

## Spatial and temporal boundaries, stakeholder ownership and the power of people in Action Research and Extension processes

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### Abstract

From February, 1999 to June, 2003, an industry-funded project, known as the Profitable Pastures Project (PPP), was collaboratively managed by five stakeholder organisations representing industry, government and the research community. Together they aimed to create a project that was locally operated by farmers in pursuit of improved on-farm profitability within the New South Wales (NSW) dairy industry, Australia. PPP introduced a blend of Action Research (AR) methodology with agricultural extension across seven Regional Dairy Groups (RDGs) that effectively enhanced or newly established a variety of farmer-driven Action Learning (AL) and AR forums. Learning processes initiated by PPP were monitored at regional and state levels to glean farmer perspectives, as well as the impact of PPP upon the stakeholder institutions themselves. Meta-research linkages were explored between AR theory and practice, with analysis providing insights and implications for AR as an applied methodology. This paper explores the issues of i) spatial boundaries, ii) temporal boundaries, iii) ownership of process, and iv) achieving results with AL/AR processes. In conjunction these elements are argued to be critical for developing labour skills of all stakeholders within agriculture. They also ensure that the capacity of rural communities and their associated production systems are methodologically equipped to manage multidimensional and increasingly complex environments.

**Keywords:** Action Research, Action Learning, Extension Science, Spatial, Temporal.

### Introduction

PPP was administered and implemented by representatives of five organisations that together formed the PPP Leadership Team (PPPLT). These included funding and in-kind providers from the national dairy industry research and development body (Dairy Australia) and its state administrative arm (Dairy Industry Development Company), the state department of agriculture (NSW Agriculture), and two universities (Charles Sturt University and the University of Western Sydney). A PhD student and the Project Coordinator conducted participant-observation of PPP, with a focus on the empirical experiences of delivering an AR method to dairy farmers and evaluating the farmers and researchers practice of it.

Amongst the PPPLT, discussions about the theoretical definition of AR and how it would best be delivered as a process for use by dairy farmers, revealed that AR was not a uniformly accepted and understood concept, and its meaning was, to say the least, ambiguous. Observation of these discussions identified that the term AR was interchangeably referred to as a *method* (a way to act) and as a *methodology* (principles to guide action). An assessment of the PPPLT's early definition of AR included the following aspects, simultaneously:

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- The discretely defined steps of the AR cycle were generally considered to constitute method, while principles of AR, such as democracy; learning by doing; single, double and triple loop learning (King 2000); social justice and equality of status amongst participants; acknowledgement of power relationships etc held connotations of methodology.
- To varying individual tastes, AR existed somewhere on a spectrum ranging from a single individual's experience to a community of practice, sometimes in a mutually exclusive fashion and at other times simultaneously. To the former AR was an intensely personal experience for achieving individual goals and developing one's own capacity, while the latter believed AR existed in the public domain to promote social justice. For some AR was a mixture of both.
- AR was narrowly expressed as a mechanical exercise of implementing the four-stage cycle of *plan-act-observe-reflect*, while others promoted AR as an organic process that could accommodate unforeseen events and facilitate changes in agenda priorities that were a natural part of any project and indeed of life itself.
- The AR cycle was believed to hold properties that ranged from a discrete process targeted to specific action, to being a continuous process that were beneficial on several levels, including to individuals, combinations of individuals within groups, an entire group of AR participants, stakeholders outside the AR group affected by externalities, as well as the institutions participating in AR.
- Doubt was expressed as to the effectiveness of AR as some questioned its theoretical basis relative to that of traditional scientific process, or felt AR was co-opting the term *research*.
- Distinctions were made between Action Research and Action Learning, with peer review and adaptability of results to other situations being unique to AR.

Evidently, the PPPLT definition of AR meant different things to different people depending on their construction of reality, experience, ideological basis (such as positivism, constructivism etc.), and the context into which AR was to be applied. From the observer's perspective, a high level of variation, inconsistency and interchangeability of the elements and definition of AR was identified as a major barrier to effectively applying AR to the NSW dairy industry.

Confounding any consensus of the PPPLT's working definition of AR even further was the plethora of terms and labels, and their overlapping and multiple usages, within AR and related agricultural extension literature. For example, a brief foray into AR literature revealed terms such as Practical Action Research, Technical Action Research, Emancipatory Action Research, Pragmatic Action Research, Industrial Action Research, Action Learning, Critical Action Research, Critical-Emancipatory Action Research, Action Science, Participatory Learning, Participatory Learning and Action Research, Social Learning, Systems Thinking, Soft Systems Thinking, Experiential Learning, Classroom Action Research, and Educational Action Research; which is to mention but a few. In terms of agricultural extension, the literature related to AR offered no relief with a similar myriad of definitions, including Farmer Participatory Research, Farmer-First, Participatory Technology Development, On-Farm Research, Systems Action Research, Farming Systems Research, Agricultural Knowledge and Information Systems, Interactive Agricultural Science and Agricultural Systems Thinking (Carberry (2001), King (2001), Kelleher *et. al.* (1990), Röling (1995 and 1998)).

While it seemed plausible that AR held different meanings for different people - even within the same AR group - PPP experience (both at the PPPLT level and at the farm level) indicated that AR processes were universally characterised by the opportunities and limits imposed by spatial and temporal dimensions.

Four examples from PPP experience are introduced to illuminate concepts of spatial and temporal boundaries. Example A refers to a single farmer's investigation of the use of aquaculture within her

dairy effluent system. Example B consists of a regional project run by five farmers and several research institutions aimed at investigating on farm silage wastage over a six-month period. Example C relays the experience of on farm fertiliser and pasture species trials run by individual farmers over several years. Example D refers to the PPPLT's management of the project over a five year period.

### *i) Spatial Boundaries in Applied Action Research*

A *Spatial Boundary* primarily refers to the nature and number of stakeholders involved in an AR group. The inclusion of any stakeholder brings with him/her many elements that influence AR processes, including the organisation(s) a person represents; their geographic origin, current place of residency or concern, cultural identity, gender, political beliefs, ambitions, personal history, nationality, professional skills, social standing within society/community, economic status, networking skills and networks, and, their ability to access resources.

Identifying spatial boundaries enabled AR participants to resolve competing concerns about the level at which an AR cycle was implemented. That is, decisions were made about the elements of action that were chosen to be reconciled with the AR cycle. In the PPP *Example A* that occurred on one farm, the AR cycle was addressed by an individual with minimal input from an involved research organisation; while in PPP *Example B* that occurred across five farms, the AR cycle was addressed in a collective manner with the research agent incorporated. In PPP *Example C*, several farmers collaborated within an AR framework without a research agent involved, which limited the accountability for learning to only participating farmers. In PPP *Example D*, the PPPLT's experiences of operating PPP were primarily reflected upon from a collectivised institutional perspective with few individual reflections being of relevance unless couched within the group discussion.

Throughout PPP the union of AR stakeholders was observed to have simultaneously determined the scale and scope of the action to be taken. In Example A, where a single farmer embarked on an AR project the physical scale was limited to one farm, while the Example B project was conducted across five farms that represented differing farming systems throughout an entire dairying region.

In both Examples A and B, external institutions with relevant expertise were invited onto projects to provide technical knowledge and analysis. This inclusion of institutional stakeholders increased the scope of the work to be conducted, particularly in terms of building and maintaining new relationships and the increased complexity that comes with specialist knowledge that is framed within the organisation's cultural and professional work ethic. In Example C, farmers conducted on-farm trials, such as weed control strategies without seeking external advice and the absence of additional stakeholders effectively limited the scope of the work to be done to the local level. For the PPPLT (Example D) the scale of the NSW dairy industry and scope of PPP was similarly determined by the depth of resources and intent of the five stakeholder institutions and their representatives.

Knowing the spatial boundary location of AR activity progressed farmer's implementation of their AR processes, seemingly because participants gained a critical degree of clarity about the nature of the task(s) at hand and their scope, even if the finer details were not yet obvious. Based on PPP observation, spatial boundaries were not always established in the early stages of farmer-initiated projects and in these cases the project tended to *tread-water* until the spatial boundary was recognised and accepted. As a consequence, PPP experience suggests that AR processes should actively seek to explicitly identify spatial boundaries in the early stages of a project's life, and should be made an overt part of the AR methodology, in order to reveal sooner to all involved what their AR experience was likely to entail and how each participant could contribute.

ii) Temporal Boundaries in Applied Action Research

Identifying the *Temporal Boundary* of PPP projects was significant in building group understanding of what people wanted to achieve and how they would best go about it. Many farmer-run projects began with a vaguely defined, usually assumed 2-3 year timeframe for completion, but when this was made explicit and formally discussed in conjunction with the (sometimes still emerging) spatial boundaries, most projects were scaled back and focused upon temporal targets that could be reached or at least monitored on a monthly or six-monthly basis.

Through facilitation and naturally occurring group discussion the recognition of temporal boundaries of an AR project led to clear individual and group understanding of what the project would require of them and for how long. For time-poor farmers the temporal boundary was a crucial determinant of their involvement because it elicited assessments of the extent to which new stakeholders could be brought in if desired. Observations suggested that shorter AR projects (from one day up to six months) had less chance of expanding the spatial boundaries than longer-lived projects (over six months). From a theoretical perspective this may imply a trade-off exists within AR processes, in which decreased temporal boundaries come at a cost to spatial boundaries.

The spectrum of spatial and temporal boundaries for AR is illustrated in Figure 1, with Examples A, B and C identified in appropriate quadrants. The PPPLT operated across the entire NSW dairy industry, involving constant and transient members, and their stakeholder institutions, over a five-year period. Hence the PPPLT identified its own spatial boundaries as being group driven, macro in scale and over a long temporal period.

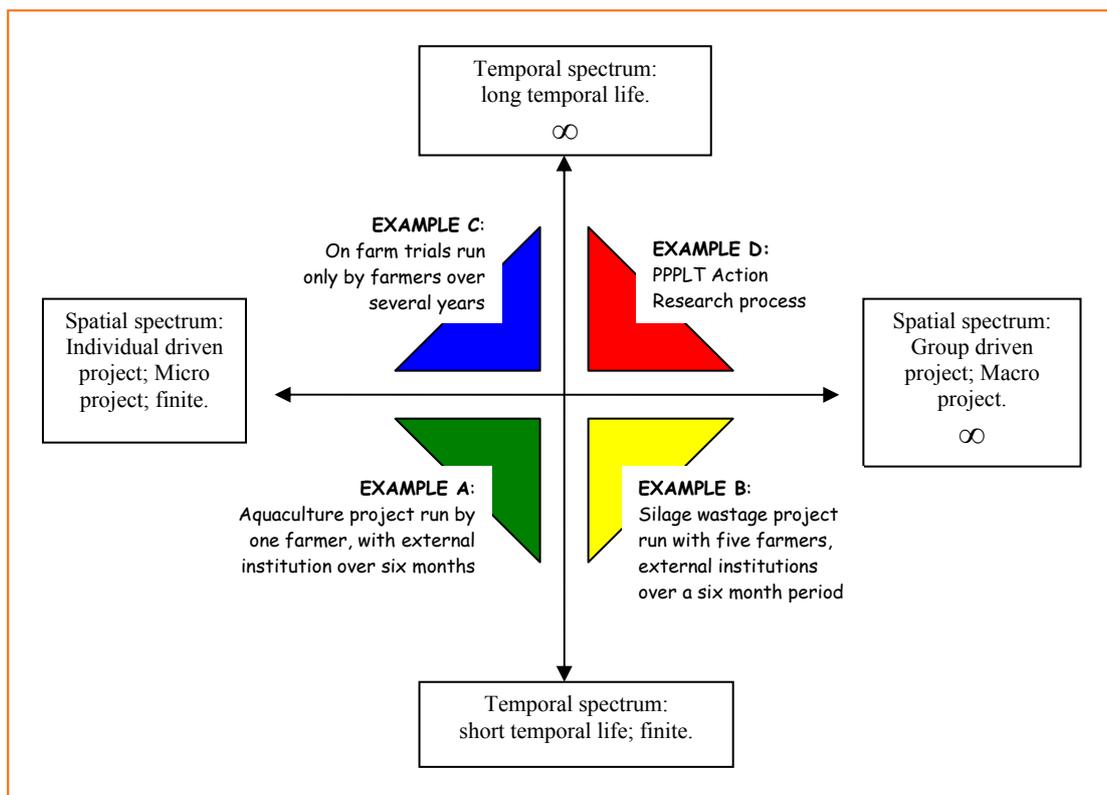


Figure 1: The Spectrum of Spatial and Temporal Boundaries in AR

### *iii) Stakeholder Ownership of AR Processes – Who’s Reality Counts?*

Within PPP, and probably many AR projects that occur with agricultural industry, the most sought after participants are often those people – farmers - who have very little experience or no awareness of AR as a professionally practiced and theoretically based approach to rural development. Most PPP dairy farmers had never heard of AR before they engaged with PPP, but getting farmers to join PPP was a critical factor for the project’s success. Furthermore, stakeholders such as scientists, agronomists, private sector suppliers to agriculture etc, not only had little or no experience or knowledge of AR but many actively (often naively) rejected it as a means for developing agricultural practice.

PPP’s experience of delivering ownership of PPP to farmers was associated with *Emancipatory Action Research*, in which participants are freed from “... the dictates of compulsions of tradition, precedent, habit, coercion, as well as from self-deception ... [by focusing on the] ...theoretical and organisational structures and social relations ... [that support particular practice] ” (Grundy, 1982). Thus, instilling *genuine* farmer involvement with PPP meant devolving power and resources away from the centralised PPPLT structure and down to relatively small groups of farmers and often a select few people who ran them.

### **Money & Power**

The PPPLT, having received it’s funding from the national industry provider, committed half of all PPP funds to all the RDGs. The RDGs were made aware that PPP funding was theirs, to do with whatever *they* decided (within the project constraint of dairy farm and pasture improvement). With these finances the PPPLT handed a major portion of its power within the industry to farmers – in effect the PPPLT inextricably linked its own prospects of success to the likelihood that dairy farmers would meet the challenge of utilising PPP resources effectively, efficiently, professionally and on matters of relevance to industry productivity.

From the farmer’s perspective, receiving PPP funding meant they immediately became the major partner of the PPPLT, with a real voice to communicate and co-determine the PPP content and operation, both regionally and at the state level. This approach appeared unusual or odd to most farmers, completely mystifying to some, and a golden opportunity to others.

### **Facilitated Power**

In addition to funding, the PPPLT provided strategic support through facilitation and encouraged farmers to question, and where appropriate, overcome their relatively low level of involvement in agenda determination processes for learning, research, development and extension. In practice this task was enormously complex and highly politically sensitive. Farmers were facilitated by PPP to increase their degree of control of industry agenda by creating their own projects, seemingly at the direct expense of the traditional drivers of research, including scientists, government officers, industry representatives and private consultants.

By assisting farmers through initially minor local projects in which the farmer’s agenda was the genuine focus of the activity, PPP enabled farmers to go beyond their previous participation, but this was not at

the expense of other traditional stakeholders. Rather, professional project managers, scientists and others remained vital to successful project outcomes, but under the PPP framework farmers invited them to join in as their expertise was required. This farmer-oriented approach constituted a re-regulation of traditional research structures in which the agenda is largely (if not wholly) determined prior to local farmer involvement.

### **Disseminating Power in AR**

The learnings from PPP success in gaining farmer's confidence, trust and their collective commitment to take ownership and responsibility for learning and research through action include the following:

- Participants must be granted a 'reasonable' or 'fair' share of power encapsulated by an AR project, including funding and other project resources.
- The transfer of power must be genuine, not tokenistic, and clearly communicated without compromising qualifications or conditions.
- Using participants as 'tools' within projects cannot be considered as a form of power-sharing, particularly for key stakeholders.
- Evidence that power has been genuinely and fairly distributed within a project is the rise of more complex relationships between stakeholders, with dialogue leading to changes in agenda priorities.
- Communication channels must be constantly maintained and remain open between the body distributing its power base and the participants receiving it. The opportunity to access and be heard through effective dialogue is itself an emancipating process.
- Reaching agreement amongst all participants must be allowed to be negotiated through to some form of consensus or acceptance, with an expectation that each person has the right to express their view to all stakeholders.
- Recognition that gaining participant trust requires sensitivity to people's orientation, and that addressing potential participants on their own terms is often required. This is particularly so in terms of language, the location of meetings, adherence to local customs, awareness and acceptance of political structures, and traditional processes.

#### *iv) Getting Results with AR, or, Having Faith in Humanity*

With the issues of spatial and temporal boundaries and participant ownership explored (above), this section outlines the achievements and outcomes created by using the AR framework in PPP. These results have been analysed to distill the elements driving action that led to successful outcomes. Specifically, assessments have been made about the extent to which PPPLT input, mostly through facilitation of farmer's regional activities, was required in order to maintain project momentum, achieve rigorous intellectual and design standards, implement reflective practice, achieve project completion and generate valuable and verifiable outcomes.

The previously mentioned Example A and Example B are two projects amongst many from which PPP farmer's realised direct benefit. Observation revealed that the PPPLT typically played a major role in the beginning of most RDG projects, primarily as a facilitator to bring farmers together and clarify their agenda priorities. The PPPLT played a significant role in enabling farmers to set and accept the spatial and temporal boundaries of their self-chosen projects. Facilitation provided by the PPPLT was generally withdrawn once it was felt that farmers were in control of the unfolding process.

The PPPLT realised a critical need to step back from the action and let the stakeholders play out their roles. This was at times a difficult position for the PPPLT because it meant suspending its power to intervene in local projects. From the farmer's perspective over-involvement (by the PPPLT) was not merely unnecessary, it was potentially disruptive and counter-achieving. By maintaining a constant presence within RDG projects, and the specific work they accomplished, the PPPLT risked 'crowding out' farmers from their own learning processes through over-facilitation or conducting project work on farmer's behalf. This is particularly true of projects in which roles were clearly defined and responsibility and commitment to complete tasks was high. Similarly the constant presence of the PPPLT in RDG activities was recognised as being a possible inhibitor to action, or action that might have occurred without the PPPLT being present.

A balance was struck between the PPPLT and each RDG project, with the PPPLT generally keeping *in touch* with projects as they unfolded and ensuring open communication lines were always available. Where farmers did not grasp an issue for research, the PPPLT found itself continuously devoting attention to getting farmers motivated and willing to even turn up to meetings – in effect these farmers had not begun to garner a sense of ownership of process, nor had they begun to identify boundaries around different agenda issues.

Interestingly, the range of ways in which farmer groups put their ideas and agenda into action produced a variety of *modus operandi*. These are identified in the PPP Final Report (Dairy Australia, 2003, p47) as follows:

“From observing PPP, various models emerged for conducting farmer-driven research activities, with a key determinant being the extent to which farmers could take time out from the daily operation of their business to engage with learning, research and innovation processes. Having decided their issue PPP farmers implemented their agenda in several ways, including:

- contracting the work out to a research consultant (such as the Kikuyu research),
- farmers themselves carried out the bulk of work in a project but in collaboration with technical experts who provided design and technical guidance as required,
- creating linkages to other industry projects of a relevant technical nature and collaborating with them,
- building formal institutional linkages between RDGs and research/advisory agents that service the local region, and
- individual farmer-run research efforts that were, as a minimum, required to present their results to the wider dairying community, and PPP funding had to be approved by the local RDG (such as the investigation of aquaculture in dairy effluent management).”

The setting of spatial and temporal boundaries within AR activities effectively determined which aspects of the AR process were considered valid for achieving intrinsically desired outcomes. In Example A for instance, a single farmer interested in trialing aquaculture within her ponded dairy effluent system validated the need to document her individual reflections upon the trial; while in Example B, a silage wastage project involving five farmers focused its documentation of reflection upon the cumulative learning outcomes from the entire group experience.

The facilitation and methodological framework for PPP activities could only be relied upon to a relatively small extent to get results. PPP experience indicated that the real results come from people deciding to participate and act together, re-regulating their behaviour (consciously or not) to the above spatial and temporal boundaries and grasping opportunities for action in pursuit of situation improvement. In terms of relating this experience to AR method, it would appear that there is a point of diminishing returns for process effectiveness regarding the role of the facilitator, particularly when the facilitator is simultaneously the primary funding source.

## Conclusion

The establishment and acceptance by AR group members of where a budding project was located both spatially and temporarily reduced confusion about the role of individual versus group learning processes, clarified the time frame within which action would occur, addressed the likely number of stakeholders to be involved, and in general drew out the nature of the desired task to all involved. This is a lesson about AR principles than can be applied more generally.

Although shared funding arrangements and the power that went with this was a major factor in delivering ownership of the learning and research processes to farmers, it was not the only factor. Observation of RDG reactions to PPP's entrance to the industry indicated that farmers were willing to take on a fair proportion of project responsibility and workload if they were simply treated as genuinely equal partners. This meant actively listening to farmers and making changes to *a priori* expectations of group goals when farmers indicated such desires, it also meant having continuously open channels of communication in order to capture feedback farmers might have at any stage.

This confirms the primary goal of AR as being to institute a learning process as always being a feature of such research for all participants, rather than it being a *blueprint* approach determined beforehand by self-designated *experts* who then gain most of the learning benefits; other stakeholders becoming more like tools in the process. This project has demonstrated that more complex issues can and will be tackled once the capacities, confidence and support of all stakeholders has been developed. In this project the focus was very much on farmer-driven research, but similar principles would apply to research aimed at broader groups of stakeholders, for example environmental research affecting the community at large.

Notably the PPPLT expressed itself to farmers using appropriate (local) language and respecting local protocols, that is, the PPPLT identified a need to relate to farmers on their own terms and on their own territory in order to build a sense of trust and collaboration. The consequences of more vigorous farmer participation within PPP activities took the form of farmer's more freely speaking their mind by not being afraid to publicly state potentially embarrassing or controversial comments or ask *silly* questions; increased farmer involvement in terms of time commitment, attendance to meetings, willingness to take on work responsibilities and a greater propensity to *wear* higher personal costs associated with achieving group outcomes. In one example a farmer was financially subsidised two days labour to attend a PPP workshop, although after the event the farmer refused to claim the money because of the benefits derived from participation.

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