rewards" for performance, not "entitlements."*

*Recommendation:* *Whenever possible, graduate mentees should be used as mentors both because they are now aware of what it takes to be a good mentor and because it continues their involvement with the project and science journalism.*

**Program design** — Radio and television production are more time consuming than print. Therefore, mentors must be sensitive to the additional constraints this places on production time and also submitting material. Working with television proved to be very difficult particularly because the programs tend to be half an hour long. The files that need to be transferred to mentors are gigantic and not well suited for Internet-based transfer. One coordinator noted that print is limited in Africa because literacy rates are still low; however, radio reaches nearly everyone. Although radio programs also proved difficult to share, the files were much smaller and created fewer problems. Most respondents felt that there was a good cross pollination between radio and print journalists

Given the difficulties with sharing television programming, television training is perhaps better left to projects that are more hands on and do not depend on trying to mentor from a distance. Radio and newspaper reporting seem better suited to the type of mentoring developed and pioneered by this project.

Another important consideration for phase two is how to maintain momentum and challenge people on an ongoing basis. It may be that a two-year program of mentoring or "teaching" is too long to retain full engagement. Other options could be considered. Perhaps the program could to be designed to have 1-year of structured mentorship followed by second year of less structured assistance. If feasible in terms of administration and resources, this would offer the possibility of adding a second batch of mentees to the program after the conclusion of this first year of mentorship. However, the administration of such a scheme would be complex and the demands on mentors and on project administration and management would grow considerably. As well, such an arrangement would have significant financial implications.

*Recommendation: The second phase of the project should focus on print and radio journalists as the style of mentoring is most suited to these media.*

*Recommendation: The project team should continue to look for ways to maintain momentum and challenge mentees throughout the project, and to increase the "reach" of the project by exploring alternative program designs that would allow the project to engage additional journalists and thus increase the number of "graduates".*

## Networking and Twinning

Networking was without a doubt the most often mentioned benefit of the project. The journalists involved in the project no longer feel isolated in their newspapers, newsrooms, cities, countries, or even regions. Further, they do not feel isolated in their profession. They now realize that science journalism is a "real" profession that they share with a global network of colleagues. Participants now have an expanded network of science journalists throughout Africa and the Middle East, but also in Canada, the United States, Europe, and the rest of the world, who can be consulted to get story leads, seek local contacts, arrange interviews, or just ask questions and share experiences. Many examples were given of specific instances where questions were answered or contacts made as a result of interactions made through the project. They are no longer alone. They have enhanced confidence. They feel they are members of a global science journalism community that "is alive."

The tangible outcomes of networking include: strengthened and new associations of science journalists; the twinning of associations in Africa and the Middle East with established associations in the North; interest by the African Academy of Science in developing working relationships with the project; interest in Africa and the Middle East in hosting the 2011 World Conference of Science Journalists; the success of the Skype conferences and transborder stories and the interest the stories have generated among editors in the different regions; invitations are now sent to science journalists in other countries to attend conferences and meetings organized by local groups; and some collaboration and interaction has been established between English and French speaking journalists.

Barriers still do exist to networking. Physical distance, language, culture, and the accessibility, cost, and reliability of Internet access remain. As well, the lack of a critical mass of science journalists and few regular outlets for science-based stories create limits. But the project has made some inroads. These barriers can be diminished by supporting face-to-face meetings and continuing to look for ways to maintain and encourage regular interactions.

The need remains to continue to encourage and support the first "crop" of graduates. Local associations must be nurtured by providing opportunities for them to organize and host local initiatives and spread the word about the ethics and craft of good science journalism. Some have already demonstrated their competence by organizing local workshops.

It is also important for the project through its director and regional coordinators to establish links and potential collaboration with other ongoing journalism training projects in Africa and the Middle East. There are likely to be synergies from collaboration, and sharing of experiences can only help both parties.

*Recommendation:* *Face-to-face meetings are critical to developing relationships and fostering and encouraging networking and should be a strong feature of phase 2 planning. The focus should be on a number of small regional or national workshops, supported by a preliminary, mid-project, and concluding "all participant" meetings.*

*Recommendation:* *Whenever possible, local associations and previous graduates should be engaged to help organize and run local and regional meetings.*

*Recommendation:* *To the extent possible, mentees should be supported to travel to other regional (and international) science writers conferences. In particular, a few representatives from each region should attend meetings held by local associations in the other regions. These visits could be supported on a "rotational" basis or be given as prizes for their writing.*

*Recommendation:* *Twinning among science journalist associations should continue to be encouraged, and whenever possible similar collaborative arrangements should be stimulated among regional associations — so that collaboration could become the norm among African and Middle Eastern science journalist associations.*

## Communication

Internet-based communication technologies were a key to the implementation of the project. At the start, the potential of these technologies to help search for information and communicate was not evident to many mentees. Now, however, project participants realize the possibilities that they offer. The use of Internet technology reinforces the tremendous potential of these technologies to bring people together in real time. They are indispensible to the success of a distance-mentoring program. One mentee noted that improving writing skills and constant encouragement from his mentor were important, but that his empowerment through technology was equally decisive in his career development.

Application of these technologies was not without problems — as is reflected in the dependency of the project on the technical skills of mentees and mentors and the need for both parties to have reliable and affordable Internet access. The predictable problems of Internet access in many locations (cost, availability, and reliability) caused issues, lack of experience and training among both mentees and some mentors were problematic. As well, the complexity of the "WE website" and the login procedures meant that some people had issues accessing and using the site.

Access to Internet and computer skills cannot be taken as givens in the regions the project is working. Any future project must ensure that mentees and mentors are technologically savvy and have reliable access to the Internet. Some training could be provided through the project on how to use various Internet-based tools, but all project participants must have somewhat reliable access. Verifying this access should be part of the screening process for selecting both mentors and mentees.

**Skype** — The introduction of Skype to the project was crucial. Not only did Skype improve interactions among project participants using a low-cost appropriate solution, it was further expanded upon to create Skype conferences, and perhaps for the first time ever, Skype press conferences that involved scientists from various global locations interacting with African journalists. Skype chats were also set up near the end of the project on a monthly basis to ensure that mentees know that project staff were always there for them. One chat per month was established and involved about 35 people.

In phase 2, the project should be prepared to provide some simple devices such as headsets that can be used to participate in Skype conversations. Skype credits for communication among mentors and mentees (and between mentees) should be provided, with additional credits being given as awards for outstanding stories or successful progress through the online course.

**Website** — With regard to the WE website, about a quarter of the project participants were regular users. Access and use needs to be improved and a solution that requires lower bandwidth and has a less cumbersome and time-consuming login procedure is needed. Email and perhaps cellular phone messaging offer some opportunities and should be explored. Website activities should be continued to ensure that there is an active archive of project information, but alternatives must be explored to create an online community. Perhaps a listserv or email-based system of exchange would be better. This requires more investigation and experimentation by the IT Specialist and the creation of links with other potential partners with experience in the use of ICTs in development settings.

**Skype press conferences** — These were an unexpected project success. The conferences were an innovative experiment that demonstrated that scientists are willing to talk about their work with competent journalists. They also clearly showed the potential of this technology to overcome barriers of distance and actively engage a number of project participants in discussions of important regional issues. These conferences were a practical way to engage scientists and demonstrate the "professionalism" of the participating journalists. Further collaboration might extend to efforts by journalists to work with scientists to help them plan and hold press conferences about their work. Now that dialogue has been opened, opportunities need to be pursued to build mutual respect and trust between these two groups of professionals.

**Other alternatives** — Research on alternative communication methods, including the use of text messaging via cell phones, and improved data storage and management using the project's web presence has already been initiated by the IT Specialist. Perhaps input could be sought from other groups who are dedicated to new communication technologies. One such group is the Information and Communication Technologies for Development (ICT4D) group within IDRC. Not only might they be able to offer suggestions on alternatives, they may also have local contacts who might be willing to offer local technical support and assist in providing training for mentees. The close proximity of WFSJ to IDRC headquarters, and the long history of IDRC involvement in the use of ICTs for development purposes, makes such a possibility worth exploring.

*Recommendation:* *A "means test" should be administered as part of mentor and mentee identification to verify computer skills and access to a reliable Internet connection because they are both essential for a distance mentoring program using ICTs.*

*Recommendation:* *The project should continue to explore innovative approaches to using Internet-based technologies both to enhance communication to improve data storage and sharing on the project website.*

*Recommendation:* *Experimentation with Skype should continue. In particular, press conferences should be used to further dialogue and engagement with scientists (and be monitored and evaluated using OM).*

*Recommendation:* *The IT Specialist should seek guidance on alternative applications of ICTs in a development context, and the project should consider partnerships with other Internet-based development projects to make arrangements for local technical support and training.*

## Outcome Mapping

The inclusion of outcome mapping (OM) in the project proved to be both innovative, because it had not been used in a media development project before, and essential to project success. In the beginning, the role of OM was not clear; however, it became the tool that made on-going project monitoring possible. It encouraged team thinking and because of the feedback it generated about human behaviour it allowed important changes to be instituted throughout the life of the project.

According to the project leader "OM was fabulous. It gave us a picture of what was happening and we could look back to see problems. It pointed out things we would have missed. OM saved the project." OM provided structure to the project and gave a "reason" for reporting. Others reported that it helped everyone see where work and improvement were needed. It helped coordinators and mentors be more aware of what they were trying to accomplish and showed them in very real terms how to evaluate their efforts. It was also well suited to a mentoring program because it maps changes in behaviour and helps understand the needs and accomplishments of

mentees. It also showed that not just 32 people graduated from the project, all participants were shown to have made some progress. In short, OM built evaluative thinking into the roots of the project.

OM does not come without a cost however. Mentors mentioned that sometimes they were filling out cumbersome forms and that they did not understand the need for them. Suggestions were made that reporting documents need to be simplified (which was done as the project evolved) and that it must be clear why the information is being requested. Clearly, OM is a time intensive activity which pays important dividends to the implementation of the project. However, the reasons for using OM and the time commitment it requires must be clearly spelled out in advance to all project participants. This is additional time that must be spent on the project that is not considered as "mentoring" time. Future use of OM could perhaps be streamlined to focus on key progress markers based on the experiences gained in the first phase. It would also be interesting to use the OM process to help mentor–mentee pairs define the objectives of their relationship at the beginning of the project.

Another "negative" aspect of the OM process is that it identified new opportunities or needs for the project; for example, the need for English language training. However, these could not be implemented or addressed because they were beyond the terms of the project or there were budget constraints. The OM specialist wondered if the process could be reigned in a bit so as not to consider "the love to see" outcomes at the outer level. As well, he reported that sometimes he felt isolated and could have benefited from an OM mentor to help him deal with issues and questions that arose during the project.

Many changes were made to the project as a direct result of OM. Perhaps most important it pointed out that the mentoring was too loose and led to the suggestion that mentor and mentees define expectations and tailor the mentoring to individual needs. This was an important active approach to changing the relationship between mentors and mentees. The OM monitoring also pointed out that more "teaching" was required in basic journalism skills beyond those needed to deal with science. As well, grades were added to the assessment of mentees and decisions were made on how to allocate points. This allowed project managers to assess progress of mentees and mentors and to drop people who were not performing as expected, or were not committed to the project. OM also pointed out mentee–mentor combinations that were not working well and allowed mentees to be assigned to other mentors.

OM also showed that some mentees wanted more than one mentor, that there were problems with the online platform, and that a mix of solutions were needed that included online courses, the use of Skype, and the provision of basic tools such as headsets. Again, respondents stressed the structure that had been added to the project because of OM.

*Recommendation: Given the importance of OM to the first phase, it should be fully integrated into phase 2 at the beginning.*

*Recommendation:* *Consideration should be given to indentifying an OM mentor to provide occasional assistance and advice to the OM Specialist — resources and links can be found at: www.outcomemapping.ca.*

*Recommendation:* *The OM Specialist should consider focusing the process on fewer progress markers and efforts should continue to be made to simplify the reporting requirements while not jeopardizing the quality and reliability of monitoring.*

*Recommendation:* *The use of OM should be expanded to include helping mentor–mentee pairs build a relationship and agree on targets and measures of improvement.*

## Looking Ahead

**Policy and action** — Near the end of phase 1, the project started to focus on demonstrating how stories can have an influence on government policy and action. One interesting example of how influence can be achieved was the opening address at a workshop organized by the Uganda Science Journalists Association. Given by the Minister of Information on behalf of Ugandan President Yoweri Museveni, this speech was a public declaration of the critical role that science journalists can play in national development. The project would like to increasingly demonstrate that stories can have a direct affect on government policy and action. If this behavioural change is to be monitored it will have to be considered in future OM exercises. However, it should not be forgotten that trying to attribute changes directly to newspaper articles or radio broadcasts can be tenuous. Direct cause and effect relationships may not always be evident, although well presented public arguments can encourage debate and focus public opinion. Several examples have already been collected by the project.

*Recommendation:* *Efforts should continue to monitor such direct impacts and be built into the OM process because they reflect on good reporting and encourage others to achieve similar results.*

**Links to educational institutions and training projects** — Already, the online lessons are being used to complement university-based journalism training in South Africa and Australia. Long-term stability of science journalism will depend on its integration into academic institutions, and the exposure and interest this can generate among young journalism students.

*Recommendation:* *Additional links should be sought with educational and media training organizations and projects in Africa and the Middle East to promote the integration of science journalism in curricula and to share and gain varied project experiences.*

**Transborder stories and editors** — Transborder stories were one of the unanticipated successes of the project. These stories had two immediate benefits. First, they

encouraged collaborative work among project participants for a real purpose. Second, they achieved involvement by editors and demonstrated to them the potential of such stories. There is still limited space for science journalism in the mass media. Editors control the material that is produced or broadcast, and as a consequence they also make decisions about financial resources that are allocated to writers to cover events. If science-based topics are not seen as important to readers, if they are not seen as selling papers or increasing audiences, they will not be seen favourably in comparison to other story ideas.

It is important to show that science-based reporting on locally important issues such as disease, hunger, AIDS, water, energy, agriculture, and the environment are of interest to readers and audiences. Editors need to be convinced and brought on side. The transborder stories have the potential to influence editorial decisions. Coordinators could play a more active role in interacting with editors and other "gatekeepers." Telephone costs or travel funds could be provided for such interactions. Travel could be timed to coincide with visits to mentors or mentees, scientific conferences, or meetings with others working in media development in the respective regions.

*Recommendation:* *Transborder stories should be expanded in Phase 2 — perhaps during the first year they could involve graduates from phase 1; and during the second half of the project be undertaken by phase 2 mentees alone.*

*Recommendation:* *Regional coordinators should be encouraged and supported to engage editors in discussions of the relevance of science-based journalism to the day-to-day lives of their audiences.*

**Engagement and support for local partners** — It would be useful in the second phase to find ways to encourage more engagement by Southern partners. Local workshops were a success in the first phase and more local activities, planned and coordinated by local science journalism associations, should be encouraged. These could be mentee screening workshops, training sessions for local journalists, or regional mid-project meetings to continue team-building and joint activities (such as transborder stories).

As well, mentees must have outlets for their articles and the resources to pursue story ideas as freelancers or when they are not supported or endorsed by their employers. The second phase of the project should consider providing resources to "graduate" mentees who make presentations of story ideas to a panel of mentors. This would provide a real opportunity to pitch story ideas (and to get feedback from mentors), and it would provide an incentive to travel locally to pursue good stories. The amounts need not be large, just enough to cover some local transportations costs and per diems. Perhaps a fixed rate could be established rather than deciding on a rate on a case-by-case basis. In terms of outlets, it might be worth considering the idea of creating a project "insert" that could be circulated to regional newspapers and radio programs produced by mentees. These would both promote the work of the

mentees and offer an opportunity for the WFSJ and local science writer associations to explain the work of the associations and the SjCOOP project.

*Recommendation: Efforts should be made to continue to engage and support local science journalist organizations and individual journalists by supporting local events and offering incentives to "graduates" of phase 1.*

**Project publicity** — Respondents want to find ways to expand the reach and impact of the project. They are committed to seeing the success of the project expanded to more people in more countries. To do so, the project must continue the work it has done to enhance the public profile of the project. It is important to encourage all project participants to make presentations about their experiences and the long-term potential benefits of the project. Links to new partners (e.g., Qatar), twinning among science associations, interest in OM within the journalism profession, and scholarships to mentees can all be attributed to the project and its people becoming better known and internationally connected. Whenever possible, all project participants should be encouraged to make presentations or write articles about the project and its graduates. Perhaps press releases could be issued in each country to talk about local graduates and the project as part of the call for proposals for phase two. This would promote the accomplishments of the graduates, perhaps open avenues for them locally, and also increase project visibility.

*Recommendation: Efforts to promote the project and its graduates should continue both to develop new partnerships and help indicate the positive benefit of improved evidence-based science journalism.*

**Project administration** — The project experienced growing pains in the beginning. The project was originally incubated within IDRC as the ideas for its implementation and design were developed and refined. Time and energy were required to establish the project on a sound footing after it moved from IDRC and a permanent office location was established for the WFSJ. This involved locating and equipping office space, hiring staff, and setting up telecommunications and basic business systems.

Some operational difficulties were encountered with regard to such things as organizing meetings and obtaining necessary visas. There is now a better appreciation of the effort required. The amount of work and the lead time necessary cannot be underestimated. As well, many of the mentees had limited travel experience and there was no local backup. Involvement of local associations in future activities and adequate planning time should help resolve some of these problems.

As a new institution, WFSJ expenses were initially reimbursed after the fact, which caused cash-flow problems and some payment issues. Now that the office is established and competent staff are engaged, administrative and project management issues should be minimal in future. Future funding should be based on advancing funds because the WFSJ does not have funds to "carry" the project on its own until revenue is received.

*Recommendation:* *Adequate lead time must be built into the planning of project activities (especially those involving visas and travel arrangements), and local organizations should be recruited to assist with organization and management as much as possible.*

*Recommendation:* *Given the track record that has been established during phase 1 by the WFSJ, a donor agreement that provides payments in advance of expenditures should be instituted to minimize cash-flow problems.*

## Conclusion

This peer-to-peer mentoring project was successful in mentoring and graduating 32 science journalists, creating an online course in science journalism, fostering science journalists associations in Africa and the Middle East, supporting local activities of these associations, and creating international twinning arrangements among associations. Networking and contacts among journalists were highly valued and were directly linked to: improved training; reduced feelings of isolation; enhanced opportunities for twinning of associations; the development of local initiatives; and a sense of community among science journalists.

The project demonstrated that mentoring of science journalists can work at a distance. It showed the crucial nature of long-distance communication within a multicultural environment to project success. The introduction of Skype was a major benefit for the project. However, more effort is needed to explore other affordable and appropriate communication options. Project experiences also showed that a detailed plan of activities must be developed and mentors and mentees must both know what is expected of them and the time commitment they must both be prepared to make. As well, the contribution of outcome mapping was a key ingredient of success. OM was shown to be well suited for use in this media development project. It allowed project shortcomings to be identified, corrective actions to be taken, and, in the words of the Project Director, it “saved the project”.

Looking ahead to phase 2, it is important to continue to build on the investments made during the first phase. Involvement and support for activities conducted by local associations and the continued engagement of previous “graduates” should be integral to phase 2 planning. Careful selection of mentees and mentors is a critical first step to future project success and must be tackled with care using well-defined criteria.

Finally, the commitment, expertise, and dedication of WFSJ staff as well as the mentors, regional coordinators, and OM Specialist must be acknowledged. Often, they contributed beyond what was to be reasonably expected. In particular, the vision and professional reputation of the Project Director, and his role in the genesis and development of the project, were essential, and are based on experiences and insights gained through a career dedicated to enhancing science journalism internationally.

# Appendix 1: Project Milestones and Achievements

These lists of milestones and achievements were compiled by the WFSJ specifically of inclusion in this evaluation.

## A: Milestones

- **January to April 2006:** Coordinators recruitment (3). As the coordinators and M. Fleury had already met during previous conferences and workshops they agreed to be part of the project even before the official starting date.
- **1 April 2006:** Starting date of the mentoring project
- **1 April 2006 to 31 July 2006**
    - M. Fleury traveled to meet donors and organize the project
    - April to June 2006: Mentors recruitment (15)
    - 10-14 July 2006: Training Session for Mentors in Munich, Germany
- **August-September 2006:** mentees recruitment and confirmation (60)
- **End of September–October:** first contact between mentors and their mentees via emails and the dedicated WE website and mentoring process started
- **4-10 November 2006:** First face-to-face meeting in Nairobi, Kenya. The WFSJ supported the participation of :
    - Mr. Fleury and M. Denis. (Ms Labassi was not onboard yet)
    - 3 Coordinators (Mr. Mbarga who was retained in the airport, Ms. Al-Awady and Mr. Onifade) and the internal evaluator Mr. Lublinski
    - 15 mentors: one of them was retained in the airport
    - 56 mentees: 10 were retained in the airport. 4 of the 60 mentees who were supposed to be there did not make it due to personal engagements or lack of interest.
- **February-mid April 2007:** Dismissed 6 mentees not committed to the program and recruited 6 new ones
- **April 2007:** asked Mr. Akin Jimoh to increase the traffic on the WE website, help the relationship between mentors and mentees and prepare the second face-to-face meeting with the coordinators
- **17-20 April 2007:** 5th World Conference of Science Journalists in Melbourne, Australia. The WFSJ supported the participation of:

  - Mr. Fleury and Ms. Labassi
  - 3 Coordinators (Mr. Mbarga, Ms. Al-Awady and Mr. Onifade) and the internal evaluator Mr. Lublinski
  - 3 Board members. The other members were supported by the organizers
  - 16 representatives of science journalists associations: nascent associations from Africa and established ones from the West and members of WFSJ.
  - 7 representatives of science journalists associations from Asia and Latin America: Supplement grant from IDRC

- **May –June 2007:**
  - Dismissed one mentor from the French speaking group and hired another one
  - Dismissed five mentees and recruited new ones (1 from the French speaking group and 4 from the English speaking group)

- **July-September 2007:** Mentees evaluation: who deserves to stay within the program

- **October 2007:**
  - Dismissed the TV group: one mentor and 4 mentees. The fifth mentee was promoted to a mentor.
  - Dismissed another mentor who had a personal problem and could not continue with the project
  - Dismissed 6 mentees
  - Some mentees were transferred to another mentor

- **10-11 November 2007:** World Science forum in Budapest, Hungary
  - Board meeting
  - Management team meeting to discuss the project second year (Mr. Fleury, Mr. Lublinski, Mr. Mbarga, Mr. Onifade, Ms Al-Awady, Mr. Jimoh and Ms. Labassi)
    - Second year highlights: Customized mentoring, Skypechats or discussion forums, one article per month, one chapter of the online course each two years)
    - Ideas for the second face-to-face meeting

- **December-February 2007:** Dismissed 6 other mentees who were given a second chance but were not committed
- **4-10 February 2008:** Second face-to face meeting in Doha Qatar. WFSJ supported the participation of 71 participants:
    - Management team: Mr. Fleury, Mr. Denis, Dr Lublinski, Mr. Onifade, Mr. Mbarga, Ms Al-Awady and Ms Labassi
    - 14 mentors and the WE moderator
    - 38 mentees out of 40
    - 11 representatives of science journalists associations
- **April 2008:** Mid-term evaluation: the mentors were asked to rate their mentees (%). The idea was to tell the mentees who did well to continue their good work and to inform those who are lagging behind that they needed to work harder during the remaining months if they wanted to graduate.
- **April-September 2008:** transborder stories
- **May-July 2008:** Article evaluations: In each group, we contracted three assessors who were asked to evaluate two articles of the mentees, one when they joined the program and a recent one. We had only one assessor for the English speaking group
- **18-22 July 2008:** European Science Forum ESOF in Barcelona
    - Board meeting
    - Team-meeting: Mr. Fleury, Mr. Lublinski, Ms. Al-Awady, Mr. Mbarga and Mr. Onifade
- **September to December 2008:**
    - editors and scientists interviews
    - Mentors' evaluation by mentees
    - Coordinators' evaluation by mentors
    - final evaluation of the mentees and graduation of 32 science journalists from the SjCOOP program
- **12-16 February 2009:** AAAS meeting in Chicago, USA
    - Board meeting
    - Team meeting to discuss SjCOOP phase II : Mr. Fleury, Mr. Mbarga, Ms. Al-Awady, Mr. Denis and Ms. Labassi

**General Comments:**

**N.B.** the fact that we dismissed a large number of mentees (only 32 out of 60 graduated in the end) does not mean that the others were all complete failures. We saw that a number of these 28 mentees that had dropped out did not follow the programme for various reasons: for some the job suddenly became more demanding or they had started a new one, for others a limited time in the program seemed to be enough and their engagement dropped after the first year and for some the skills did not improve enough to deserve a certificate from WFSJ.

**Skype usage:**
By the second year most of the SjCOOP participants became familiar with Skype. They were participating to conferences on regular basis.

- 3 coordinators
- 15 mentors
- 31 mentees

## B: Project Achievements

### Firsts

- First online course in science journalism: in Arabic, Chinese, English, French, Portuguese, and Spanish (http://www.wfsj.org/course/)
- First transborder teams of African editors and journalists to publish science stories: editors of eight African newspapers, three magazines, two national news agencies, and SciDev.net published stories written by teams of mentees from different countries.
- First Skypecast science news conferences in Africa
- First Uganda Conference on Science Communication and Science Journalism (25 November 2008, Kampala) — Yoweri Museveni, President of Uganda, praises the work of the Uganda Science Journalists' Association during the 2008 Uganda Science Communication Conference which brought together 150 science journalists, science communicators and scientists.
- First Rwanda Workshop on Science Journalism (15–18 December 2008, Kigali)
- First Conference of Arab Science Journalists (25 October 2008, Fez, Morocco)
- First twinning of the Arab Science Journalists Association with the US National Association of Science Writers
- First Guidebook on How to Create an Association of Science Journalists
- First Guidebook on How to Mentor in Science Journalism
- First Association of Science Journalists established in:
    - the Arab World (Arab Science Journalists Association — ASJA)
    - Cameroon (Association of science journalists and communicators — SciLife)

  - Ghana (Association of Science Journalists and Communicators)
  - Rwanda (Rwanda Association of Science Journalists — RASJ)
  - South Africa (South African Science Journalism Association — SAS)
  - Sudan (Sudan Association of Science Journalists)
  - Uganda (Uganda Science Journalists' Association — USJA)
- First bidding by African countries to host the 2011 7th World Conference of Science Journalists: Kenya, South Africa, and Uganda
- First bidding by an Arab country to host the 2011 7th World Conference of Science Journalists: Egypt
- First implementation of evaluation and monitoring outcome mapping methodology to a media training project.

**Media achievements of SjCOOP mentees and mentors**

- One new science magazine: Science Africa, launched in June 2008 by mentor Otula Owuor (Kenya)
- The most discussed story ever published on www.SciDev.net written by SjCOOP mentee Alex Abutu (Nigeria)
- Two new television programs:
  - Invention and Innovation, by Fatiha Nour (Algerian Radio and Television)
  - Nehal Lasheen (Egypt) promoted manager of science programs for new satellite television channel Ana TV
- Three new radio programs:
  - Invention and Innovation, radio version, with Fatiha Nour (Algeria Radio and Television)
  - Programme Culture, Science and Society, by Godefroy Macaire Chabi (Benin Radio)
  - Mentee ElKheir Fadl Alla Musa hosts new science radio program in Khartoum, Sudan
- Six new newspaper science pages and beats:
  - Karthoum Daily newspaper, with Moussa (Sudan)
  - La Nouvelle Expression, with Christophe Mvondo (Cameroon)
  - Fraternité-Matin, Théodore Kouadio (Côte d'Ivoire)
  - Le Révélateur Newspaper, David Ilunga (Congo – Kinshasa)
  - Newspaper L'Avenir, Anselme Nkinsi (Congo-Kinshasa)
  - Cameroon-Tribune, with Aimé Francis (Cameroon)
- 10 journalists received promotions in their newspaper, news agency, radio or TV station because of improved skills
- 12 journalists are much better at writing about science
- 20 journalists are better at writing about science
- 15 journalists now freelance internationally
- 40 prizes, scholarships, internships, rewards, and travel grants awarded to 18 SjCOOP journalists, of which:

- 3 SjCOOP graduates earned the prestigious MIT Science Journalism one-year fellowship in 2007, 2008 and 2009: Esther Nakazi (Uganda), Kimani Chege (Kenya), and Onche Odeh (Nigeria)
- 2 SjCOOP mentees won prestigious IDRC 10-month internship and travelling scholarship: Catherine Yogo (Cameroon) and Fatiha Chara/Nour (Algeria)
- Best Science Article award to mentee Mame Aly Konte (Senegal) from the Senegalese Science Academy
- 2008 Dan Moussa Prize for journalist who most promoted peace awarded to mentee Théodore Kouadio

**Training**

- Eight-lesson online course in science journalism: in Arabic, Chinese, English, French, Portuguese, and Spanish (http://www.wfsj.org/course). The course is being used directly or complementing courses to train journalists in Australia, Canada and South Africa.
- 32 SjCOOP graduates in science journalism in:
  - Africa: Benin, Burundi, Cameroon, Congo-Kinshasa, Côte d'Ivoire, Ghana, Kenya, Madagascar, Nigeria, Rwanda, Senegal, South Africa, Uganda, and Zambia
  - Middle East: Algeria, Egypt, Emirates, Iraq, Jordan, Lebanon, and Sudan
- Three coordinators trained in managing training projects in science journalism in Africa and the Arab World
- Five mentors trained in mentoring science journalists in Africa
- Four mentors trained in mentoring science journalists in the Arab World
- One mentee became a mentor
- Mentee Ms. Hanan Al-Kiswany became a trainer in science journalism for Jordanian Ministry of Health and USAID.

**University Lecturers in Science Journalism:**

- Mentor Hatem Sedky (Egypt) at Cairo University
- Mentee Rivonala Razafison (Madagascar) at University of Antananarivo
- Coordinator Gervais Mbarga asked to consult for Unesco programs in journalism
- Coordinator Nadia El-Awady asked to join Board of Trustees of SciDev.net
- Coordinator Diran Onifade invited to May 2009 Africa Knowledge Management Conference in Dakar (Senegal)
- Dr. Jan Lublinski trained in the Evaluation and Monitoring Methodology Outcome Mapping
- WFSJ Secretariat trained in the management of distance training and mentoring projects

### Building and Sustaining Associations of Science Journalists

- Hundreds of African and Arab science journalists networked nationally, regionally, and internationally through the creation of national and regional associations and their twinning with association in Europe, North America, and Asia.
- Seven associations of science journalists established in the Arab World, Cameroon, Ghana, Rwanda, South Africa, Sudan, and Uganda
- Seven associations of science journalists in the making in Algeria, Benin, Côte d'Ivoire, Jordan, Morocco, Qatar, and Senegal
- Two associations of science journalists reinvigorated in Kenya and Nigeria
- Twinning of eight developing world associations of science journalists with well established associations of science journalists in the developed world:
    - African Federation of Science Journalists with Germany (TELI)
    - Algeria with Québec
    - Arab Science Journalists with American science journalists
    - Cameroon with France
    - Kenya with Canada
    - Nigeria with Germany (WPK)
    - Qatar with Japan
    - Uganda with United Kingdom
- Four associations of science journalists from the developing world (Egypt, Kenya, South Africa and Uganda) bidding to host the World Conference of Science Journalists
- Associations of science journalists linked with science organizations:
    - Arab Science Journalists' Association with Islamic World Academy of Science
    - African Federation of Science Journalists with African network of Science Academies (project ASADI)
- Twelve associations of science journalists from the developing world now official voting members of the World Federation of Science Journalists: African Federation of Science Journalists, Network of African Journalists on earth science (Tanzania), Arab Associations of Science Journalists, Bangladesh, Cameroon, Ghana, Kenya, Nigeria, Pakistan, Rwanda, Sudan, and Uganda
- Major strengthening of the World Federation of Science Journalists: website and secretariat
- Unprecedented networking, exchanges, and collaboration between science journalists from the developed world with their colleagues in the developing world.

### Technology

- Proof of concept of distance mentoring in science journalism in Africa and the Middle East
- Introduction of Skypechats and Skypecasts to hold science news conferences for African scientists

- Production and testing of first online course in science journalism in Arabic, English, and French
- Training of 70 African and Arab scientists, editors, and journalists in the use of Skypechats and Skypecasts.

**Communications and publicity**

- Presentations of the SjCOOP project by Coordinators and the Executive Director of WFSJ have been made at the following conferences and meetings:
    - SjCOOP Project Director, Jean-Marc Fleury presents SjCOOP at the 2008 EcoHealth Conference, 2 December 2008, Merida (Mexico)
    - Presentation of SjCOOP to the communications team of the WHO/Path/Gates Meningitis Vaccine Project on 25 November 2008, Accra (Ghana)
    - Yoweri Museveni, President of Uganda, praises the work of the Uganda Science Journalists' Association at the opening of 24 November 2008 Uganda Science Communication Conference, in Kampala (Uganda)
    - Presentation of the SjCOOP Project at OECD Global Science Forum Workshop on Improving the Dialogue with Society on Scientific Issues and meeting with Benoît Miribel, Director of the Mérieux Foundation in Paris, 14–19 September
    - Coordinator Ms. Nadia El-Awady and Project Director Jean-Marc Fleury present SjCOOP at the 16th Science Conference of the Islamic World Academy of Sciences, 26 August 2008, in Kazan (Tatarstan – Russia)
    - SjCOOP coordinators present at the Euroscience Open Forum, ESOF 2008, Barcelona, 20 July 2008
    - Coverage of the opening meeting of the SjCOOP face-to-face meeting held the 4 February 2008, in Doha (Qatar) by Al Jazeera's 24-hour news channel (CD available and posted on YouTube: http://www.youtube.com/WFSJorg)
    - SjCOOP Coordinator Diran Onifade presents the SjCOOP project at the Third Annual Conference of the African Science Academy Development Initiative (ASADI), 12–17 November 2007, Dakar (Sénégal)
    - Executive Director of WFSJ presents SjCOOP at the Annual Conference of German Science Journalists Wissenwerte, 25–29 November 2007, Bremen (Germany)
    - Nadia El-Awadi (Regional Coordinator) and Dr. Jan Lublinski (Evaluator) present the SjCOOP evaluation methodology at Symposium "Measuring Change: Planning – Monitoring – Evaluation in Media Development", 27–28 September 2007, in Bad Honnef (Germany). Ms. Abigail Mulhall and Megan Lloyd Laney represented DfID at the Forum, while IDRC was represented by Ms. Jean Woo.
    - SjCOOP Coordinator Dr. Gervais Mbarga presents SjCOOP at two panels – one organized by Unesco – during the 5th World Conference of Science Journalists, 15–19 April 2007, in Melbourne (Australia)

### Funding and partnerships

- More than $300,000 of additional funds raised to complement funding provided by SjCOOP's main three donors: IDRC, DfID and SIDA. Two thirds of that amount was a partnership with the Qatar Foundation and the Al Jazeera Media Training and Development School for holding the second face-to-face meeting in Doha, Qatar, 4–10 February 2008.
- Additional funding was contributed by UNESCO to facilitate board meetings, the Robert Bosch Foundation to cover meetings of mentors and board members, and Elsevier which covered the costs of the translation into Chinese of the 8-lesson Online Course in Science Journalism.
- We also benefited from additional funds from IDRC for evaluation and monitoring, online course, publishing, and bringing science journalists to the 5th World Conference of Science Journalists in Melbourne (Australia), and from DfID to bring some 26 mentees to the 6th World Conference of Science Journalists in London (UK).

### Influencing policy making and decision-making

- Installation of mitigating equipment to prevent carbon dioxide overflow (Cameroon)
- Filtering system installed on cement plant (Jordan)
- Debunking false scientific claims (Benin, Nigeria and South Africa)
- Breaking story on misallocation of AIDS funds (Uganda)
- Breaking story on natural sickle cell medicine fraud (Nigeria)
- Setting up water treatment equipment (Iraq)
- Promoting support to science and innovation (Algeria)
- Stopping Health Minister from smoking (Jordan)
- Recognition of needs of persons displaced by war (Côte d'Ivoire)

## Appendix 2: People Interviewed

**Fatiha Chara**, Science Journalist, Algerian National Radio, Alger, Algeria (Mentee)

**James Ezekiel Kimani Chege**, Editor, TechAfrica News, and Freelance Science Journalist, Nairobi, Kenya, (currently Research Fellow, Knight Science Journalism Fellowship, MIT/ Harvard, USA) (Mentee)

**Augustin Denis**, Information Technology Manager, World Federation of Science Journalists, 28 Caron St., Gatineau, Quebec, Canada, J8Y 1Y7

**Nadia El-Awady**, Freelance Science Journalist, 9 Hussain Ahmed Rashad St., Dokki 12311, Cairo, Egypt (Regional Coordinator)

**Armand Faye**, Freelance Science Journalist and Consultant, Dakar, Senegal (Mentor)

**Jean-Marc Fleury**, Executive Director, World Federation of Science Journalists, 28 Caron St., Gatineau, Quebec, Canada, J8Y 1Y7

**Olfa Labassi**, Project Manager, World Federation of Science Journalists, 28 Caron St., Gatineau, Quebec, Canada, J8Y 1Y7

**Jan Lublinski**, Journalist, von-Sandt-St. 31, 53225 Bonn, Germany (Outcome Mapping Consultant)

**Gervais Mbarga**, Research Associate, Bell Globemedia Chair in Science Journalism, Laval University, B.P. 7106, Yaoundé, Cameroon (Regional Coordinator)

**Kathryn O'Hara,** Associate Professor and CTV Chair in Science Broadcast Journalism, School of Journalism and Communication, Carleton University, Ottawa, Ontario, Canada**,** K1S 5B6

**Diran Onifade**, Assistant Manager News, Current Affairs, Nigerian Television Authority, Network News, Lagos, House 6, Golden Garden Estate off Adisa Estate, Apo/Gudu District, Abuja, Nigeria (Regional Coordinator)

**Jean Woo**, Program Officer, Innovation, Policy and Science (IPS), International Development Research Centre (IDRC), PO Box 8500, Ottawa, Ontario, Canada, K1G 3H9

# Appendix 3: Questionnaires

**Note:** Separate questionnaires were developed to suit the interviewee. Many questions were the same for each person, but differences exist depending on the person's involvement with the project. All questionnaires included the following statement about informed consent:

I have been hired to evaluate the first phase of the WFSJ Peer-to-Peer Mentoring Project (SjCOOP). The information I collect will be used to identify the accomplishments of the project as well as the areas that should be improved. My report will be used as input into the design of a proposal for a second phase of this project. Your replies will not be attributed to you; however, your name will appear in my final report as a contributor to the evaluation. My report may also be made public by the World Federation of Science Journalists or by any of the donors to the project — IDRC, SIDA, and DFID.

Do you agree to have the information you provide used in this way?

## Executive Director

### Expectations

1. What did you expect this project to accomplish when it was first developed?

2. How well were your expectations met?

3. Were any of your expectations not met?

### Project Improvements

4. In your opinion, what are the most positive aspects of this project?

5. In your opinion, what areas of this project require the most improvement?

6. Looking ahead, what do you think should be done differently in any future phase of this project?

### Mentors

7. What skills and experience are required to be a good mentor?

8. How much time must a mentor be prepared to spend on each mentee each week?

9. In your opinion, what type of feedback is most important for mentors to give to mentees?

10. How could the working relationship between mentors and mentees be improved?

**Mentees**

11. In your opinion, what is the best way to identify potential mentees?

12. In your opinion, should there be a mix of print and broadcast journalists within the project? Why?

13. In your opinion, where should any future project focus? On young, mid-career, or senior journalists? Why?

14. In your opinion, should any future project focus on specific geographic areas when selecting candidates?

15. In your opinion, does it make sense to have three language groups in one project, or would there be advantages to having separate projects for each language group? Why?

**Outcome Mapping**

16. In your opinion, what were the positive aspects of using OM in this project?

17. In your opinion, what were the negative aspects of using OM?

18. Does OM detract from day-to-day administration and communication?

19. How are balances and checks concerning project administration and finance balanced with the needs of OM?

20. What changes were made to the project design or implementation that can be directly attributed to OM?

**Learning**

21. What did you learn during the implementation of this project?

22. In your opinion, what were the biggest challenges or problems in implementing this project?

23. How did you try to overcome these challenges or problems?

24. Were the solutions you tried effective?

25. In retrospect, how might the solutions you chose have been improved?

26. In your opinion, has this project helped to promote collaboration and networking among science journalists in Africa?

27. Can you provide examples of such collaboration or networking?

28. What barriers exist to collaboration and networking among science journalists in Africa?

29. In your opinion, how can these barriers to collaboration or networking best be overcome?

30. Do you have anything else to add?

## Office Manager

### Project Improvements

1. In your opinion, what are the most positive aspects of this project?

2. In your opinion, what areas of this project require the most improvement?

3. Looking ahead, what do you think should be done differently in any future phase of this project?

### Outcome Mapping

4. In your opinion, what were the positive aspects of using OM in this project?

5. In your opinion, what were the negative aspects of using OM?

6. Does OM detract from day-to-day administration and communication?

7. How are balances and checks concerning project administration and finance balanced with the needs of OM?

8. What changes were made to the project design or implementation that can be directly attributed to OM?

**Learning**

9. What did you learn during the implementation of this project?

10. In your opinion, what were the biggest challenges or problems in implementing this project?

11. How did you try to overcome these challenges or problems?

12. Were the solutions you tried effective?

13. In retrospect, how might the solutions you chose have been improved?

14. Do you have anything else to add?

## IT Expert

**Project Improvements**

1. In your opinion, what are the most positive aspects of this project?

2. In your opinion, what areas of this project require the most improvement?

3. Looking ahead, what do you think should be done differently in any future phase of this project?

**Learning**

7. What did you learn during the implementation of this project?

8. In your opinion, what were the biggest challenges or problems in implementing this project?

9. How did you try to overcome these challenges or problems?

10. Were the solutions you tried effective?

11. In retrospect, how might the solutions you chose have been improved?

12. Do you have anything else to add?

## OM Consultant

1. In your opinion, what were the positive aspects of using OM in this project?

2. In your opinion, what were the negative aspects or limitations of using OM?
3. Does OM detract in any way from day-to-day project administration?

4. What changes were made to the project design or implementation that can be directly attributed to OM?

5. What other changes should or could have been made to the project?

6. Were there any issues or operational problems that were not anticipated during the planning or implementation of this project?

7. How could these problems be better addressed in a second phase?

8. How could OM be better integrated into phase 2 from the outset?

9. Could OM be used for or adapted to other aspects of the project? For example, setting or defining training objectives for mentee-mentor relations? How else might it be used?

10. What did you learn during the implementation of this project?

11. If you had one piece of advice to offer for the second phase of this project, what would it be?

12. Do you have anything else to add?

## Training Consultant

1. In your opinion, what have been the most positive aspects of this project?

2. In your opinion, what areas of this project require the most improvement?

3. Do you think the working relationship between mentors and mentees could be improved? If yes, how?

4. In your opinion, what type of feedback is most important for mentees to receive from mentors?

5. What skills and experience are required to be a good mentor?

6. In your opinion, what is the best way to identify potential mentees?

7. Do you think this project has helped to promote collaboration and networking among science journalists in Africa? How? Examples?

8. What barriers exist to collaboration and networking among science journalists in Africa?

9. In your opinion, how can these barriers to collaboration or networking best be overcome?

10. If you had one piece of advice to offer for the second phase of this project, what would it be?

11. Do you have anything else to add?

## Regional Coordinators

1. In your opinion, what are the most positive aspects of this project?

2. In your opinion, what areas of this project require the most improvement?

**Mentors**

3. What skills and experience are required to be a good mentor?

4. How much time must a mentor be prepared to spend on each mentee each week?

5. In your opinion, what type of feedback is most important to give to mentees?

6. How could the working relationship between mentors and mentees have been improved?

**Mentees**

7. In your opinion, what is the best way to identify potential mentees?

8. In your opinion, should there be a mix of print and broadcast journalists within the project? Why?

9. In your opinion, where should any future project focus? On young, mid-career, or senior journalists? Why?

**Outcome Mapping**

10. In your opinion, what were the positive aspects of using OM in this project?

11. In your opinion, what were the negative aspects of using OM?

12. What changes were made to the project design or implementation that can be directly attributed to OM?

**Networking**

13. In your opinion, has this project helped to promote collaboration and networking among science journalists in Africa?

14. Can you provide examples of such collaboration or networking?

15. What barriers exist to collaboration and networking among science journalists in Africa?

16. In your opinion, how can these barriers to collaboration or networking best be overcome?

17. Should regional organizations and associations become more involved in the project during the second phase? If yes, what role should they play?

**Learning**

18. What did you learn during the implementation of this project?

19. In your opinion, what were the biggest challenges or problems in implementing this project?

20. How did you try to overcome these challenges or problems?

21. In retrospect, how might the solutions you chose have been improved?

22. Do you have anything else to add?

## Mentors

1. What did you expect this project to accomplish when you first became involved?

2. How well were your expectations met?

3. Were any of your expectations not met?

4. What skills and experience are required to be a good mentor?

5. How much time must a mentor be prepared to spend on each mentee each week?

6. In your opinion, what type of feedback is most important to give to mentees?

7. How well did you work with your mentees?

8. How could the working relationship with your mentees have been improved?

9. How could the selection of mentees be improved?

10. In your opinion, what is the best way to identify potential mentees?

11. In your opinion, should there be a mix of print and broadcast journalists within the project? Why?

12. In your opinion, where should any future project focus? On young, mid-career, or senior journalists? Why?

13. In your opinion, should any future project focus on specific geographic areas when selecting candidates?

14. In your opinion, does it make sense to have three language groups in one project, or would there be advantages to having separate projects for each language group? Why?

15. Do you have anything else to add?

## Mentees

1. What did you expect to learn from this project when you first became involved?

2. How well were your expectations met?

3. Were any of your expectations not met?

4. How well did you work with your mentor?
5. How could the working relationship with your mentor have been improved?

6. In your opinion, what type of feedback is most important for mentees to receive from mentors?

7. In your opinion, what were the best parts of the project?

8. In your opinion, what areas of this project require the most improvement?

9. If you were involved in another project like this, what do you think should be done differently?

10. How have you personally benefitted from the project?

11. If you had one piece of advice to offer for the second phase of this project, what would it be?

12. Do you have anything else to add?

## Donors

1. What did you or your organization expect this project to accomplish when it was funded?

2. How does this project complement, or link with, other projects that your organization supports?

3. In your opinion, what have been the most positive aspects of this project?

4. In your opinion, what areas of this project require the most improvement?

5. If you had one piece of advice to offer for the second phase of this project, what would it be?

6. Do you have anything else to add?