

# INFO BRIEF

## COMMUNITY-CENTRED SCIENCE COMMUNICATION

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PHOTO : SUMMER SCHOOL IMTA DEMONSTRATIONS

## >>> A PARTICIPATORY APPROACH FOR INCLUSIVE AND SUSTAINABLE KNOWLEDGE SHARING <<<

Community-centred science communication is a shift from the conventional top-down dissemination of knowledge to a participatory, co-creative approach where local communities are integral to every stage of the research process. Unlike traditional models, which often view communities as passive recipients of information, this framework positions them as active collaborators and co-creators of knowledge. It allows researchers to value local voices and Indigenous knowledge systems, and co-design solutions that are both scientifically sound and contextually relevant. For example, Agrawal (2005) highlights that integrating Indigenous knowledge enriches scientific research with time-tested, location-specific insights that are often overlooked in conventional research approaches. This inclusive methodology not only enhances the credibility of research outcomes but also fosters trust and long-term partnerships between scientists and communities, creating a foundation for sustainable and impactful solutions.

The participatory nature of community-centred science communication addresses pressing global challenges such as climate change, biodiversity loss, and public health crises by grounding solutions in local realities. It also ensures that scientific activities resonate with the lived experiences of communities, thereby improving the uptake and sustainability of interventions. Participatory action research (PAR) frameworks, as discussed by Cornwall and Jewkes (2015), highlights the importance of aligning scientific goals with community priorities to achieve meaningful change

Moreover, by amplifying community voices, this model democratizes knowledge production and fosters greater equity in decision-making processes. Projects like the Lake Mulehe Wetland Management initiative in Uganda demonstrate the power of community-centred approaches to empower local populations, enhance environmental stewardship, and address socio-economic disparities. Such examples illustrate that when local knowledge and scientific expertise intersect, they create solutions that are not only innovative but also deeply rooted in cultural and environmental contexts, ensuring long-lasting impact.



PHOTO : BAHARI CBO MEMBERS FIELD ENGAGEMENT

# >>> KEY ELEMENTS OF COMMUNITY-CENTRED SCIENCE COMMUNICATION

## BRIDGING THE RESEARCH-PRACTICE GAP

Bridging the research-practice gap through community-centred science communication transforms abstract scientific findings into accessible, actionable knowledge that aligns with the everyday realities of local communities. This gap, often seen when scientific discoveries remain in academic or specialized circles, limits the practical impact on communities facing complex issues such as environmental degradation, health challenges, or resource scarcity. Adoption of strategies like simplified language, culturally relevant examples, and participatory engagement, researchers make science more relatable and understandable. Using cultural assets familiar to a community, such as traditional stories or metaphors, can foster deeper comprehension and trust, making scientific information more relevant to the audience. Participatory methods such as workshops, hands-on demonstrations, and community discussions not only engage individuals in the learning process but empower them to apply the knowledge directly to their contexts, creating a meaningful connection between science and real-world problem-solving. This approach elevates science to a "post-normal" state, where the process and results are co-owned by researchers and community members alike, leading to more sustainable and impactful outcomes.

## >>> EMPOWERING LOCAL OWNERSHIP AND PARTICIPATION

These are key to the success of community-centred science communication, as they empower communities to take an active role in shaping and implementing research initiatives. When individuals are engaged as co-designers and collaborators rather than passive beneficiaries, they are more likely to develop a sense of ownership and responsibility for the project's success. Such participatory approaches not only enhance the relevance and sustainability of research outcomes but also foster long-term commitment by aligning project goals with community priorities and values. An example of this is Dr. Ssanyu's Lake Mulehe Wetland Management project in Uganda's Kisoro District, where community involvement was integral to the initiative's success. Through active participation, local stakeholders contributed to decision-making processes, resource planning, and conservation strategies, leading to significant improvements in water quality and biodiversity. Moreover, the participatory approach empowered the community to sustain these efforts independently, reinforcing their capacity for resource management and environmental stewardship.

## »»» INCLUSIVITY AND CULTURAL SENSITIVITY

Effective community-centred science communication must be culturally sensitive, incorporating Indigenous knowledge systems and honoring local perspectives. Including local insights enriches scientific research and ensures that solutions are culturally appropriate and more readily accepted by the community. For instance, Knowledge Cafés and Knowledge Champions emerged as innovative methods for fostering community participation, enabling local leaders to become advocates for science, thereby bridging knowledge gaps and ensuring broader societal impact

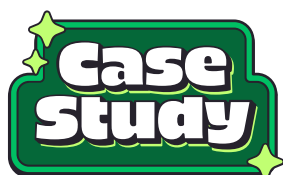


### DIALOGUE AS A POLICY TOOL



Beyond informing the public, science communication in a community-centred framework serves as a tool for influencing public policy. Communities informed about scientific findings can advocate for themselves, leading to more inclusive policymaking. Engaging communities in dialogue enables a dynamic exchange, making science communication a policy instrument that supports the creation of laws and practices reflective of local needs. This alignment between scientific knowledge and local policy goals is crucial for sustainable development.

## »»» CASE STUDIES AND APPLICATIONS



In the Lake Mulehe project, participatory approaches enabled local voices to shape conservation strategies, leading to tangible improvements in water quality, biodiversity preservation, and sustainable resource use. This co-creation of solutions fostered a deep sense of community ownership, ensuring the long-term viability of these efforts while empowering local stakeholders with the skills and confidence to manage their resources independently. Similarly, the IMTA project in Kenya demonstrates how science communication can transcend the dissemination of information to actively involve communities in sustainable practices. These initiatives highlight the role of science communication as a catalyst for transformation, bridging scientific expertise and local knowledge to foster resilience and development.

# EXISTING LITERATURE SUPPORT

## »»» PARTICIPATORY ACTION RESEARCH (PAR)

PAR emphasizes collaborative research where communities are integral to the research design and process. Studies have shown that this model leads to sustainable outcomes and fosters trust between researchers and participants (Whyte, 2001). In the context of science communication, PAR strengthens community-centred approaches by ensuring that the research process aligns with local priorities and values. For example, community members contribute to identifying problems, co-developing solutions, and interpreting findings, which not only enhances the relevance of the research but also its applicability in addressing real-world challenges. Through validation of community insights, PAR bridges the gap between scientific knowledge and local expertise, creating outcomes that are both impactful and grounded in lived experiences. It also fosters a sense of ownership among participants, increasing their commitment to implementing and sustaining project outcomes.

## »»» INDIGENOUS KNOWLEDGE SYSTEMS (IKS)



IKS represent a vital source of ecological information and sustainable practices, offering unique, contextually relevant perspectives that can significantly enhance scientific research and application. These knowledge systems, deeply rooted in the cultural and environmental experiences of Indigenous communities, provide understanding of local ecosystems, biodiversity, and resource management. Agrawal (2005) echoes the critical role of IKS in enriching scientific research, particularly in developing localized, sustainable solutions that resonate with the needs and values of the communities they serve. Berkes (2009) highlights how traditional knowledge has guided sustainable fisheries management, agroforestry, and water conservation practices, demonstrating its practical utility in fostering environmental resilience. Integrating IKS into scientific activities not only validates these centuries-old practices but also bridges the gap between traditional and modern knowledge systems, fostering inclusivity and respect. Moreover, this integration can inspire innovative approaches by combining empirical scientific methods with the deep ecological understanding inherent in IKS. As Dei (2000) argues, acknowledging and incorporating Indigenous knowledge systems can challenge the dominance of Western-centric paradigms in science, promoting decoloniality and empowering local communities to play an active role in sustainability initiatives. Integrating Indigenous wisdom with contemporary science, researchers can craft solutions that are both innovative and deeply attuned to the sociocultural and ecological dynamics of the regions they aim to impact.

## »»» SCIENCE COMMUNICATION AND POLICY



PHOTO : YOUNG WOMAN RESEARCHER AT A LAB

Science communication plays a critical role in bridging the gap between research findings and policy-making, equipping communities with the knowledge needed to advocate for policies that align with their unique needs and values. Dietz, Ostrom, and Stern (2003) argue that when communities are empowered through accessible, clear, and inclusive science communication, they become active participants in governance processes, promoting policy outcomes that are more equitable and sustainable. Demystification of scientific data and making it relevant to local contexts, science communication enhances public understanding, enabling communities to influence policies that reflect their environmental, economic, and social priorities.

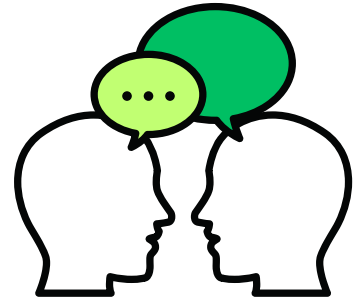
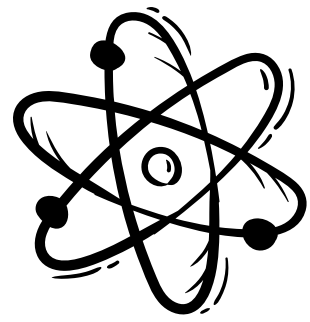
Wynne (2006) further emphasises that effective science communication fosters trust and transparency, which are essential for meaningful public engagement in policy dialogues. This dynamic not only democratizes policy-making but also strengthens governance by aligning scientific knowledge with public interests, ultimately fostering resilience and sustainable development (Cash et al., 2003). As communities gain the capacity to interpret and act on scientific information, they are better positioned to advocate for policies that protect their resources and promote long-term environmental stewardship.

# Call to action



Community-centred science communication challenges researchers to fundamentally reimagine their approach by embracing communities as equal partners and co-creators of knowledge rather than passive research subjects. **This transformation begins with adopting participatory practices that actively involve community members in the design, implementation, and evaluation of research projects.** Fostering these collaborative relationships enable researchers to build trust and create solutions that are not only scientifically robust but also culturally relevant and locally actionable. To ensure sustainability and continuity, researchers should identify and empower local Knowledge Champions who can effectively communicate scientific ideas in relatable terms while advocating for local needs. These champions serve as crucial bridges between science and society, fostering ongoing dialogue and ensuring that research outcomes are integrated into community life. Researchers are called upon to prioritize inclusivity, equity, and mutual respect in their scientific endeavors, transforming science into a catalyst for lasting, positive change

Community-centred science communication **redefines the traditional approach to scientific research by ensuring that local communities are not passive recipients of information but active participants in the process.** This model emphasizes collaboration between scientists and community members, allowing local knowledge, needs, and cultural contexts to shape research priorities and methodologies. **By integrating local voices, community-centred science not only produces more relevant and context-sensitive results but also empowers communities to take ownership of the research outcomes.** It fosters trust and ensures that scientific findings are not just theoretical but practical, addressing the specific challenges faced by the community. As such, this approach can break down barriers between science and the public, making scientific knowledge more accessible and impactful.



# Conclusion

Community-centred science communication supports sustainability by focusing on long-term, locally-driven solutions rather than one-size-fits-all approaches. When research is aligned with community values and needs, the solutions developed are more likely to be embraced, adopted, and maintained over time. This is especially important in addressing global challenges like climate change and biodiversity loss, where solutions must be adaptable to diverse local contexts and have the backing of the people who will implement them. this inclusive approach fosters resilience by ensuring that scientific efforts are relevant to the communities they aim to serve. **Communities are better equipped to cope with environmental changes and other challenges when they are actively involved in designing and executing the solutions that affect them.** Through this model, science becomes a tool for empowerment, driving meaningful change from grassroots level up



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