SCIENCE FOR AFRICA FOUNDATION

PUTTING PEOPLE AT THE CENTRE OF RESEARCH

A guide for Community and Public Engagement with Science

Contents

Executive Summary

Community and Public Engagement (C&PE) with Science provides a vital tool to rebuild relationships of mutual trust, respect and appreciation between researchers and communities.

This guide serves to support researchers who are interested in C&PE with Science and who wish to embed C&PE into their work. Armed with the basic principles and enabling tools, researchers are empowered to create engagement activities and solutions that will best serve their needs, as well as the needs of the broader public and communities they impact.

While this guide cannot anticipate all C&PE with Science scenarios in Africa, it is a first step towards creating a resource not only based on international best practices, but also one that is locally relevant.

It should assist institutions and researchers to recognise the strategic importance and value of C&PE with Science, and to experience the power of people coming together in a dialogue about science, to have a say in research and contribute to the creation, understanding and application of new knowledge and to thereby share in the excitement of science.

We wish you successful planning and effective implementation of C&PE with Science, as you explore it as an essential approach to increasing active participation in research.

Community and Public Engagement with Science

As scientific advancements increasingly impact quality of life and longevity, public understanding and involvement in science have lagged, often because science is seen as exclusive and complex. C&PE with Science emphasises the move towards more dialogic, and participatory models of science communication and engagement that promote full involvement of both scientists and non-scientist publics, with each contributing valuable knowledge and perspectives.

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Executive Summary (continued)

Rationale for Community and Public Engagement with Science

C&PE with Science plays a vital role in making scientific research more relevant, responsive, and impactful. It also addresses public concerns, confusion, and mistrust regarding scientific advancements, especially in fields like health, climate change, the environment and agriculture. As societal concerns and misunderstandings about science grow, so does public distrust, posing a threat to the credibility and acceptance of science. By fostering open communication and relating scientific information to societal needs, C&PE enhances public trust, awareness, and understanding of science, promoting informed engagement and effective policy support, particularly in Africa.

Benefits of Community and Public Engagement with Science

C&PE with Science provides a range of benefits across individual, institutional, and societal levels, enhancing both the relevance and impact of research. Researchers and research institutions gain ethical, practical, and professional advantages by actively involving communities, research participants, as well as key stakeholders. This engagement strengthens ethical standards, improves study design by aligning research questions with community needs, reduces research waste, and facilitates participant recruitment and retention. Institutions that engage meaningfully with communities demonstrate responsiveness to societal needs, ultimately building public trust and increasing the likelihood that research has a real-world impact.

Engagement principles

C&PE with Science hinges on guiding principles that enhance its effectiveness, foster meaningful connections, and prevent superficial “tick-box” exercises. These principles highlight that engagement should be woven into every stage of research, from design to dissemination, with a commitment to co-creation and inclusivity. Meaningful engagement also depends on researchers’ openness to listening and learning from diverse perspectives, as well as respecting cultural contexts and ethical transparency.

The limitations of past approaches, focused only on informing the public, have led to a shift toward dialogue-based engagement where public perspectives inform science more effectively. The “rosette model” illustrates how C&PE with Science progresses from one-way education to two-way conversation and finally to active participation, underscoring the importance of evolving interaction to enhance public involvement and trust in science.

A practical approach

To create impactful C&PE with Science, a well-crafted plan is essential. This dynamic document should align with the broader research or institutional strategy and be developed collaboratively with colleagues and stakeholders. Starting with a “listen and learn” approach, researchers gain valuable insights and respect diverse perspectives. Clear rules for respectful dialogue—where all voices are heard—help ensure a safe and constructive environment.

Building trust with communities is critical and can be achieved by establishing transparent, locally informed partnerships, and involving community liaisons. Engagement activities must consider the nuances of local contexts, including linguistic diversity, cultural values, and local hierarchies. Strategies like using plain language, being flexible with plans, and collaborating with other teams are also essential for success.

A practical approach to C&PE with Science involving a detailed, 10-step plan that addresses all aspects of engagement is presented.

Key Roles

C&PE with Science involves various actors in order to make it effective and impactful. These actors include researchers, institutions, engagement experts, facilitators and funders.

A well-designed and resourced engagement plan provides researchers with a roadmap for meaningful, respectful, and effective dialogue with communities, building mutual understanding and trust in science.

May this guide equip and enable you to embrace inclusive dialogue and a collaborative spirit to bridge the gap between science and society and thus collectively shape our shared future.

SECTION 1

Understanding the field of community and public engagement

- What is Community and Public Engagement with Science
- Rationale for Community and Public Engagement with Science
- Benefits of Community and Public Engagement with Science
- Engagement principles
- The nuts and bolts of Community and Public Engagement with Science

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1 What is Community and Public Engagement with Science

Knowledge generated by research contributes to quality of life and longevity. Yet, increasingly, people struggle to keep up with advances in science and the relevance of new research; partly because science is still largely considered as the preserve of a select few. Discussions about new discoveries, technologies, or even concerns about science take place in a socio-political context. Engaging with the social, political, and cultural fabric in which science gains its relevance is crucial. C&PE with Science provides a vital tool to bridge the gap between science and society. In this chapter, we define C&PE with Science and other key terminology commonly used in the field.

When we consider Community and Public Engagement (C&PE) with Science, many concepts come to mind: community engagement; public engagement, science communication, etc. Defining and understanding these terms is important because it impacts on how we plan, budget, implement, monitor and evaluate C&PE with Science activities.

Defining "engagement" with science

Use of the term "engagement" with science impels scientists and non-scientist publics to adopt a dialogic and participation model to the development of science and its application in society. This is premised on the understanding that both scientists and non-scientist publics have expertise, valuable perspectives, and knowledge to contribute to science, fostering mutual learning and shared decision-making.

What is Research Community Engagement and how does it differ from Public Engagement?

Research Community Engagement (RCE) is the active involvement of the "community" throughout the research process, using participatory approaches and working in partnership with all key stakeholders.

RCE focuses on people who are directly affected by a given research study, whether they take part in the study or not. RCE seeks to improve the relevance, value and conduct of research, contributing to reduction in research waste.

Public Engagement (PE) with Science on the other hand typically aims to involve broad audiences in society in discussions and conversations about science with the aim of fostering awareness of, interest in, and understanding of science.

Researchers point out that the term 'public engagement' is frequently used as an umbrella term for a range of activities that engage the public with research. Rowe and Frewer (2005) admit that engagement is not a simple concept because of the multiple reasons for conducting engagement and various methods for achieving it. For further reading on the complexities of public engagement, researchers should review the comprehensive typology of engagement mechanisms published by these authors.

> Public engagement, just like science, can be messy and head in unexpected directions. That cannot, and must not, be a reason not to do it: science has a duty to respond to the views of the public it seeks to serve and represent. And done properly, public engagement can give research more impact and relevance. *(How to get public engagement right, 2018:413)*

Who is the 'community' and who is the 'public'?

The term 'community' can mean many things – people who live in a geographic location, people who share common interests, people who face the same health and/or development challenge, people from the same religious group or ethnic background, etc. People can thus belong to multiple communities at the same time.

'Public' is broader, and encapsulates people not directly involved in a research study, although they may have a general interest in research. Communities are part of the public.

Another common term used in community engagement is 'stakeholders'. Stakeholders are people or groups of people who have an interest in, or influence over **what** research is done and **how** it is done. Stakeholders are also part of communities and the public.

What is science communication?

Communication of science involves different practices that convey scientific information, methodologies, and results of scientific research. These include:

- scientific academic communication, i.e. scientists sharing information amongst peers through scientific conferences, peer reviewed publications, etc.
- public communication of science, i.e. scientists sharing information with non-scientist or lay audiences/publics, and
- educational communication, i.e. teaching and learning science.

Public communication of science broadly seeks to strengthen the dissemination of and engagement with research-based knowledge

more broadly within society. The aim is to foster awareness of science; enjoyment or other affective responses; as well as interest in and understanding of science.

Public communication of science applies 4 models:

i. **Knowledge deficit model –** where scientists are the experts and the public have a deficiency of knowledge, hence applies a uni-directional approach

ii. **Contextual model –** based on the needs, attitudes and existing knowledge and situations of different audiences

iii. **Lay expertise model –** which acknowledges that audiences might have some pre-existing knowledge, and

iv. **Public engagement/participation model** two-way flow of information between scientists, the public and policy makers.

Source: Tayeebwa et'al https://doi.org /10.1079/9781789249675.0002.

These models are not mutually exclusive, although historically, public communication of science has been grounded on the knowledge deficit model. Scholars and reflective practitioners argue that public communication of science is more than merely translating scientific knowledge into simpler information that the public can easily understand because people are not passive recipients of information.

Dissemination of scientific knowledge is therefore just the starting point for consultation and engagement. This argument lays the foundation for the public engagement/participation model of communicating science to society.

For researchers about to embark on an engagement journey, it is helpful to understand the key terms commonly used when engaging non-scientist publics with science. This is helpful for effective planning, budgeting, implementation, monitoring and evaluation of engagement.

What is policy engagement?

Policy engagement in science aims to ensure that academic research contributes to policy decisions.

Engaging with policymakers requires different strategies that prioritise policy relevance. However, some of the principles that apply to C&PE with Science may equally be relevant when engaging with policymakers and striving for policy impact. This guide does not focus on policy engagement aspects.

2 Rationale for Community and Public Engagement with Science

Why community engagement?

Demand-led research is essential to address the needs and priorities highlighted by society such as health patients, clinicians, and policy makers. Existing 'drivers' for research, whether for commercial or academic purposes, have been insufficient to identify and respond to such priorities and needs. Research undertaken without any form of prioritisation by researchers and funders contributes to research waste. There are four stages at which research waste could occur, namely:

i Questions relevant to clinicians and patients,

ii Appropriate design and methods,

iii Accessible full publication, and

iv Unbiased and usable reports.

Through community engagement, we encourage researchers to ask questions that align with the priorities of patients, clinicians, communities most affected, and policy makers. Questions that may be of interest to a researcher may not necessarily lead to interventions or outcomes that are important to research stakeholders. Community engagement also responds to community concerns and views about research studies. As such, community engagement seeks to improve the relevance, value and conduct of research, contributing to reduction in research waste.

Why Community and Public Engagement with Science?

Communication and relatability of science are key to fostering public awareness, enjoyment, interest and understanding of science. We live in times of widespread confusion and concern about the advances and impacts of science and technology on human health and the environment. Ongoing controversies and uncertainties about science and science outputs continue to cloud prevention, preparedness, and response efforts across various sectors of development, particularly in health, climate and the environment, and agriculture. This confusion affects not only the general "lay" public, but also government agencies, professional organisations, and the scientific community. One of the dangers of widespread and persisting confusion about scientific advances is that it contributes to an increasing public distrust of science. Rebuilding public trust in science in Africa by communicating and engaging with the broader society in ways they can relate with is of crucial importance.

3 Benefits of Community and Public Engagement with Science

A number of questions come to mind regarding the value of C&PE with Science. *What motivates researchers to engage with communities? Why do science academies, research funders, and research regulators encourage and support C&PE with Science? Why are some community members willing to participate in science engagement activities?*

These important questions make us think about the benefits that can result from meaningful engagement activities, ranging from personal (individual) benefits to benefits at the institutional and societal levels. Table 1 presents an overview of these benefits from the perspectives of the researchers, research institutions, the public participants (or communities), and science policymakers.

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TABLE 1: Benefits of engagement to stakeholder groups

GROUP	BENEFITS
Researchers, scientists and science institutions	Good Participatory Practice is ethical, practical, and rewarding. Engaging research participants, research host communities, key stakeholders and the wider public in research: • Safeguards ethical compliance • Enhances research design and delivery because more appropriate questions, methods and outcomes are chosen • Reduces research waste because the research is less likely to fail • Facilitates participant recruitment and retention because research is done in ways that help more people to take part and provides a better experience • Supports better health care decisions because the research is more relevant to the health care needs of those it is intended for and about • For institutions, engaging research communities and sometimes wider publics. demonstrates that the institution is responsive to society • Overall, meaningful C&PE builds public trust in science. The research is therefore more likely to have an impact in the real world
Research participants, research host communities and wider society	• Opportunity to help shape and influence science and science policy • Opportunity to voice hopes, concerns and expectations regarding research and research outcomes • Opportunity to learn about science and relevant ongoing research
Policymakers	• Makes research responsive to policy needs and priorities • Ensures societal input on research and innovation policy by bringing new knowledge and values into decision-making processes • Making science policy processes more transparent and legitimate, thereby promoting public trust in science and researchers

> When I take young researchers with me into communities, they experience why their research has relevance. They tell me how much it means to them, and how valuable it is. Interacting with communities re-invigorates them. All of us should have a healthy dose of community every now and then. It is really important. *(Professor Linda-Gail Bekker, quoted in Joubert, 2018:229)*

FIND OUT MORE about the benefits of public engagement from the researchers' viewpoint in a booklet called 'What's in it for me?', published by Research Councils UK.
Download it at ***https://www.ukri.org/wp-content/uploads/2020/10/UKRI-16102020-Benefits- of-public-engagement.pdf***

SUGGESTED READING from 'The Conversation Africa': Academics can change the world – if they stop talking to only their peers, by Savo Heleta, Nelson Mandela University, South Africa, published in 2016:
https://theconversation.com/academics-can-change-the-world-if-they-stop-talking-only-to-their-peers-55713

In 2017, 'The Conversation' also published an article with a UK perspective on why universities and academics need to engage with communities:
https://theconversation.com/why-universities-and-academics-should-bother-with-public-engagement-72550

An article on 'The Conversation Africa' published in 2016, focuses on the benefits for scientists from engaging with public audiences:
https://theconversation.com/scientists-have-much-to-gain-by-sharing-their-research-with-the-public-64129

An article published in 2015 in the Northern Review looks at the role community engagement plays in environmental assessments in Canada:
https://thenorthernreview.ca/nr/index.php/nr/article/view/392

4 Engagement principles

Engagement of non-scientist publics with science is very dynamic and different terms may be used, each defined differently by different organisations and individuals. Frequently used terms include community engagement and involvement, patient and public involvement, community outreach, public engagement, science communication, citizen science, etc. Irrespective of the term used, at the core of this practice are certain tenets. Keeping these guiding principles in mind can help researchers and research institutions achieve meaningful C&PE with Science.

GUIDING PRINCIPLES

Embarking on C&PE with Science is a deliberate exercise:

- Engagement is an integral part of the research cycle – from study design to study close-out and dissemination of results. It is not an optional fringe activity that should be considered at the end.
- Co-creation is key for meaningful engagement
- Engaging research communities and/or wider non-scientist publics with science requires a very intentional mindset. This mitigates against tokenism or "tick-box" exercises.
- Interdisciplinarity is essential since no single scientific discipline has sufficient scope to develop understanding and shape the complexity of the science-society interface.
- Community engagement is active and interactive. It requires deliberate planning and effort, as well as skills and resources.
- Engagement activities should be open to participation by people from all backgrounds. It should strive to be as inclusive as possible, prioritising the most affected communities.
- Engagement requires a long-term commitment from research leaders and their institutions.

Start community engagement with the right intentions:

- It is about seeking perspectives that scientists may have failed to anticipate by considering only their own experiences and/or values. Researchers should therefore engage with the intent to listen respectfully to people's views, concerns and lived experiences.
- The connections and dialogues between researchers and non-scientist publics should be mutually beneficial. Everyone is learning something new, including researchers themselves.
- Engagement outside of a research project is also encouraged in order to build appreciation and excitement for science in a neutral context outside of a specific research project.
- Always listen to the concerns of community members.

Continued overleaf >

GUIDING PRINCIPLES

Ethics is central to C&PE with Science:

- Researchers should communicate transparently to participants from the outset about the purpose and expected outcomes of their research, and about uncertainties in science to avoid creating false hopes/expectations.
- Engagement activities should be sensitive to the diversity and cultural protocols of the communities involved.
- Engagement should be consequential. People have a right to expect that researchers will take their collective contribution seriously and are entitled to feedback about how their input was used.
- Consider context, culture and language barriers of the participating community members. Avoid complex technical language as far as possible.
- All participants should jointly own the outcome and findings that result from engagement activities. The role of communities that benefit from engagement activities must therefore be acknowledged in all research outputs.

Institutional considerations:

- The institutional vision, mission and strategy should demonstrate a clear commitment to C&PE with Science, echoed by institutional leaders at all levels.
- Researchers who meaningfully engage their research host communities and the wider public should be formally recognised, their achievements and successes celebrated, possibly with awards or prizes.
- The institution must provide coordination and support for engagement activities to improve efficiency and quality, including helping to monitor involvement and impact.
- C&PE with Science activities require dedicated budgets and implementation capacity to achieve the intended outcomes and impact of the interventions. Institutions should therefore ensure that adequate budgetary and staffing requirements are considered in their annual planning. Ring-fenced budgets and dedicated staff allocations for C&PE with Science often lead to more productive and rewarding outcomes.
- Training opportunities for researchers, staff, and students should be provided to strengthen knowledge and skills in good participatory practice for C&PE with Science.

The need for a new approach

For many years, the scientific community has focused on providing people with more knowledge about science and new advances in research to keep the public informed and nurture public support for science. In many cases and for many people, this approach does not work.

It is about information and awareness and how people respond to that information to form their own views. This realisation has given us a new appreciation of the value of public dialogue about science. Consequently, the concept of 'C&PE with research' has gained traction as a more effective way of involving public audiences in research.

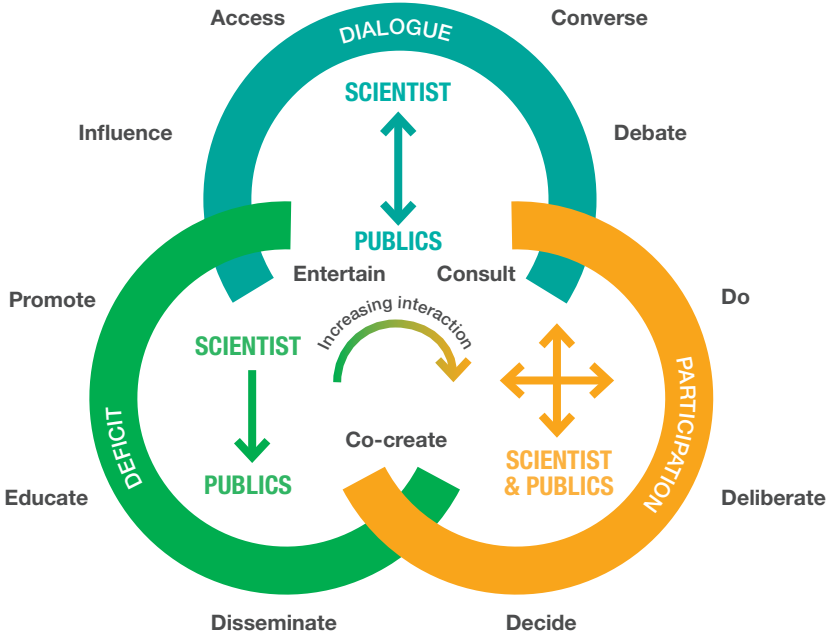

FIGURE 1: The rosette engagement model

- The 'rosette model' (Figure 1) shows how different approaches to C&PE can overlap and support one another, with increasing interaction as the approach evolves from education to conversation to participation (Metcalfe, 2019).

5 The nuts and bolts of Community and Public Engagement with Science

You have probably heard the saying, “Failing to plan is planning to fail”. Therefore, drafting a concrete plan is the best place to start your journey with community and public engagement. This does not have to be a long or complicated document. It is simply a document that answers key questions about your engagement activity, providing you with a clear route going forward. It is also a dynamic document that you should revisit and update regularly.

Make sure that your plan aligns with the strategy of your research group (or department, faculty and/or institution) and refer to these to support your own strategy. Show how your planned activity will add value to the research and organisation overall.

Don’t try to write this plan on your own. Invite colleagues and potential collaborators to join you. Make the process open and interactive and iterative to get the maximum benefit of everyone’s perspectives and contributions. Also, revisit the plan regularly! You will find that the answers will evolve as you make progress with the project.

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1 Listen and learn

When embarking on engagement with public groups and communities, it is important to start the exercise with an open mind and with a willingness to listen to and learn from the participants. To 'listen and learn' may be hard for researchers who are used to providing information and being in positions of authority where others listen to them. Similarly, it may be hard for researchers to resist the urge to argue with people about issues in science, especially when people express their fears about the research or when they think they are wrong. However, starting by listening, followed by a respectful conversation, provides scientists with an opportunity to offer information and research evidence that resonates with the interests and needs of the audience.

The following basic 'rules of engagement' can help guide researchers with engagement:

- Everyone has a voice and must respect one another's views.
- No one should be allowed to dominate the discussion.
- The discussion should be a safe space where no one is judged or ridiculed for their views.
- When reporting, comments are not attributed to individuals.

2 Focus on building trust

Trust is earned over time. It can wax and wane; therefore, researchers must do what they can to nurture and sustain the trust of the communities they work with.

- There are many reasons communities may be reluctant to trust researchers, including bad past experiences of working with researchers. They may also be sceptical about the motives of researchers and the sources of funding. In cases like these, building trust is more important than delivering information, says Obidimma Ezezika, CEO of the African Centre for Innovation and Leadership Development.

Forming partnerships with local organisations with a good track record in the local community may help build trust. Additionally, if researchers have a budget for community liaison officers, hiring people from the local community may be a good idea. They know how the community functions and could help with valuable insights into the local context.

Research shows that trust is nurtured when scientists come across as credible, competent, open, honest, warm and caring. On the other hand, trust may be eroded if researchers speak down to people, dismiss their views or take sides on a controversial or emotional topic.

3 Nuances of the African Context

Africa is a continent rich in diversity, spanning culture, ethnicity, race, religion, language, and socio-economics. It is therefore important that C&PE activities take cognisance of this diversity and potential misunderstandings that may arise due to inaccurate assumptions by researchers. Below are considerations for science engagement activities.

4 Keep the language local, plain and simple

Africa is a continent with an estimated 1 500 – 2 000 African languages. Use the language spoken by the societal group selected for your C&PE with Science project if possible. You may need to pair up with a colleague who is fluent in the local language or call on trained interpreters to help.

Remember that jargon (or technical terms) are barriers to understanding and participation. Speak and write in ordinary, everyday, and plain language and use locally relevant idioms, analogies and metaphors for effective two-way communication and mutual learning in C&PE with Science.

5 Tips for community engagement

These tips were identified during interviews with African researchers who had conducted C&PE with Science activities in parts of the continent.

- **Consider hierarchies and power dynamics in communities and plan accordingly.** Understand the leadership structure and what permissions are required to engage with a particular community. For example, a Community Chief is very influential, and gaining his/her support and buy-in is imperative for success.
- **Flexibility:** remain flexible during implementation activities as your project may not go according to the planned schedule. Community members can be unpredictable, and may either turn up in large numbers, or a few, they may be late or arrive randomly. Being flexible is key to successful implementation of activities. Remember that initial input from the participants may change your engagement plans completely. Be flexible and use this input from the participants to reshape and improve these plans.
- **Teamwork and collaboration** are essential for the research team to achieve the best results and maximum participation. Planning and working as a team helps to lessen the load on the community liaison or C&PE focal person/s. It demonstrates to other research staff what it takes to engage communities and public groups in research, with newfound appreciation for the benefits. Where scheduling permits, consider consolidating activities with researchers in similar fields so as to engage the wider public jointly rather than as individual research groups. This enhances the engagement experience, minimises research fatigue, and cuts back on costs for engagement activities. When working with multidisciplinary teams from different contexts, it is important to sensitise them to the local context.

- **Identify all the stakeholders** in your work and determine the levels of interaction you will need to engage them. Not all stakeholders need to be engaged with the same degree of intensity. Some need to be informed about your work, some need to be monitored, and others may need to be kept satisfied or managed closely. It is also important to identify research groups that share the same stakeholders to allow for better collaboration and planning.
- **Culturally sensitive topics:** Stigmatisation and taboos: Factors such as cultural or traditional practices, gender, and age could play out as barriers in your selected societal group. It is worth engaging with an anthropologist or a science engagement specialist to find out whether there are any sensitivities to consider prior to engagement. Your advisor should understand what you plan to achieve and advise you on how you should go about it.
- **Behaviour and demeanour:** Behave and dress in a manner acceptable to the societal group and the cultural context to which the group belongs. Be aware that the societal group may be most comfortable to engage in a familiar and safe setting. Depending on the time of day, season of the year or specific customs, make sure that there is seating and refreshments at hand as well as other facilities to ensure the wellbeing of the participants.

Here are a few more tips for building trust with public groups and communities:

- Be transparent about your affiliations, your motivations and your funding sources.
- Be open about your own concerns and expectations regarding your research.
- Explain that science or research is driven by the pursuit of information and not biased to serve a specific agenda.
- Ask about participants' concerns and listen carefully and patiently.
- Don't become defensive.
- Don't become impatient during a conversation.

ONLINE RESOURCE: One of the online flashcard courses at Lifeology is focused on building trust. Find it here: ***https://lifeomic.app.us.lifeology.io/viewer/lifeology/scicomm/-how-to-build-trust-in-science-and-health***, with illustrations by DiAngele Augustus.

6 Quick pointers to guide researchers in policy engagement:

- **Timing:** It is crucial to involve policy stakeholders right from the design stage of research to align research questions to policy needs and priorities.
- **Staffing:** Recruit a professional to manage policy engagement.
- Acquaint yourself with **policy making cycles** and policy to impact pathways.
- **The provision of evidence** to substantiate a proposal is key in policy making.
- **Partnerships:** Identify science policy think tanks to collaborate (where possible) to push science evidence into policy. Consider "unity of purpose" - identifying opportunities to partner with fellow scientists to push identified science agenda.
- **Build long-term relationships** of trust and understanding.
- **Policy making is influenced** by several factors besides research evidence, e.g. resources and political/socio-cultural issues (ideology, values, power dynamics, interests, habits, traditions).

SECTION 2

A practical approach to Community and Public Engagement with Science

- A step-by-step process to plan community and public engagement activities

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6 A practical approach to Community and Public Engagement with Science

This section outlines a 10-step process to plan C&PE with Science activities.

A C&PE with Science plan can be prepared by addressing these questions:

1. **Objectives:** What is the purpose of your activity? Why do you want to engage?
2. **Role players:** Who are the team's core members dedicated to this engagement plan? Who else can (or should) you invite to join the team?
3. **Participants:** Who do you want to engage with?
4. **Content:** What topics and issues will your engagement activity be about?
5. **Modes:** What types of C&PE activities will you offer?
6. **Resources:** What resources will be needed? What is available, and what needs to be sourced? Do you need to arrange training for team members?
7. **Ethics:** What ethical considerations do you need to consider and plan for?
8. **Implementation:** What actions and roles are needed to implement this plan?
9. **Challenges:** What challenges or barriers may become obstacles to this activity?
10. **C&PE Evaluation:** How will you know whether this activity was a success?

FURTHER READING The JRC Science for Policy Handbook provides step-by-step advice on this topic. Even though it is written for a European context, it contains valuable advice that can be adapted to African settings: *https://ec.europa.eu/jrc/communities/en/community/evidence4policy/document/science-policy-handbook*

FURTHER ONLINE RESOURCES

In 2017, the UK National Coordinating Centre for Public Engagement (NCCPE) published a guide on 'How to develop a public engagement strategy'; download it at: *https://www.publicengagement.ac.uk/resources/guide/quick-guide-developing-high-quality-public-engagement*

Find more advice about writing an engagement plan or strategy at:

- *https://mesh.tghn.org/articles/mesh-strategic-plan/*
- *https://bit.ly/4befulY*

STEP 1: Objectives

Why do you want to engage?

C&PE with Science aims to seek community views and perspectives to inform research agenda and research questions, build public trust in science and ultimately improve the uptake and utilisation of research outputs. The first step in designing and planning your C&PE with Science journey is to formulate specific objectives for your intended engagement activities.

Many other decisions (for example, who to engage, how to engage, and how to evaluate the activity) will depend on the objectives that you formulate right at the start.

It is important that the research leader and everyone who will participate in the activity clearly understands these objectives and agree on them.

To clarify the objectives of your intended C&PE activities, ask yourself:

- Why do I want to engage communities (in general) or a specific community?
- What is it that I hope to achieve with this activity?
- What do I hope will happen (or change) as a result of this engagement project?
- What do I want to ask them, and why?
- What do I expect from the community that I plan to engage?
- How would I like people to respond?

Having clear answers to these questions will also help you to explain to community members and stakeholders why their participation is needed, valued and worthwhile.

> "As [engagement] efforts spread and become more sophisticated, engagement can become more about consultation and democracy, and less about the marketing of science. That will benefit researchers and the broader public alike. *(How to get public engagement right, 2018:413)*

Setting 'SMART' objectives

Be realistic when you set objectives. It is better to formulate specific measurable and achievable goals than broad, ambitious goals that are impossible to achieve.

The acronym "SMART" is for 'specific', 'measurable', 'achievable', 'realistic' and 'time-bound'.

For example, stating that the objective of engagement is 'raising public awareness of the need for fishing quotas', is **not** a SMART objective. It is too vague and would be very difficult to measure whether you have achieved it.

A SMART objective could be: "Sourcing the views of local fishermen along the West Coast of South Africa about a new research project focused on sustainable fishing, engaging at least 30 individuals, 10 each from three local communities (Paternoster, St Helena Bay and Velddrif) between September and December 2021".

STEP 2: Role Players

Role of researchers

It is logical to think of researchers themselves as key role players in C&PE because they occupy a special role in society; they have access to new knowledge as it is created. Many scientists agree that they have a moral duty to share their expertise. As such, they play a pivotal role in initiating engagement with research communities, public groups and other key stakeholders. Their presence and expertise add credibility to engagement activities.

When the topic of engagement relates to health, environment, natural sciences or engineering, it is important to consider a role for social scientists (such as anthropologists, psychologists, sociologists, ethicists, communication scientists, educators, even historians) who may be able to add immense value towards effective C&PE.

Role of research institutions

It is hard to sustain C&PE without support from the institution where researchers are based. C&PE activities flourish when they are clearly articulated in the institutional vision and mission and clearly linked to its research and teaching. On a practical level, it makes a huge difference when institutions appoint engagement experts to guide and support engagement activities and when engagement activities are visibly recognised, encouraged and rewarded at an institutional level. Research institutions thus have a moral obligation to capacitate, encourage, and empower their researchers to participate actively in C&PE.

Role of engagement experts

Engagement experts have a key role to play in engagement activities. Engagement experts can be considered as engagement enablers and catalysts. They have the skills and networks to facilitate and amplify your engagement ambitions. These professionals have specific skills in planning and implementing engagement strategies. As such, they could fulfil one or more of the following:

- assist with writing up an engagement plan (or strategy);
- help ensure that your activity is in line with the institutional vision and mission;
- suggest other partners and specialists to bring on board;
- suggest existing platforms and activities that you could use;
- facilitate working with journalists, filmmakers, photographers, illustrators, designers and other external service providers, who may be needed depending on the nature and scope of the engagement activity; and
- identify potential sources of engagement funding and submit relevant applications for funding.

Role of independent facilitators

During the engagement activity, also consider getting help from an experienced, independent facilitator. A good facilitator will know how to put everyone at ease and keep the conversations flowing while

ensuring everyone can participate. Facilitators know how to acknowledge and encourage participation, thereby making everyone feel valued. They can prevent dominant voices and views from overshadowing quieter group members. They know how to encourage people to think critically and reflect thoughtfully on the issues that are on the table. It is also their role to summarise the discussion and different points of view. With their ability to encourage dialogue and build trust, these facilitators can make a specific activity more engaging and effective.

Funders

Clearly, researchers will pay more attention to C&PE, including planning and budgeting for these activities, when it becomes a requirement of research funding grants. Endorsement by funders also means that C&PE becomes accepted – and even respected – as an integral part of research.

"The need for engagement should be made explicit in calls for proposals. Furthermore, scientists need to be rewarded for engaging actors affected by their research and innovation activities." (Engage 2020, 2015:113).

SUGGESTED READING

Connectors in engagement: ***https://mesh.tghn.org/themes/connectors/***

'Stand up for science: More researchers now see engagement as a crucial part of their job' is the title of an article published in 'The Conversation' in 2018. Find it here:
https://theconversation.com/stand-up-for-science-more-researchers-now-see-engagement-as-a-crucial-part-of-their-job-91801

STEP 3: Participants

Who do you wish to engage?

In the third step of your engagement plan, you need to think carefully about who you want to engage. Conducting stakeholder mapping or analysis will help you identify all the key stakeholders relevant to your work. Some could contribute to your work, while others may simply have a particular interest. There could also be stakeholders who might be an impediment to the success of your work. Analysing your stakeholders enables you to prioritise them because with finite resources, it's not possible to engage every stakeholder/group with the same level of intensity. Remember that this analysis will be able to contribute varied perspectives to your engagement activity.

Once again, it helps to be as specific as possible. Forget about 'the general public'. It does not exist as one homogenous group.

There are different ways to think about the concept of 'community'. A community can be geographically located (for example, people living in the same village), but it can also be a community of people sharing the same identity or interest (for example, people who are deaf and hard of hearing). Also, within a specific community, you may want to focus on a specific sub-group, such as mothers with babies younger than one-year-old.

Here are some questions to ponder when thinking about who to engage with:

- Which individuals or groups of individuals are likely to be interested in my research?
- Who is affected by my research?
- Who is talking about it or writing about it?
- Are there specific individuals who lead or represent the community I would like to engage with?
- Who are the people considered influential leaders in this specific community or sub-group of a community?
- How will I ensure I engage with a diverse group or groups of people?
- How will I ensure that I include people with diverse views and expectations, instead of only those who are positive and enthusiastic about my research?
- Are there any existing organisations or networks I can tap into to reach the most relevant groups of people with my engagement activity?

Getting to know your participants

Once you have defined your priority participants, try to find out as much as you can about them.

Asking yourself the following questions is a good place to start:

- Why would this group of people be interested in engaging with me (or with my topic)?
- Are they likely to be interested in my research topic or issue? Why, or why not?
- What aspects of my topic will be most relevant to them?
- What might they want to know?
- What concerns are they likely to have?
- What do they already know about this topic?
- Where do they get their information from?
- What expectations are they likely to have around this research?
- Is anyone else communicating with them on this topic?
- How can I make this activity meaningful and useful to the intended group?
- What can I learn from this group?

Importantly, we cannot simply assume that community members or public groups will be willing, ready and interested to engage. There are several reasons why people may not be eager to participate in C&PE activities, including public apathy, distrust of science, 'engagement fatigue' and uncertainty about the impact of participation.

STEP 4: Content

What will your engagement be about?

When planning the discussion topic of an engagement activity, researchers need to consider the following:

Start by asking yourself the following questions:

1 What is the 'big idea' that I want to discuss in my engagement activity?

2 Why should anyone care about this?

Then, to come up with a specific discussion point, ask yourself:

3 What are the most important ideas that I would like people to remember after this engagement activity?

4 If I put myself in the shoes of the group I will engage with, what are the things they are most likely to be interested in?

5 Is there anything that could be misunderstood or misinterpreted (i.e. anything not clear or that they may not like)?

- What could be the cause of this e.g. wording, language barriers, cultural differences etc.
- How can I make these simpler and clearer?

Answering these questions will help you make your topics relevant to people, connecting them to what they want to know.

TABLE 3: Popular modes of community and public engagement

MODE	DESCRIPTION	LEVEL OF ENGAGEMENT EXPECTED FROM THE COMMUNITY (LOW, MEDIUM, HIGH)
Citizen science	Citizens are directly involved in the research as data collectors but also have opportunities to help with problem-solving and co-creation of knowledge.	High
Dialogues	Public audiences interact directly and on the same level, with experts in a conversation managed by an expert facilitator.	Medium
Hands-on activities	Participants are allowed to touch and interact with materials and tools relevant to the research topic in order to stimulate conversation.	High
Participatory workshops	Meetings where people can share and enhance their knowledge to plan, manage and evaluate development projects and programmes.	Medium
Science cafés	Scientists provide a short (5-minute) introduction to a topic, followed by a conversation with the audience, run by an expert facilitator. In a 'Reversed Science Café, the experts pose the questions and listen to answers from the audience. They work together in small groups.	High
Engagement via social media	The targeted and strategic use of social media platforms such as X, Facebook, Instagram and TikTok to elicit public input around specific topics and issues.	Medium
Science espresso	One expert presents a very brief talk (about 10 minutes) followed by informal discussions with a public group. The session wraps up after 45 minutes.	Medium

STEP 4: Content (continued)

MODE	DESCRIPTION	LEVEL OF ENGAGEMENT EXPECTED FROM THE COMMUNITY (LOW, MEDIUM, HIGH)
Storytelling	New advances in science are presented according to a storyline (with a beginning, middle and end) as a way to make it more accessible to lay audiences.	Low
Community Advisory Boards (CABs)	CABs comprise of community members who represent the community voice in various projects and engagements.	High
Photovoice	Pictures are used to share and illustrate situations of participants. It brings the perspective of the community to the fore.	Medium
Art	The use of art encourages participants from various communities and cultural backgrounds to share views and engage.	Medium
Conversational podcasts	Regular conversational podcasts encourage conversation around topics. Bringing in experts will lend reliability and trustworthiness to discussions.	Medium
Focus group discussions	These group discussions, facilitated by an external moderator, encourage interaction and engagement. This will provide insight into local knowledge and perception that could be difficult to access otherwise.	High

STEP 5: Modes

How will you engage?

C&PE with Science comes to life via a wide and diverse range of activities. It is not advisable to prescribe a C&PE method to someone intending to undertake an engagement activity because different factors determine the appropriateness of an engagement method. In selecting a mode of engagement, researchers need to consider the following issues.

1. **The aim of the research study** – engagement for a clinical trial will not be the same as engagement for a basic science project.
2. **The aim of the engagement activity** – what outcomes do you seek to achieve as a result of your activity? Is it to contribute to the design of the research? Build research literacy? Collect community views about the study?
3. **Context:** Communities are dynamic. They consist of diverse sub-groups. How you engage young people will differ from how you engage community elders.

Key to note though is that C&PE methods require participation from all participants. Some examples include community advisory boards (CABs), digital storytelling, art, photo-voice, science cafes, community and/or public dialogues, focused group discussions, open days, citizen science, participatory workshops.

Engaging online

During the COVID-19 pandemic, many science engagement programmes moved online and this form of public engagement has remained popular since then. Designing and delivering online engagement activities require some special considerations. The digital environment offers specific advantages but also presents some challenges.

Here are some tips to keep in mind:

- Familiarise yourself with the latest online platforms, including their pros and cons for public engagement activities.
- One of the best ways to get to know a platform is by participating in events others organise.
- Choose the most appropriate online platform with your specific participant group in mind. Consider online access and data costs and how this may prevent some participants from joining.
- Think beyond talks and presentations – it is possible to do various activities online. Play around with functions and options such as breakout rooms, live polling and chat functions to see how you can enhance audience interaction.
- Organise practice sessions in advance to ensure people can log on and everything works as expected.
- As far as possible, have a technical person to help with technical issues. It is very hard to run an event and respond to technical difficulties at the same time.

FIND OUT MORE about creating meaningful online events in this guide from the National Coordinating Council for Public Engagement in the UK: *https://www.publicengagement.ac.uk/meaningful-engagement-online-events*

STEP 5: Modes (continued)

Engaging via social media

Many researchers are worried or uncertain about using social media, for example, X (formerly known as Twitter) or Facebook, as a part of their research engagement activities. You may be concerned about whether using social media for research communication is appropriate and may be worried about how your colleagues will respond. Often, those who do use these platforms utilise them for networking with peers and sharing scientific journal articles.

However, social media offers novel opportunities for broadening and opening up public conversations about research. As with face-to-face engagement, planning is key.

To effectively measure the success of such a campaign, it is important to set goals before the campaign starts. Although it is advisable to work with a digital and social media expert, here are some ways to measure success. Measures to monitor include post reach (how many times various posts were viewed/displayed on various devices), engagement (the number of times a user/follower engaged with content e.g. like, share or commented on). Another indicator can be follower or community growth, indicating how many followers are actively following official accounts.

The success of social media usage can also be gauged by asking participants to indicate how/where they saw or engaged with relevant information.

The benefits of social media engagement include:

- **Reach:** New ways to connect with large numbers of people, including people in remote or distant locations.
- **Interactivity:** The possibility to have a dialogue, including the sharing of your own ideas and discovering the interests and contributions of others.
- **Building relationships:** social media allows you to interact with people that you may never be able to meet in the 'real' world and, over time, cultivate working relationships with them.
- **Keeping a record:** It is also possible to keep track of social media conversations and archive these for later use or analysis.
- **Low cost:** As long as the internet connection is available and affordable, there are not many other costs involved.

> "Establishing long-term relationships between researchers and community members was a key enabler of good Community and Public Engagement that emerged from our work.
>
> *(Hickey et al., 2022:4).*

There are also some drawbacks to keep in mind, including:

- **Time:** Generating and sustaining effective engagement via social media requires considerable time and attention. You must be willing to spend some time on social media platforms every day – even if it is just a few minutes to check whether there are any responses or questions that are demanding your attention.
- **Getting noticed:** social media platforms are busy and crowded spaces, and you will need to be creative and persistent if you want to build up a notable presence that may result in effective engagement.
- **Negative feedback:** social media can be harsh. You have to be ready for people who criticise you, and you should expect to encounter people who choose to post offensive comments, also known as 'internet trolls'.

Tips for social media content

- Think about who you represent online; are you posting in your individual capacity or on behalf of a research group or institution?
- Focus on the interest of the people you are trying to engage – what will they care about regarding your research topic?
- Find out who else is communicating about this topic on social media. You may be able to respond to their posts or link your efforts to theirs.
- The key to success is to share content that people will enjoy and that they will respond to.
- Keep contents succinct, to the point and easy to share.
- Aim to stimulate curiosity or a response from the reader.
- Ensure that your content will not upset or offend anyone by considering potential cultural, ethical and religious sensitivities.
- Always credit the original creators if you share ideas or content from someone else.

STEP 5: Modes (continued)

GETTING MORE CONFIDENT WITH SOCIAL MEDIA REQUIRES PRACTICE AND EXPERIENCE.

It is also a good idea to ask for help from communication experts in your institution or from peers who have been successful in creating a significant online presence.

Go to:
https://www.publicengagement.ac.uk/do-engagement/choose-method/social-media for more advice about using social media effectively for public engagement.

The National Coordinating Centre for Public Engagement has developed a guide focused on using social media, including a discussion of the benefits and risks of Twitter, Facebook, Snapchat, Instagram, YouTube, and Reddit.

Download it at:
https://www.publicengagement.ac.uk/sites/default/files/2023-08/what_works_engaging_the_public_through_social_media_november_2018.pdf

Research insight

Mapping Public Engagement with Research in a UK by Grand et al. (2015) discussed earlier studies listing up to 171 participatory activities and about 1 500 different types of engagement initiatives.

Creative approaches for community and public engagement

In addition to well-established modes of engagement, it is also possible to use novel and creative approaches that are 'out of the ordinary', as long as they suit your engagement objectives. You should also consider the age and culture of participants in a societal group when choosing your engagement method(s). Below, we outline several innovative methods that you could consider, with examples and references that provide more detailed information.

Body mapping

Have each participant create a life-size body outline. Then, encourage them to add details to the body and background, using drawings, paintings, or brief stories to reflect their experience of a situation or event. Make sure everyone participates.

Well suited to health and well-being exploration

Virtual reality

Offer participants a realistic lab experience by using 360-degree immersive video. Enhance the effect with virtual reality headsets for an innovative, scalable approach.

Tip: work with professional VR company. Well suited for younger participants

Short drama performances

Create a short film on a specific topic with a narrative, using direct observation and experience. Ideal length is an 8- to 10-minute script.

Participatory music

Collaborate with professionals, musicologists, and music therapists to create spaces for participants to imagine and co-create the future. Through songwriting, singing, and performance, they'll express their insights and contributions to addressing various issues.

Well suited for engagement with adolescents

Participatory theatre

For community engagement requiring audience participation, consider using theatre, especially participatory or immersive forms. Enhance it with digital elements like augmented reality, gaming, and smartphone apps, and include open discussions between actors and the audience.

Well suited for public engagements relevant to policy-making

Participatory street (public) art: performance and creative art forms

Use public engagement to build community by beautifying spaces and fostering neighbourhood history, culture, and identity, which can boost economic vitality. Involve the public in every phase, from selecting spaces and generating ideas to creation, maintenance, and appreciation.

Well suited to broad, inclusive community and public engagement

Community-based dance

Use dance to provide communities with innovative opportunities for self-reflection and a fresh perspective on their neighbours and the world. Participants will experience dance as a transformative process, where an idea evolves into action, practice, and a new way of being.

Well suited to all age groups in a range of communities

FIGURE 2: Creative engagement approaches

STEP 5: Modes (continued)

VIDEO EXAMPLE

- Project: Hip Hop U's Jiving with the Africa Health Research Institute
  https://jivemedia.co.za/public-engagmeent/hip-hop-us-jiving-with-the-africa-health-research-institute/
  Organisation: Jive Media Africa

ONLINE RESOURCES

- The practice and ethics of participatory visual methods for community engagement in public health and health science by Gill Black and Mary Chambers.
  https://media.tghn.org/medialibrary/2019/11/PVM_handbook_v2_.pdf

- How to use theatre to involve the public in decisions about research and innovation policy: An alternative, creative approach to public engagement, by Florence Engasser and Tom Saunders.
  https://www.nesta.org.uk/blog/how-use-theatre-involve-public-decisions-about-research-and-innovation-policy/

- Public art and the art of public participation, by Jan Brennan
  https://www.nationalcivicleague.org/ncr-article/public-art-and-the-art-of-public-participation/

- Change UR world: Hip Hop U
  https://jivemedia.co.za/wordpress2/wp-content/uploads/2019/03/HHU_brochure_SocialMedia_version.pdf

- Dance and Civic Engagement, by Paloma McGregor
  http://animatingdemocracy.org/resource/dance-and-civic-engagement

- Using Online Tools for Public Engagement
  https://planning-org-uploaded-media.s3.amazonaws.com/document/PASQuickNotes51.pdf

SUGGESTED READING

Studies reported on 'SciDev.Net' describe how partnerships between research and art can be highly effective:

- **Nairobi, Kenya (2021):** Delivering hygiene messages through drama and song can greatly reduce potentially deadly cases of diarrhoea and pneumonia among young children – find out more at: *https://www.scidev.net/global/news/traditional-arts-curb-deadly-diarrhoea-in-children/.*
- **Accra, Ghana (2018):** A project that used storytelling and picture drawing to engage young students and their parents has resulted in increased knowledge and better attitudes regarding antibiotics use and antimicrobial resistance – see: *https://www.scidev.net/sub-saharan-africa/news/antimicrobial-resistance-in-ghana/*.

STEP 6: Resources

What will you need?

Now that you have decided on your (1) objectives, (2) stakeholders, (3) participants, (4) content and (5) modes, the 6th step in your engagement plan must focus on resources. In addition to thinking about the skills and time of your team members, it is time to confront the issues of budget. You need to draw up a budget as part of your engagement plan.

The following checklist may help you think about the resources you may need:

- Printed and online materials
- Publicity
- Airtime
- Equipment, such as sound and lighting, projectors and screens, notice boards, flip charts, stationery
- Venues, including tables and chairs
- Infrastructure and transport
- Catering
- First aid
- Translation costs
- Formative assessment activities.

Depending on the available resources, you may need to go back to earlier steps in your engagement plan to make sure the plan remains feasible. Of course, budgeting for engagement as part of your research plan (from the start) will increase the feasibility of your engagement ambitions.

STEP 7: Ethics

The ethics of engagement

While research funders often stipulate community engagement, it should not simply be done to tick a box in a grant funding application or progress report. There are also questions about the ethics of the engagement process itself to consider.

Ensuring diversity and inclusivity in the groups you engage, is a key ethical requirement. To achieve this, you have to think carefully about the language, formats and platforms you will use.

Also, ethical conduct demands timely and respectful feedback to relevant groups during and after research. It is important to provide feedback to the community on the new knowledge that they helped to create. It is also important to ensure that they are aware of any findings that could benefit them. Ultimately, it is about acknowledging their input and thanking them for their time and participation.

Finally, don't communicate the outcomes of the research or the engagement project, without involving and acknowledging the participants.

FIND OUT MORE about the ethics of engagement: *https://mesh.tghn.org/articles/category/ethics-engagement/*

STEP 8: Implementation

Taking action

Now that you have the first seven steps of your engagement plan, it is time to pin down the steps you need to take to make this plan a reality according to a specific timeline. Finalising this action plan may take several rounds of discussions and negotiations.

The time has come to plan for practical issues such as:

- **Date, time and venues of my activities** – a single event or a series?
- **Publicity** – How will people be invited and/or recruited to participate?
- **Responsibilities** – Who will take care of specific tasks leading up to the event and on the day?
- **Venue and logistics** – Clarify issues around bookings, equipment, transport, safety and security.
- **Photography and media reporting** – Arrange with professional photographers and reporters well in advance.

Choosing the most relevant communication tools to support your activity will depend on your specific objectives but also the audience.

Here are a few tips to consider:

- If people can't read, printed information will be a waste of money and show that you did not try to understand your audience.
- Think about language and whether it is necessary to find a translator so that people will feel more comfortable responding to your questions in their home language. You may need to cater for more than one language.

On the day, keep the following in mind:

- Arrive early and allow enough time for set-up, including dealing with unforeseen hiccups.
- Make sure you and/or a technical assistant know how all the equipment works.
- Check that all catering arrangements (including special dietary needs) are in place and confirm timing with service providers.
- Make sure you know who to contact in case of an emergency.

At the start of the event:

- Ensure everyone is welcomed and key role players, including community leaders, are introduced.
- Thank everyone for their time and participation.
- Make sure housekeeping announcements are clear, including the outline and timing of the event.
- Ask whether people are happy for their images to be used in event photography, giving them the option to decline without feeling excluded from the event.
- Describe the purpose of the event and the activities that will follow.

STEP 8: Implementation (continued)

Think in advance about how you will collect and document input from participants. Options to consider include:

- A person at each table who agrees to document discussions.
- Allowing people (or groups) to post ideas on easels or designated wall spaces.
- Using mobile phones to allow people to vote on certain options.

It is equally important to think about **when** would be the best time to engage with public groups and community audiences. Figure 3 illustrates the engagement methods that can be used before, during and after a research project.

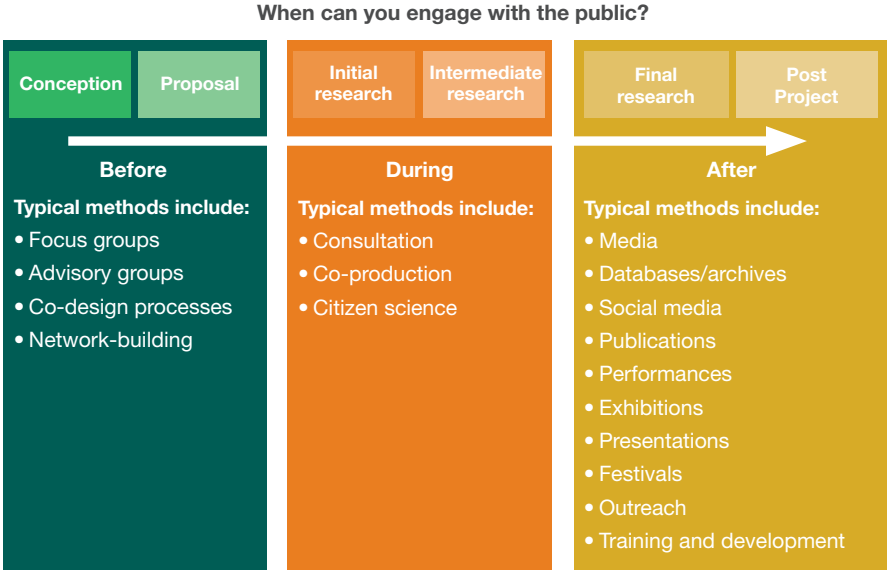

FIGURE 3: Engagement methods at different stages of a research project (Source: National Coordination Centre for Public Engagement)

Research insight:

On the issue of 'when' to engage, scholars have pointed out the benefits of engaging audiences as early as possible in the research process, a practice also referred to as 'upstream' engagement. A booklet with the title 'See-through science' provides motivations for this approach. Download it at *http://sro.sussex.ac.uk/id/eprint/47855/1/See_through_science.pdf* (see also Rogers-Hayden & Pidgeon (2007).

STEP 9: Challenges

Challenges associated with engagement

Despite its commendable objectives to serve science and the public interest, there are some barriers and challenges when it comes to effective C&PE. Some of the critical questions asked about C&PE include:

- Is C&PE sincere about engaging the public to listen to their views? Or is it really about securing public support or promoting a specific researcher or institution?
- Are the outputs of public engagement taken seriously by policymakers or even by researchers themselves?
- Do participants know what the research team will do with their input?
- Are researchers just going through the motions in order to satisfy funders' demands for public engagement? (in other words, it has become a "tick-box" exercise.)
- Who, amongst the public, are participating in science engagement exercises? Are the participants really representative and inclusive of all groups in communities, or are they limited to those who are already interested and can afford to participate?
- How scalable are engagement exercises, or is it only possible to effectively engage small numbers of people?

Fundamentally, public engagement requires researchers (and the scientific community as a whole) to let go of some of their authority and allow others to participate in science and create new knowledge. This requires a fundamental change in how many scientists think about the public and one can understand why some scientists may hesitate. There are several more reasons why researchers may choose not to participate in public engagement, including:

- Uncertainty about the value of public engagement;
- Perceived difficulty in making a complex or esoteric research topic accessible and meaningful to public groups;
- Perceived risk of getting the public involved in their research;
- View public engagement as an 'optional extra', instead of seeing it as an integral part of a research project;
- Lack of relevant skills and training;
- Lack of institutional support and negative views from their peers;
- Lack of time and financial support; and
- There is a perception that members of the public will not be interested in or able to engage with a specific topic.

> "Public engagement does not come easily to most scientists. It is "an acquired skill". *(National Academies of Sciences, Engineering, and Medicine, 2016:24).*

STEP 9: Challenges (continued)

Public groups may have their own reservations about taking part. They may feel that the topic is not relevant or interesting to them. Negative experiences with other researchers may cause them to mistrust the process or to regard it as a waste of time. Even if they want to take part, they may be prevented by barriers in terms of time and transport or even safety concerns.

> “Are engagement efforts really intended to involve citizens in ways that could give them a meaningful voice in science and technology decision-making? Or is the goal to increase citizens’ trust in scientists and policymakers or to encourage them to accept nanotechnology products? Relatively few engagement projects, for example, include processes intended to link citizens’ recommendations, concerns, and questions to actual policy processes or decision-makers? *(Powell & Colin, 2008: 128–129).*

Table 4 provides guidance on identifying and dealing with obstacles and risks during C&PE in Science.

TABLE 4: Suggested actions to overcome engagement obstacles and risks

OBSTACLES AND RISKS	ACTION
Lack of appreciation for community and public engagement	Plan your C&PE carefully and align it with the strategic aims and activities of the institution for which you work or the organisation funding your research. Try to get buy-in (early on) from your seniors in your work environment.
History of poor engagement between researchers and the community	Work on two-way communication and acknowledgement of mutual learning. Talk about mistakes of the past to acknowledge what went wrong and build confidence in future efforts.
Trust deficit	Give ongoing feedback: make sure the societal group understands that data will not be used against them, acknowledge their input, and manage expectations upfront.
Lack of interest by a societal group	Ensure you understand the priorities of the particular societal group; leverage these priorities.

Continued overleaf >

OBSTACLES AND RISKS	ACTION
Context of political volatility that fuels mistrust	Ensure each participant understands the aim and terms of engagement and is comfortable continuing.
Dealing with difficult and unlikeable individuals	Be patient and engage, engage, engage, and if necessary, on a one-to-one basis.
Dealing with overly assertive and domineering individuals	Acknowledge differences of opinions; keep the two-way communication going. Get help from an expert facilitator to manage the dialogue.
Main messages are no longer valid; unintended confusion.	Readjust messages and discuss research developments with the societal group. Check understanding.
Mistakes due to poor judgement by the researcher	Acknowledge mistakes and set out the way forward clearly. Double your engagement efforts.
Research partners become unavailable or are inhibited by red tape	Review your plan and continue. Communicate hitches to the relevant groups and individuals.
Loss of equipment (e.g. digital camera)	Discuss the situation; explain and communicate setbacks openly and talk about how this will affect the engagement efforts.
Too much focus on research questions and interviews	Always balance your research zeal with the need to acknowledge the profile of your societal group.
Overpromotion of research outcomes	Tailor your communication of your research outcomes to the profile and in the interests of your societal group.
Overconfidence by the researcher and raised expectations of the societal group	Address the overestimation of the benefits of the study by honest and clear communication.

Continued overleaf >

STEP 9: Challenges (continued)

OBSTACLES AND RISKS	ACTION
Sharing outcomes that are not positive	Be honest about negative outcomes. Listen to concerns. Keep your frame of mind positive.
Perception of power inequity between researchers and community	Show respect, be informed, be honest, and work on a sustainable relationship.
Perceived competition between indigenous knowledge and Western science	Be objective. Listen to the community and strive to acknowledge sincerely the role and value of indigenous knowledge. If appropriate, highlight shortcomings. Do not be deflected from your research endeavours.
Perception of Western superiority	Discuss the particular case, break down the different issues and propose a positive way forward. Plan more than one two-way communication session.
Perceptions that research is dangerous	Listen to concerns; plan more than one two-way communication session to address concerns.

SUGGESTED READING

Read this article about the 'challenges and opportunities of community engagement by Bernard Appiah:
https://www.scidev.net/sub-saharan-africa/features/community-cooperation-health-research-kemri/

STEP 10: Evaluation

Evaluation of your engagement activities

If you want to know whether your engagement project made a difference, and if you want to improve future efforts, you need to plan for evaluation from the start. This is the final step in our 10-step engagement planning process.

Evaluation simply means collecting and analysing data about your engagement activity that will tell you whether you achieved the objectives of your project. It is not about finding fault or about patting yourself on the back. The point of evaluation is to improve your engagement practice by learning from what works and what does not work.

There are many good reasons to evaluate your C&PE activity, including:

- It is a useful tool for critical reflection that helps you learn from the current project so that you can revise your plans and improve in the next round, as well as share the lessons learned with others.
- It helps you to understand what worked and why (and what did not work).
- It adds credibility to your engagement activities by demonstrating accountability and value for money.
- Your evaluation data will add value when you report the activity to your superiors or funders.
- Evidence of the success of an engagement activity will be useful when you apply for future funding for similar projects.

Evaluation tips:

Keep the following in mind before you start:

- Make your evaluation plan part of your project planning – in other words, plan for evaluation before the project starts.
- Think about the time, resources and skills you will need to do an effective evaluation and ensure that these are captured in your overall plan and budget.
- Your evaluation effort should match the scale and scope of the activity. You don't need a complicated process for a simple activity, but a large multi-faceted engagement project may require the help of experts in the field of monitoring and evaluation.

When to evaluate

There are three phases (or timings) of evaluation to consider:

- **Front-end evaluation** takes place before an event to gather information about current knowledge and views of public participants.
- **Formative evaluation** is about testing an activity with members of the public in order to refine the activity before it is launched.
- **Summative evaluation** takes place after the event to document its outcomes and impacts.

STEP 10: Evaluation (continued)

What to evaluate

The critical starting point for any evaluation is to have clear and measurable outcomes that can be evaluated. Vague statements like "raising awareness" or "attracting interest" will not work. You need to be very specific about the impacts or outcomes that you want to measure and you will have to think carefully about the aspects of your engagement activity that can be evaluated meaningfully. This will be guided by your research objectives. If you have 'SMART' objectives (see the section on objectives in this guide), planning for a performance evaluation will be easier. Make sure that your evaluation aims and questions match the original objectives of the project.

Using a 'a theory of change' to guide your evaluation

If you are clear about the objectives (or changes) you aim for with a specific engagement project, using a 'theory of change' will help you test your evidence of success. Using this approach is a more systematic and scholarly way of doing evaluation and may be useful if you are interested in publishing your findings in a journal. A useful place to start is the 'logic model' and 'theory of change' for public engagement developed by the American Association for the Advancement of Science (AAAS), which can be downloaded here: *https://www.aaas.org/sites/default/files/content_files/2016-09-15_PES_Theory-of-Change-for-Public-Engagement-with-Science_Final.pdf.*

Several organisations have published detailed guides on how to evaluate science engagement activities, listed in Table 5 on the facing page.

NEED MORE HELP WITH EVALUATION?

- A series of evaluation tools and maps can be downloaded here: ***https://mesh.tghn.org/evaluation/***
- Look at a series of talks that formed part of a 2020 webinar on public engagement with health research, organised by MESH. Start here: ***https://mesh.tghn.org/articles/webinar-public-engagement-and-involvement-health-research-how-well-are-we-doing/***
- Other organisations in the field of community and public engagement have developed several useful guides, tools, techniques and resources that you can adapt to your project and context. Here are some online places to start exploring for more help:
  - ***https://documents.manchester.ac.uk/DocuInfo.aspx?DocID=58346***
  - ***https://wellcome.org/grant-funding/guidance/prepare-to-apply/using-engaged-research-approach***

TABLE 5: Guides and frameworks for the evaluation of community and public engagement

DATE	SOURCE	TITLE/TOPIC	ONLINE LINK
2023	National Co-ordinating Centre for Public Engagement	How to evaluate public engagement projects and programmes	*https://www.uu.nl/sites/default/files/evaluating_your_public_engagement_work.pdf*
2020	Department of Science and Innovation (South Africa)	Science Engagement Monitoring and Evaluation Framework	*https://www.dst.gov.za/images/DSI_Science_Engagement_MEFFINALREPRONW3b_003.pdf*
2019	Queen Mary University of London	Evaluation Toolkit 1 & 2	*https://www.qmul.ac.uk/media/qmul/publicengagement/Booklet-1-(parts-1-and-2)-final2-(300-dpi).pdf*
2019	Queen Mary University of London	Evaluation Toolkit 3	*https://www.qmul.ac.uk/media/qmul/publicengagement/Booklet-2-(part-3)-final2-(300-dpi).pdf*
2019	University College London	Evaluation methods for public engagement projects	*https://www.ucl.ac.uk/culture/sites/culture/files/100831_methods_for_evaluation.pdf*
2017	National Coordinating Centre for Public Engagement (NCCPE)	How to evaluate public engagement projects and programmes	*https://www.publicengagement.ac.uk/resources/guide/how-evaluate-public-engagement-projects-and-programmes*
2017	Science and Technology Facilities Council (UK)	Public Engagement Evaluation Framework	*https://www.ukri.org/publications/stfc-public-engagement-evaluation-framework/*
2015	Science Foundation Ireland	Evaluation Toolkit	*https://www.sfi.ie/resources/SFI-EvaluationToolkit-Part-1-of-7.pdf*
2012	University of Manchester (UK)	Evaluating your engagement: Developing an evaluation plan	*https://documents.manchester.ac.uk/display.aspx?DocID=58347*

> Designing an evaluation is like charting a journey. There are many roads that may get you to your destination, but also many potholes and troublesome turnoffs along the way. Some shortcuts may seem attractive, but could cause you to miss your destination completely. It may be a hard lesson to learn, but this is the bottom line: Do it well, or don't do it at all. A quick-and-dirty, surface-level evaluation is likely to provide questionable data (at best) resulting in incorrect conclusions and potentially damaging advice. *(Professor Eric Jensen, speaking at Stellenbosch University, 17 June 2016).*

Prof Jensen has published extensively on this topic. Here is a link to his work: ***https://www.jensenlearning.com/***

SUGGESTED READING

Reed et al. (2018) have developed a 'standard' evaluation that can be used to evaluate the design, delivery and long-term impacts of public engagement with research. The paper organises tools according to cost, time and expertise required.

7 Characteristics of a Community and Public Engagement Champion

In developing this guide, the authoring team engaged with various researchers, research leaders and science communication practitioners. The characteristics listed in Table 6 below are an assimilation of key traits that a C&PE champion could aspire to.

TABLE 6: Characteristics of a C&PE champion

Passionate about research AND community and public engagement

- I am an expert in my field of research and can, therefore speak with authority and confidence.
- I am willing to respect and learn from the perspectives of others (including non-experts) about my research.
- I am optimistic about the outcome of my science engagement with society and see my commitment to this as an investment.
- I am open to new ideas and opportunities that will enhance my research agenda.
- I am willing to adapt my research to ensure a more fruitful outcome.
- I value engagement with the public, even if I may not be the world's best communicator.
- I am willing to ask more experienced or better communicators to help me, where necessary, to ensure that I achieve my science engagement objectives.
- I believe that science engagement with society is mutually beneficial and results in mutual learning.

Willing to share knowledge and experiences with others

- I am an expert communicator and am happy to work with researchers to enable more constructive community and public engagement.
- I have experience in working with communities and am willing to share success factors and lessons learned.
- I have a few bruises to show and am happy to help you avoid some mistakes.
- I acknowledge that there are risks but believe that the rewards far outweigh the negatives.

I care about using science as an instrument for growth and development

- I believe that collaboration in science includes collaboration in society.
- The more we pursue C&PE with Science, the more we move forward as humanity.
- Stronger together!

8 Resources

USEFUL LINKS FOR FURTHER READING ABOUT SCIENCE ENGAGEMENT

- Africa Health Research Institute (AHRI): *https://www.ahri.org/public-engagement/*
- American Association for the Advancement of Science (AAAS) Center for Public Engagement with science: *https://www.aaas.org/programs/center-public-engagement-science-and-technology*
- American Association for the Advancement of Science (AAAS) public Engagement with science: *https://www.aaas.org/focus-areas/public-engagement*
- Center for Advancement of Informal Science Education (CAISE): *https://www.informalscience.org/broadening-perspectives*
- Engage 2020 (Horizon 2020, EU): *http://engage2020.eu/*
- National Coordinating Centre for Public Engagement (NCCPE), UK: *https://www.publicengagement.ac.uk/about-engagement*
- National Research Foundation (NRF, South Africa): *https://www.nrf.ac.za/science-engagement*
- Wellcome Trust: *https://wellcome.org/what-we-do/our-work/public-engagement*

NETWORKS THAT WORK TOWARDS COMMUNITY AND PUBLIC ENGAGEMENT WITH SCIENCE

- African Gong: *http://www.africangong.org/*
- European Science Engagement Association (EUSEA): *https://eusea.info/*
- Falling Walls 'Engage': *https://falling-walls.com/engage/about/*
- MESH Community Engagement Network: *https://mesh.tghn.org/*
- Pacific Science Association: *http://pacificscience.org/*
- Involve: *https://www.involve.org.uk/*

MESH is a free collaborative open-access knowledge hub and networking project for people involved in community engagement with global health research. It provides an online meeting place where community engagement practitioners, researchers, health workers and others can connect, share resources and discuss good practice.
It is part of The Global Health Network and is funded by Wellcome Trust.

Find resources

Mesh has a growing resource library which is free and open access. It shares project reports on innovative engagement activities, introductions to published literature, and a variety of guidelines and tools.

The resources are categorised by:

- Type of material (e.g. project reflection, toolkit, podcast)
- Health Research area (e.g. malaria, antimicrobial resistance, mental health)
- Subject/Approach (e.g. digital storytelling, ethics of engagement, arts collaborations)
- Region & Country (e.g. sub-Saharan Africa, Nepal, Brazil)

Share your work

Mesh is always keen to receive new project reflections on engagement work as well as any other reports, guidelines, tools or documents you have found useful in planning your engagement work. Read the guidance on adding resources to Mesh and email the team: **mesh@tghn.org**

Become a member

Signing up to Mesh is free, easy and quick. You can create a profile, connect to other members, author your own articles and join in discussions.
Sign up here: https://mesh.tghn.org/signup/

Join the Community of Practice

Add yourself to the collaboration map on Mesh and find other researchers, engagement professionals and creatives working near you. Find out about Mesh's learning webinars or workshops which bring the professional community together to discuss pressing topics. Take our free modular eLearning course on Participatory Visual Methods in Engagement with Health Research.

Get in touch with the Mesh team: mesh@tghn.org

Join Mesh today – the global network for public & community engagement
https://mesh.tghn.org/

GUIDES FOR COMMUNITY AND PUBLIC ENGAGEMENT WITH RESEARCH

Table 14 lists some comprehensive guides to public engagement that have been published in other parts of the world, and that may contain useful information.

TABLE 14: Public engagement guidance materials from other countries published between 2015 – 2023

DATE	LEAD ORGANISATION	TITLE	ONLINE LINK
2023	City of Issaquah, Washington	Public Engagement Toolbox	*https://www.issaquahwa.gov/DocumentCenter/View/4420/Public-Engagement-Toolkit---2023?bidId=*
2023	Hud Exchange	Community Engagement Toolkit	*https://www.hudexchange.info/news/community-engagement-toolkit-now-available/*
2023	Global Fun Community Engagement Strategic Intiative	Community Engagement Toolbox	*https://www.theglobalfund.org/media/10734/ccm_communityengagement_toolbox_en.pdf*
2022	Granicus UK	Making Deliberative Dialogue Work Online	*https://granicus.uk/wp-content/uploads/application/pdf/whitepaper-engagementHQ-making-deliberative-dialogue-work-online.pdf*
2022	Shire of Gnowangerup	Community engagement Guidelines and Toolkit	*https://www.gnowangerup.wa.gov.au/documents/88/community-engagement-guidelines-and-toolkit-june-2022*
2021	ORION Open Science (EU Programme)	How to guide: Public Dialogue	*https://www.orion-openscience.eu/public/2021-03/ORION%20How%20to%20guide%20Public%20Dialogue%202021.pdf*
2020	Bath University	A Field Guide: Public engagement and culture change	*https://www.bath.ac.uk/publications/field-guide-to-public-engagement-and-culture-change/attachments/Field_Guide_July_2020.pdf*

DATE	LEAD ORGANISATION	TITLE	ONLINE LINK
2020	UK Research and Innovation (UKRI)	Guide to Public Engagement	*https://esrc.ukri.org/public-engagement/public-engagement-guidance/guide-to-public-engagement/*
2019	Simon Fraser University	Public engagement Toolkit	*https://www.sfu.ca/dialogue/what-we-do/knowledge-practice/resources/public-engagement-toolkit.html*
2018	Promoting societal engagement in research and innovation (EU)	Engaging society for responsible research and innovation	*http://www.proso-project.eu/wp-content/uploads/proso-support-tool-2018.pdf*
2017	Horizon 2020: Future and Emerging Technologies programme.	A Practical Guide for Public Engagement in Future and Emerging Technologies	*http://www.fetfx.eu/wp-content/uploads/2017/06/EFFECT-Guide-on-Public-Engagement.pdf*
2017	University of the West of England	Event Public Engagement: A guide for organising activities for public events	*https://www.uwe.ac.uk/-/media/uwe/documents/research/scu-event-public-engagement.pdf*
2016	Union of Concerned Scientists	Scientist-Community Partnerships: A Scientist's Guide to Successful Collaboration	*https://www.ucsusa.org/sites/default/files/attach/2016/04/ucs-scientist-community-partnerships-2016.pdf*
2016	Royal Society of New Zealand	Public engagement guidelines for researchers, scholars and scientists	*https://www.royalsociety.org.nz/assets/documents/Public-engagement-guidelines-for-researchers-scholars-and-scientists-July-2016.pdf*

Continued overleaf >

DATE	LEAD ORGANISATION	TITLE	ONLINE LINK
2015	Biotechnology and Biological Sciences Research Council (BBSRC)	Public Engagement Training: the handbook	*https://bbsrc.ukri.org/documents/pe-training-handbook-pdf/*
2015	Sense about Science	Public engagement: a practical guide	*https://senseaboutscience.org/activities/public-engagement-guide/*
2014	Wellcome Trust	Planning your public engagement activities: Step by step guide	*https://wellcome.org/sites/default/files/planning-engagement-guide-wellcome-nov14.pdf*
2013	NISE Network	STEM network and resources	*https://www.nisenet.org/about*

ENGAGEMENT RESOURCES AND TOOLKITS FROM ORGANISATIONS AROUND THE WORLD

In addition to the guides listed in Table 14 (on page 56), you may also benefit from this curated list of practical toolkits designed to support community and public engagement.

- Imperial College: ***https://www.imperial.ac.uk/be-inspired/societal-engagement/resources-and-case-studies/engagement-toolkit/***
- Share Your Sci: ***https://shareyoursci.com/***
- National Coordinating Centre for Public Engagement (NCCPE), The engaged university: turning words into action (resource pack): ***https://www.ucl.ac.uk/culture/sites/culture/files/resource_pack_final_220920_002.pdf***
- American Association for the Advancement of Science (AAAS) Take Action Toolkit: ***https://www.aaas.org/resources/take-action-toolkit***
- National Coordinating Centre for Public Engagement (NCCPE) Tools for talking about public engagement: ***https://bit.ly/3Wqn3b7***
- EU Engage2020: Public Engagement for Research, Practice and Policy – Introducing a New PE Toolkit: ***https://www.vm.vu.lt/external/vm/files/PDF/Introducing_New_PE_Toolkit.pdf***
- NISE Network (USA): Tips Sheets for Engaging Public Audiences: ***https://www.nisenet.org/catalog/tips-sheets-engaging-public-audiences***
- An Introduction and Practical Guide to Community Engagment and Involvement in Global Health Research: ***https://globalhealthtrainingcentre.tghn.org/introduction-and-practical-guide-cei-health-research/***

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10 Templates

JOB DESCRIPTION
Community and Public Engagement with Science Practitioner

Role Overview:

The Community and Public Engagement (C&PE) with Science Practitioner collaborates with researchers, educators, and community stakeholders to facilitate meaningful interactions and engagement between researchers and the public about science. The incumbent plays a vital role in building and maintaining relationships of mutual trust, respect and appreciation between researchers and various communities. Their goal is to enhance public understanding of science, foster dialogue, and promote informed decision-making.

Responsibilities:

1. **Strategy design and implementation:** take accountability for the development and implementation of an organisational Community and Public Engagement with Science Strategic Plan. This includes securing leadership buy-in and support, the associated resources, and ensuring institutionalisation of this discipline.
2. **Organisational champion:** work alongside organisational stakeholders to develop C&PE with Science plans at a project level, providing oversight of implementation to maximise strategic outcomes and benefits.
3. **Researcher support:** work as an active part of projects to devise relevant C&PE with Science interventions, offering advice and expertise to researchers to facilitate effective implementation of their C&PE plans.
4. **Organisational capacity building in C&PE:** ensure continuous capacity building and awareness of C&PE with Science through training and development of knowledge resources for the organisation.

5. **Outreach programmes:** build a positive profile for the organisation by developing and implementing various interventions such as science outreach programmes, workshops, and events to engage diverse audiences (from schools to affected communities) in scientific topics. Organise science festivals, citizen science projects, and interactive exhibits to showcase research and encourage participation.
6. **Communication:** translate complex scientific concepts into accessible language for non-experts through presentations, articles, social media, and other communication channels.
7. **Stakeholder engagement:** work closely with community groups, local government, schools, and nonprofits to identify shared interests and create collaborative initiatives.
8. **Evaluation:** assess the impact of engagement activities, gather feedback, and adjust strategies accordingly.
9. **Advocacy:** advocate for evidence-based decision-making and promote science literacy and participation within communities.

Qualifications and Skills:

- Degree in fields such as anthropology, sociology, public health, community development or a relevant field
- Strong project management and communication skills, particularly science communication or communication for development is an added advantage
- Passion for community building and science education
- Ability to work with diverse audiences
- Creative and adaptable
- Ethical, engaging, and collaborative

This role is all about fostering connections, engagement and making science relevant and exciting for everyone!

BASIC CHECK LIST
Community and Public Engagement With Science

✓	KEY QUESTIONS FOR C&PE PLANNING	CONSIDERATIONS FOR PLANNING
	Why engage	• Define the purpose of the engagement intervention • State the objectives • Communicate its importance to relevant stakeholders
	Who will participate	• Define the profile of the target participants • Include diverse participants to achieve a more robust outcome • Determine availability of the participants according to the project timelines
	When to engage	• Engagement is most effective when done upfront, particularly when formulating a research question. • Create an engagement roadmap at the beginning of a project • Schedule engagement events timeously • Define whether there is a series of engagements or a once-off activity
	What will you engage on	• Develop key messages and content • Tailor the content for the specific context and audience, e.g. language, culture, literacy • Create a budget and identify funding and human resources
	How will you engage	• What are the unique circumstances surrounding your project • Consider different methods/collateral to facilitate active and productive engagement with the community • What modes of engagement will you utilise, e.g. multi-media. Are the facilities available to support this. • Will you use social media • How will you capture the learning and data

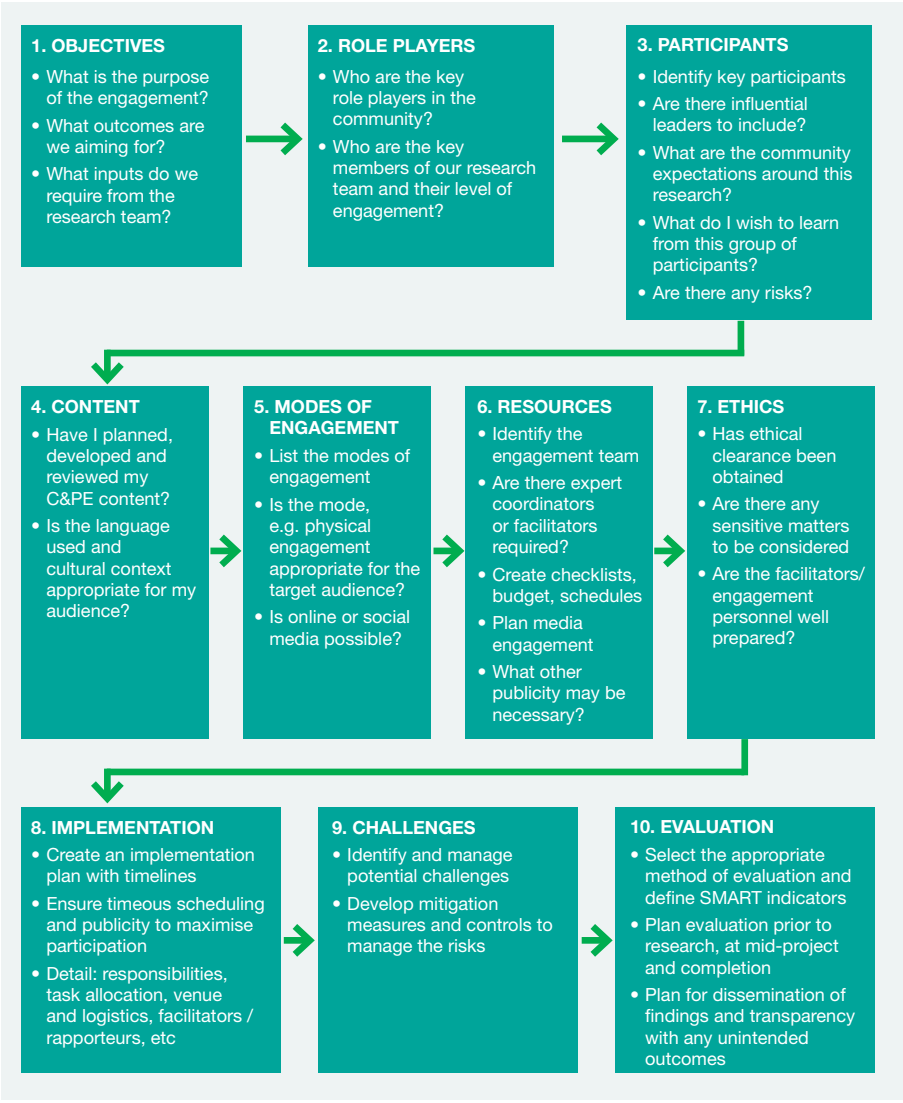
✓	KEY QUESTIONS FOR C&PE PLANNING	CONSIDERATIONS FOR PLANNING
	What challenges could you expect	• Identify barriers to participation • What are the minimum criteria to ensure that the engagement is effective • Draft risk mitigation plan and control measures • Proactively manage risks
	Who is responsible for C&PE activities	• Identify the key C&PE Champion for each project • Allocate roles and responsibilities to the research team • Is there a role for community leaders • Clearly communicate to the various role players to ensure alignment and buy-in
	Who will implement and how	• Develop an implementation plan with logistics • Allocate key responsibilities and meet regularly to monitor delivery • Are there external role players, e.g. facilitators and translators • Prepare media engagement plan for publicity
	How to address ethics	• Consult with the organisational ethics committee • Create guidelines and processes for compliance • Manage informed consent with participants
	How to gather inputs and handle data	• Select a data collection instrument: e.g. polls or rapporteurs to collect information • Allocate roles and responsibilities • How will your data be anonymised and protected
	How to communicate results and to whom	• Consolidate insights and data into relevant reports • Create infographics to share complex topics • Reconvene the community to share outcomes
	How to evaluate C&PE	• Draft evaluation framework with SMART objectives (Specific, Measurable, Achievable, Relevant, Time-bound) • Conduct a baseline assessment pre-engagement, then an evaluation at mid and post engagement
	How to broadly share findings	• Develop case studies, publish thought leadership articles, promote success stories

(Source: Adapted from: https://www.hisengage.scot/service-change/resources/communication-and-engagement-plan-template/; https://aese.psu.edu/research/centers/cecd/engagement-toolbox/planning/worksheets/commengageworkbook.pdf)

PROJECT BUDGET TEMPLATE

INCOME	VALUE
Funding source 1	
Funding source 2	
TOTAL INCOME	
EXPENDITURE	**VALUE**
HUMAN RESOURCES	
Staff – Effort Time	
Transport	
Staff travel costs (e.g. accommodation)	
Volunteers	
Consultants	
ADMINISTRATION	
Legal fees	
Consent forms	
Printing	
Visibility activities	
Branding materials	
"Equipment (hire or purchase) e.g. Laptop, camera, voice recorder"	
EVENTS	
Venue	
Catering	
Facilitators	
Recording (e.g. videography, photography, audio, etc.)	
SPECIAL INTERVENTIONS	
M&E	
Impact measurement	
Survey tools	
Feedback activities	
Case studies	
Reporting to funders	
TOTAL EXPENDITURE	

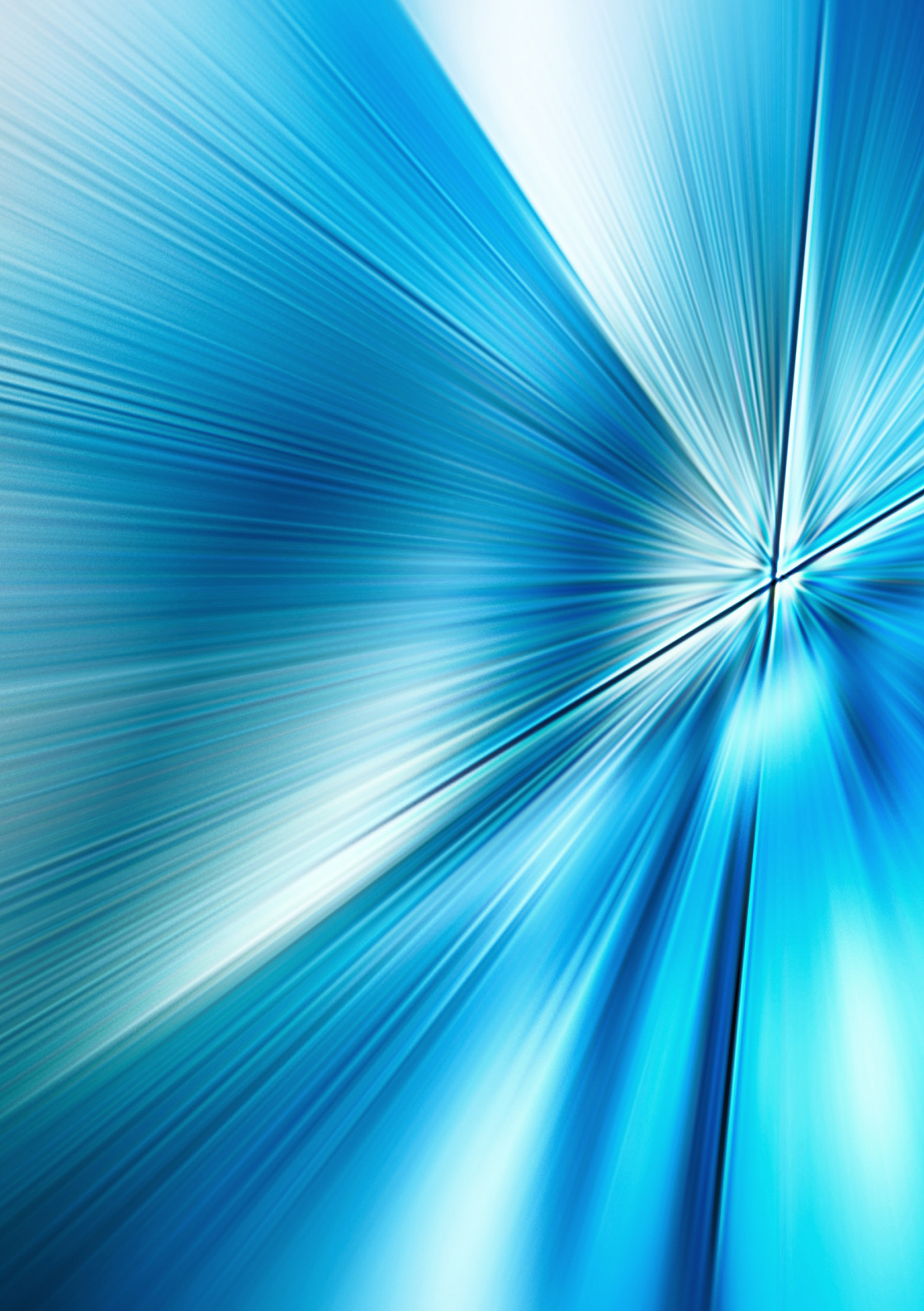
COMMUNITY AND PUBLIC ENGAGEMENT WITH SCIENCE PLANNING CANVAS



Source: Adapted from https://www.citizenlab.co/blog/civic-engagement/community-engagement-strategy-template-online-engagement-canvas/)

The Science for Africa Foundation wishes to acknowledge the contribution of the following participants who were involved in the development of this guide:

- The researchers who availed their time to participate in the interview process.
- Participants of the focus group workshops who shared their experiences and wisdom.
- Reviewers who assisted in enhancing the guide.
- The authors who have created a uniquely African resource.



https://scienceforafrica.foundation