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Evaluating Participatory Action Research Projects: Process, Outcomes, and Use[1]

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Abstract

The first four articles in the *Participatory Action Research (PAR) in Agriculture* EDIS series guide Extension professionals through the foundational stages of PAR, beginning with an introduction to the philosophy, principles, and benefits of the approach, followed by strategies for stakeholder engagement and collaborative issue identification. Subsequent articles detail how to co-design research with participants and implement projects in agricultural contexts, emphasizing facilitation skills, adaptive planning, and tools that balance scientific rigor with community relevance. This is the fifth article in the *Participatory Action Research in Agriculture* series, designed for Extension professionals working in agricultural contexts. It provides practical guidance on evaluation strategies, approaches, and common challenges in PAR projects, offering tools and insights to help practitioners assess progress, document outcomes, and strengthen both research quality and community impact. PAR redefines traditional research paradigms by centering community stakeholders in both knowledge production and social transformation. In agricultural Extension contexts, evaluating PAR initiatives poses unique challenges and opportunities. This article presents comprehensive strategies for evaluating both the process and outcomes of PAR projects using participatory, adaptive, and methodologically rigorous approaches. Topics include selecting evaluation frameworks, developing meaningful indicators with stakeholders, integrating qualitative and quantitative methods, and embedding evaluation within cycles of learning and action. The publication highlights real-world examples and practical tools such as ripple effects mapping, storytelling, photovoice, and collaborative analysis. It also emphasizes that effective PAR evaluation must be co-owned, empowering, deeply contextual, and focused on use, making it integral to the success and sustainability of community-led agricultural change and innovation.

Introduction

Participatory action research (PAR) is a methodology grounded in collaboration, co-learning, and community empowerment (Minkler & Wallerstein, 2008). Unlike conventional research approaches, which often operate through top-down data collection and external analysis, PAR fosters equitable partnerships where community members and researchers co-create knowledge and drive change (Kindon et al., 2007; Wallerstein & Duran, 2010). In the service provided to stakeholders by agricultural Extension professionals, where solutions must be tailored to specific ecological and social contexts, PAR offers a valuable framework for inclusive and transformative development.

However, evaluating PAR projects requires a similarly participatory and flexible approach. Standard evaluation models often focus on fixed step-by-step plans, final end-of-project judgments, and measures decided by outside experts. These approaches do not match the flexible, ongoing, and relationship-focused nature of PAR (Bradbury, 2015). Evaluation in PAR is not an add-on; it is embedded in the very structure of the work and serves to support reflection, adaptation, and collective accountability (Franz & Townson, 2008; Patton, 2010).

Rethinking Evaluation in Participatory Action Research

In conventional research, evaluation usually happens at the end of a project, is led by outside experts, and focuses on deciding whether the project met its goals and if the results were statistically significant (Bradbury, 2015). In PAR, however, evaluation is embedded throughout the project and is often emergent, shaped by the evolving nature of the work and the priorities of those involved (Bradbury, 2015). Rather than focusing solely on results, PAR evaluation also examines the quality of participation, the dynamics of power-sharing, and the extent to which communities have developed capacity or assumed ownership over the change process (Chambers, 1997).

A PAR-oriented evaluation is characterized by several key features. It involves participatory design and data collection, emphasizes both process and outcomes, uses varied and locally relevant indicators, supports collaborative interpretation and use of findings, and remains adaptable to changing goals and contexts.

Importantly, evaluation in PAR is not primarily about satisfying institutional reporting requirements; it is about supporting the people involved in the project to reflect on their experiences, learn together, and make informed decisions about future actions (Franz & Townson, 2008). This approach reinforces PAR's main commitment to community empowerment and shared investigation.

Selecting Appropriate Evaluation Approaches

Choosing the right framework is crucial to ensuring alignment between evaluation goals and PAR principles. Several approaches offer compatibility with PAR's participatory ethos:

- **Developmental evaluation**: An approach that supports the continuous adaptation and innovation of complex programs by providing real-time feedback and learning throughout the implementation process (Patton, 2010). Developmental evaluation supports innovation in complex environments by facilitating continuous adaptation. It is especially suitable for emergent PAR projects with evolving goals (Patton, 2010). In agricultural Extension, this might mean adjusting project strategies in response to shifting climate conditions or market forces.
- **Utilization-focused evaluation**: An approach that designs and conducts evaluations with the primary purpose of producing findings that will be used by identified stakeholders to inform decisions and improve programs (Patton, 2008). This model begins with identifying primary users of the evaluation and tailoring the process to their decision-making needs (Patton, 2008). It ensures findings are practical, timely, and immediately relevant to stakeholders.
- **Outcome mapping**: A participatory evaluation approach that focuses on tracking behavioral, relationship, and action changes in key stakeholders as indicators of progress toward long-term goals, rather than solely measuring predetermined outputs or impacts (Earl et al., 2001). This makes it particularly effective in community-based agricultural work where changes in attitudes, relationships, or practices are central.
- **Ripple effects mapping (REM)**: REM is a participatory tool that captures both direct and indirect project impacts through storytelling and facilitated group mapping (Kollock et al., 2012). It helps visualize the spread of innovations and ideas across networks.

Extension professionals may blend elements from multiple frameworks, choosing what fits the project's scope, context, and stakeholder preferences. Regardless of the model, it is essential that evaluation is co-designed, co-implemented, and co-analyzed.

Identifying Indicators with Stakeholders

Many marginalized people in rural areas work within social-ecological systems marked by complex and often unequal interactions among different actors, scales, and locations (Home & Rump, 2015). The presence of uncertainty and inequality in these systems calls for adaptive research and development efforts that promote learning and address the root causes of such disparity. There is growing support for approaches that consider this complexity when planning, monitoring, and evaluating development initiatives. Therefore, PAR can play a key role in encouraging learning and enabling meaningful change in agricultural systems. It is crucial to start by recognizing and building on stakeholders' strengths and fostering shared goals across different levels. As capacities grow and new insights emerge, deeper and more critical engagement can follow (Apgar et al., 2017).

Indicators in PAR should reflect what matters most to the community, not merely what is easily quantifiable. Effective PAR evaluation embraces multiple dimensions of change. These include practice outcomes, such as reduced chemical use or improved irrigation, as seen in farmer co-research on sustainable cropping (Snapp et al., 2019), and knowledge gains, such as deeper understanding of soil health or integrated pest management (Kindon et al., 2007). Moreover, relational outcomes, such as enhanced trust and stronger networks among participants, are central to PAR's collaborative philosophy (Jagosh et al., 2012). Empowerment outcomes, including greater confidence to speak publicly or to engage in decision making, further demonstrate the transformative potential of the approach (Minkler & Wallerstein, 2008). Finally, PAR can influence policy and institutional change, as demonstrated by projects that led to new guidelines or funding allocations based on community-generated findings (Cargo & Mercer, 2008).

To develop these types of indicators, Extension professionals can facilitate participatory workshops in which stakeholders brainstorm desired outcomes, then collaboratively translate those into indicators and appropriate data sources. Tools such as outcome ladders and the Most Significant Change (MSC) technique are particularly useful for capturing intangible or qualitative results that matter deeply to participants but are often overlooked in conventional evaluations (Davies & Dart, 2005). It is essential that PAR evaluations balance technical indicators, such as yield or water use, with social and relational indicators like collaboration, confidence, and access to resources, assuring that the full scope of community change is recognized and valued.

Collecting and Analyzing Data Together

Data collection in PAR evaluation typically involves mixed methods and collaborative processes that are designed to be inclusive, adaptable, and meaningful to the community (Bradbury, 2015). These strategies often include the use of surveys or field logs completed by farmers and other participants, storytelling and narrative inquiry to capture rich contextual meaning, and creative visual methods such as photovoice (use of photography and storytelling to express perspectives and experiences), or participatory video, which document lived experiences and challenges from the community's perspective (Wang & Burris, 1997). Photovoice brings positive changes in some dimensions of empowerment because participants acquire new knowledge and develop critical awareness of their community. Participants also receive a social recognition that can transform their self-perception and expand their social networks, building new links with different actors (research partners, local decision makers, media, and the wider public) (Budig et al., 2018). Other techniques such as co-facilitated focus groups and participatory mapping exercises can help explore spatial dimensions of the project and make complex systems more accessible and visible to all involved.

Beyond data collection, collaborative analysis is a defining feature of PAR (Kindon et al., 2007). This means bringing stakeholders together to review findings, identify patterns, and make sense of what the data reveals in light of local realities. Reflection meetings, interactive data wall sessions, and participatory coding workshops are commonly used to promote this kind of joint interpretation. In a sustainable grazing PAR project in Mongolia, ranchers, Extension staff, and researchers collaborated to analyze vegetation and grazing patterns using participatory mapping and spatial data tools (Altmann et al., 2018). Through this joint effort, the group examined vegetation maps together, linking observable patterns directly to local rainfall events and ranchers' grazing decisions, such as timing and stocking changes. This process enabled participants to visualize and reflect on seasonal grazing impacts, data that led to improved decision making around pasture rotation and herd management (Altmann et al., 2018). This type of collaboration builds transparency and trust, helps prevent misinterpretation, and reinforces the legitimacy of community knowledge in shaping research conclusions.

In PAR, data analysis is not reserved for researchers alone. It is a participatory act of meaning-making involving all project collaborators. This process is critical for ensuring that findings are grounded in community realities, reflect varied perspectives, and lead to actionable insights (Bradbury, 2015; Franz & Townson, 2008). Collaborative analysis can use various strategies including the following.

- **Reflection meetings**: Community members come together to interpret data, identify patterns, and discuss implications. These sessions often use facilitation techniques such as dialogue circles or visual prompts to support inclusive participation.
- **Data wall sessions**: Participants interact with printed charts, maps, or quotes arranged on a wall to identify emerging themes. This method allows visual learners and less literate participants to engage fully.
- **Participatory coding**: Community members categorize and interpret qualitative data (e.g., interviews or stories), often using color-coded sticky notes or digital platforms.
- **Joint sense-making sessions**: These structured conversations center around key questions related to the data or the meaning of the findings for the community.

This analysis approach promotes mutual understanding and strengthens community ownership of both the process and the outcomes (MacDonald et al., 2017). Furthermore, it provides a critical safeguard against misinterpretation by researchers unfamiliar with local context or cultural nuances.

Real-World Example: Evaluating Soil Health through Farmer-Designed Metrics

A participatory evaluation conducted in the Midwestern United States (Michigan) and in Malawi illustrates how collaborative methods can produce meaningful, community-driven results (Snapp et al., 2019). In this project, Extension agents partnered with organic farmers to investigate soil health practices, specifically composting and cover cropping techniques.

Instead of relying on laboratory analysis or top-down measures, farmers and Extension staff codeveloped accessible and context-sensitive indicators including:

- Soil color and texture assessed by hand.
- Crop resilience to drought, rated using farmer-generated rubrics.
- Post-rainfall earthworm presence, tracked through visual counts.
- Narrative field logs documenting daily observations of soil and crop health.

Farmers collected their own data using notebooks and smartphones. During quarterly learning circles, the group reviewed trends, exchanged field-tested strategies, and revised practices collaboratively. Over time, farmers reported not only improved soil structure and yield but also a deepened ability to interpret soil health indicators themselves, enhancing their independence and knowledge (Snapp et al., 2019). This case underscores that PAR

evaluation fosters both measurable outcomes and process gains — in this instance, peer-to-peer learning, agency, and capacity to adapt.

Using Evaluation for Reflection and Adaptation

PAR evaluation is not an endpoint or final report; it is part of a continuous cycle of inquiry and action (Cousins & Whitmore, 1998). Its primary purpose is to generate timely insights that inform mid-course corrections, guide future actions, and support shared learning (Cousins & Whitmore, 1998; Wallerstein & Duran, 2010). Extension professionals play a crucial role in facilitating this ongoing evaluative reflection by creating participatory spaces where community members engage directly with the data. This may involve holding interpretation sessions in which all stakeholders review results collaboratively, identify implications for practice, and discuss any unintended consequences (both positive and negative) that may not have been anticipated in the original design (Chouinard & Milley, 2018). Such reflective dialogue strengthens collective ownership of the evaluation process and allows for responsive adaptation.

Peer exchanges between different project sites or participant groups can also enrich evaluation by offering opportunities to compare strategies, share innovations, and identify transferable lessons (Fetterman et al., 2017). Revisiting the project's original goals with participants helps assess alignment with intended outcomes and determine whether new priorities have emerged. Documentation tools such as outcome journals, shared digital dashboards, and project blogs help preserve institutional memory and ensure that evaluation remains a living, iterative part of the PAR cycle rather than a retrospective task (King, Cousins, & Whitmore, 2007). Unlike traditional evaluations that occur at the end of a project, PAR evaluation is ongoing and cyclical. Its goal is not only to assess outcomes but to support mid-course corrections, learning, and sustained collaboration (Patton, 2010). Vital principles of adaptive learning in PAR include:

- **Timely feedback loops**: Sharing data early and often allows stakeholders to respond quickly to challenges or successes.
- **Iterative planning**: Evaluation findings help shape future actions, creating a continuous learning cycle.
- **Surfacing unintended consequences**: Stakeholders discuss and document unexpected outcomes, both positive (e.g., policy change) and negative (e.g., community fatigue).
- **Peer learning exchanges**: Different project groups or regions share insights and innovations, enabling knowledge transfer across sites.

To support this learning process, practitioners can use tools like project journals**,** shared digital dashboards, or story archives. These documentation systems make knowledge visible, track emerging insights, and support collective decision making (Earl et al., 2001).

Navigating Challenges in PAR Evaluation

Evaluating PAR presents several unique challenges that differ from those encountered in more conventional evaluation settings. Because PAR projects are inherently flexible and community-driven, goals may shift over time, making it difficult to apply fixed indicators or track consistent measures of change (Jagosh et al., 2012). Despite its benefits, evaluating PAR is inherently complex. Key challenges include:

- **Evolving goals**: Because PAR adapts over time, early indicators may no longer apply, making it difficult to maintain consistency in measurement.
- **Power dynamics**: Evaluation must navigate demographic and institutional hierarchies to ensure inclusive participation. Dominant voices can overshadow marginalized perspectives (Kindon et al., 2007).
- **Time and resource constraints**: Participatory methods are time-intensive and often extend beyond the standard project timelines or budgets.
- **Institutional rigidity**: Funders may require standard metrics and outputs that do not capture the richness or complexity of PAR impacts.
- **Methodological tensions**: Balancing rigor and participation can be difficult, especially when community-defined indicators conflict with scientific conventions.

Acknowledging and planning for these challenges enhances transparency and reinforces trust between researchers and community members (Minkler & Wallerstein, 2008). Extension professionals can navigate these challenges by setting clear expectations early in the process, advocating for flexibility in evaluation design with funders or institutional partners, and offering multiple ways for participants to contribute meaningfully throughout the project (MacDonald et al., 2017). Transparency about these limitations and trade-offs fosters trust and helps ensure that the evaluation remains aligned with the values of PAR: collaboration, responsiveness, and shared ownership. Extension professionals and evaluators can take proactive steps to address the above challenges. Significant strategies include the following.

- **Set shared expectations early**: Clarify roles, responsibilities, and definitions of success at the outset of the project.
- **Negotiate flexible reporting with funders**: Advocate for the inclusion of qualitative and process-based outcomes in reports.

- **Diversify engagement methods**: Offer multiple entry points (oral interviews, visual methods, surveys) to accommodate different abilities and preferences.
- **Prioritize transparency**: Be honest about trade-offs in methods, data use, and interpretation to foster collaborative trust.
- **Practice critical self-reflection**: Continuously examine one's own role, biases, and influence within the evaluation process (Jagosh et al., 2012; MacDonald et al., 2017).

Through these practices, evaluation becomes not only feasible but a powerful instrument of equity and shared accountability. Collaborative action research can be considered successful when both parties give and gain benefits, such as new knowledge or improved practical solutions. Moreover, it enables the identification of common factors that contribute to successful collaboration including the need to identify and build a working relationship with key partners based on mutual trust and commitment, and facilitates a balance between guidance and listening, interactions and freedom, and positive and critical reflection: a fragile equilibrium that is difficult and time-consuming to establish (Home & Rump, 2015).

Conclusion

Participatory action research requires evaluation methods that are just as inclusive, dynamic, and community-centered as the research itself. When Extension professionals embed evaluation within the cycles of learning, action, and reflection, they support deeper transformations that extend beyond technical gains. Effective PAR evaluation blends rigor and relevance, capturing both outcomes and the quality of engagement that drives those outcomes. By co-creating indicators, using participatory tools, and valuing varied knowledge systems, evaluators foster trust, empowerment, and sustained collaboration. Particularly in agricultural contexts, where practices are shaped by local ecology, history, and social dynamics, PAR evaluation offers a unique opportunity to align investigation with the lived realities of communities. It is not just a measure of what has changed, but a catalyst for collective capacity and long-term resilience.

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