The Field Guide to Mixing Social and Biophysical Methods in Environmental Research

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36. Participatory methods

Jennifer Mokos

Definition of participatory methods

Participatory methods comprise a range of approaches to research in which researchers co-produce knowledge in collaboration with people and communities who are not trained as researchers and who draw primarily on their lived experiences. Researchers develop reciprocal relationships with community members, who contribute to the research as co-investigators. This enables people who are typically being researched or who will be most affected by the research to shape its process and outcomes.

The basics of participatory methods

Participatory methods are based on the idea that involving perspectives often ignored by researchers can lead to more equitable outcomes that better explain and address complex realities. This work requires a shift in power from researchers to those whom the research concerns, who are empowered to do more than just "participate" in a predetermined research project. Instead, they shape it through meaningful engagement in the research itself. Participatory projects can involve community members throughout all stages of the research process, from identifying research priorities to collecting and interpreting data, disseminating findings, and implementing actions. This requires researchers to be humble, self-reflective, and willing to learn from others. They may also find it useful to seek out additional training in group facilitation, nonviolent communication, and cultural humility before beginning a project.

Participatory methods in depth

Participatory methods are primarily defined by an ethical commitment to produce knowledge through reciprocity and meaningful community engagement instead of through a specific research method. Because of this, participatory projects can draw on a wide range of methods (including qualitative, quantitative, mapping, modelling, and artsbased approaches) and can vary in their purpose, amount of community participation, and where in the process participation occurs. However, community participation should be meaningful and a formative aspect of all participatory research projects. Simply tacking on participation at the end is not truly participatory.

Participatory methods are typically carried out through an iterative and inductive process (instead of a linear series of steps) in which participants become researchers. Each cycle commonly involves shared stages of identifying a problem, negotiating participation, collecting data and observations, sharing of results, and determining follow-up actions. Notably, plans and specific details can change as the research progresses. The iterative and inductive aspects of participatory methods are analogous to the process of cooking a pot of soup where the cook can adjust the flavours and even ingredients as the entire dish develops throughout the process (except that with participatory methods, there are multiple cooks working together in the kitchen).

For participatory methods to be effective, relationships built on trust, mutual respect, and reciprocity between academically trained researchers and local community members who become researchers in the project are key. These relationships may take time to develop and can be difficult to negotiate (Armstrong et al. 2022; Cornish et al. 2023). Community members may distrust researchers and scientific experts or be wary of outsiders because of legacies of exploitation and systemic marginalisation. They may also be exhausted from repeated instances of "helicopter research" or "parachute science", in which researchers from more privileged locales travel to low-income or otherwise marginalised communities to collect samples or conduct interviews and then leave to publish results elsewhere without providing any lasting benefits to the local community or environment (Adame 2021; de Vos & Schwartz 2022; Minasny et al. 2020).

What follows are six guidelines for building relationships with communities and potential collaborators.

First, do not approach participatory methods as charity. Local people do not owe you or anyone else their participation. Even when projects are intended to be participatory, community members might be reticent to commit. Participation takes time that community members might not have available to them, or they might need to build trust before fully engaging. Moreover, communities experiencing a great deal of public attention may be approached repeatedly to participate in participatory projects, which can exacerbate research fatigue, especially if their immediate concerns continue to be unmet. Do not take it personally if you are initially turned down or find it hard to connect.

Second, go with the speed of trust. Pushing too hard may result in people hiding their true experiences, knowledge, or culture even if they do talk with you (Deptula et al. 2023). Conversely, asking permission and respecting "no" builds trust. It demonstrates respect for autonomy and boundaries, which can deepen relationships and lead to more open and honest interactions over time. Working with an interlocutor one-on-one to understand issues, discuss concerns, and suggest ways forward can be crucial for building trust and addressing concerns, especially at the beginning of a project.

Third, take time to get to know communities in their complexity before jumping in and proposing ideas or solutions. Public meetings or events, especially those organised from minoritised perspectives, are a great entry point if they are available. Listen for what community members value, what their concerns are, and for different perspectives within the community, while being aware about how your own social and cultural positions might be influencing your own interpretations, judgements, and actions.

Fourth, be a person beyond your identity as a researcher. Sharing coffee, meals, downtime, social experiences, rituals, or celebrations can build relationships. Being present (if appropriate) without a focus on collecting data demonstrates your commitment.

Fifth, seek out and respect community preferences as much as possible. Paying attention to small, seemingly mundane, details such as asking, "Where would you like me to sit?" communicates respect for autonomy and consent by subtly shifting control to community members. In addition, discussions based on sharing experiences or with brought objects, such as maps, can serve as a useful entry point to build meaningful relationships across existing power differentials.

Finally, offer something in return. Participatory research should benefit your collaborators or local community, which could take the form of co-authoring publications or co-presenting at conferences. However, these customary forms of academic currency might not hold as much value to your community partners. This is why the products of participatory scholarship can take many different forms, depending on what is useful to the community. Examples may include an interpretive exhibit, a public art project, a collection of stories, a community flood map, a database of flora and fauna, a policy brief, letter writing campaign, a grant proposal, or a plan for habitat restoration.

Why are participatory methods important?

Participatory methods seek to correct power asymmetries in how knowledge is produced. They aim to reduce extractive practices that treat local communities as sources of data or objects of research by prioritising community benefits throughout the research process and democratising its outcomes.

Moreover, participatory methods challenge norms about who can ask research questions, set research priorities, and interpret and act on data, which has the potential to change the content and values of science (Balaze and Morello-Frosch 2013). Local communities may have a more nuanced understanding of their environment or experience it through a different value system. Integrating expertise from different social and cultural standpoints can bring to light perspectives and values that would have remained invisible from a traditional researcher's perspectives alone. This can open research to new questions and framings that would have otherwise gone unaddressed by traditional, disciplinary scholarship.

Relationship of participatory methods with other methods

It can be useful to think of participatory methods as a meta-method that encompasses the entire research process, like the outside layer of a

nesting doll. The various stages of conceptualising, planning, carrying out, interpreting, and acting upon the production of knowledge are all nested within participatory methods. This contrasts with nonparticipatory modes of knowledge production that regard methods as a specific step in the research process or the steps by which data are collected. Different research methods can be incorporated into participatory methods, depending on the project's purpose or the academic researcher's expertise.

Many different frameworks make up participatory methods, including community geography, participatory GIS (PGIS), participatory modelling, and participatory action research (PAR). The various approaches incorporate a wide variety of research methods and span multiple disciplines (see Vaughn and Jacquez 2020 for a detailed but non-comprehensive list).

Lastly, participatory methods are distinct from citizen science, which also involves people who are not formally trained as researchers. As part of citizen science, members of the public learn and carry out data collection for research that has already been designed and planned by a scientist or academic researcher. In contrast to participatory methods, citizen science affords local communities minimal influence on the research design and implementation.

Ethical issues and participatory methods

The ethics of participatory methods are messy and complex. At their heart lies a radical empathy and a deep commitment to people and relationships. This relationality requires researchers to approach projects with flexibility and an understanding that they might not always make the final call on what happens during the research.

Consent is a continually negotiated process that is not satisfied by the one-step "informed consent" mandated by Institutional Review Boards. Discussions about consent might include aspects not typically considered, such as data ownership and storage. It can also be a challenge to navigate community expectations, which are not always in line with what is feasible given researchers' timing or resource constraints. Community members can make assumptions that shape their expectations. It is important for academic researchers to listen for and to address misunderstandings as soon as possible. Researchers also need to be careful not to romanticise the community or the idea of participation. Communities are diverse and complex. Be aware that a single community partner or organisation does not represent the entire community.

Issues to be aware of in using participatory methods

Conventional measures of academic research output and productivity do not always align with the efforts required for participatory methods. Some ways to deal with this include, first, advocating for broader definitions of what counts as scholarship and meaningful research outcomes that are more inclusive of participatory methods than traditional research indicators like academic publications; second, developing parallel research tracks (i.e., having a stream of participatory research that is separate from one's non-participatory research agenda); third, publishing on the process of conducting participatory research, which can provide a more flexible route for publication that isn't focused on research results or outcomes; and finally, participatory methods can be amenable to student involvement, especially for academics at teaching-focused institutions. However, student involvement introduces additional concerns. The community should not be the "object" of learning. It takes time and intention to prepare students to make sure they do not cause harm to the community. The uncertainty and need for flexibility inherent with participatory methods can also be a challenge for students in a course environment, especially when academic schedules and constraints don't align with community schedules or needs. It may be more challenging for students to move away from their obligations (to complete a course or earn credits) than it is for other researchers.

Suggested further reading

For a list of foundational readings in Community Geography, see: *Community Geographies Collaborative* website (https://cgcollaborative.org/ publications/).

For a practical primer on the basics of participatory methods, see: Hacker, K. 2013. Community-Based Participatory Research. (Sage Publications). https:// doi.org/10.4135/9781452244181

For open access training and resources on cultural humility, see: The University of Oregon's *Cultural Humility Toolkit* (https://inclusion.uoregon.edu/cultural-humility-toolkit).

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